



AX1700 XGSPON OLT

CLI Configuration Manual

Revision D

ACT AX1700 XGSPON OLT CLI Configuration Manual

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Quick Reference Guide Revision D

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Revision History

Revision	Date	Reason for Change
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B	07/10/2025	Update format
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1 OLT Port Management

1.1 Port Attribute Configuration

1.1.1. auto-neg

Command Syntax	<code>auto-neg portlist (enable disable)</code>
Applicable View	eth 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 it as auto-negotiation. In this mode, the maximum port rate can reach 1000M. When disabled, the rate and working mode of the port are the system default values or manually set values (i.e. forced mode).
<code>portlist</code>	List of ports to be configured, the format is 1-2, 3:2, 4:1. Uplink optical port does not support auto-negotiation function. The default is enable.
<code>enable disable</code>	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 ETH1 uplink port.

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

Case 2: Disable the auto-negotiation function of the ETH1 uplink port.

```
OLT(config- eth-0/0)#auto-neg 1 disable
```

1.1.2. fec

Command Syntax	<code>fec PORTID (enable disable) [channel <0-1>]</code>
Applicable View	GPON view
Function Description	This command is used to enable or disable the FEC function of the GPON port. The default setting for GPON is disable, and the default setting for XGS is enable.
<code>PORTID</code>	The port to be configured.
<code>enable disable</code>	enable: Enable the FEC function of the port disable: Disable the FEC function of the port
<code>channel</code>	Specify XGS or GPON channel according to channel. When channel is 0, it belongs to XGS channel, and when channel is 1, it belongs to GPON channel.

【Configuration Case】

Case 1: Enable the FEC function of the PON1 port of the OLT.

```
OLT( config-gpon-0/1 )# fec 1 enable
```

1.1.3. flow-control

Command Syntax	flow-control <i>portlist</i> (enable disable) flow-control (enable disable)
Applicable View	eth view, GPON view
Function Description	This command is used to enable or disable the Ethernet port flow control function. The default setting is enable.
<i>portlist</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1. GPON ports are configured by slot, no port number configuration is required
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 ETH1 port.

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

Case 2: Disable the flow control function of the gpon 0/1 slot.

```
OLT(config-gpon-0/1)# flow-control disable
```

1.1.4. frame-max

Command Syntax	frame-max <i>portlist</i> <i>value</i> no frame-max <i>portlist</i> frame-max <i>value</i> no frame-max
Applicable View	eth view, GPON view
Function Description	This is used to set the maximum frame length of the port transmission. The system default value is 15 26.
<i>portlist</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1. GPON ports are configured by slot, no port number configuration is required
<i>value</i>	Maximum frame length range: 1518-9600.

【Configuration Case】

Case 1: Configure the frame-max of ETH1 port to 1600.

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

Case 2: Configure the frame-max of the ETH1 port to the default value.

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

Case 3: Configure the frame-max value of the gpon 0/1 slot to 2000.

```
OLT(config-gpon-0/1)# frame-max 2000
```

1.1.5. isolate

Command Syntax	isolate <i>port-list</i> (enable disable) isolate (enable disable)
Applicable View	eth,GPON view
Function Description	This command is used to enable or disable the port isolation function. When the port isolation function is enabled, the port will not be able to communicate with other ports. It is disabled by default.
<i>port-list</i>	The port list to be configured has a value range of 1-8 and a format of 1-2,3:2,4:1. The gpon port is configured by slot, and the port number does not need to be configured.
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 GPON 0/1 port and other ports.

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

1.1.6. optical-alarm-profile

Command Syntax	optical-alarm-profile (<i>PORTID</i> all) (profile_id <1-256> profile_name <i>PROFILE_NAME</i>) no optical-alarm-profile (<i>PORTID</i> all)
Applicable View	GPON view
Function Description	The optical-alarm-profile command is used to bind the optical module alarm profile to the PON port. By default, the PON port will be bound to the optical module alarm profile 0, and this command configuration can be modified. no optical-alarm-profile The command is used to unbind the optical module alarm template.
<i>PORTID</i>	PON port number to be configured (the value range varies depending on the device type and can be 1-4, 1-8, 1-16,...).
all	All PON ports
<1-256>	Optical module alarm template number, used to identify an optical module alarm template, with a value range of 1 - 256. For an automatically online ONT , the PON port automatically matches the

	optical module alarm template 0 , and the optical module alarm template 0 cannot be modified or deleted.
<i>PROFILE_NAME</i>	Optical module alarm profile name, the name length supports 1 to 32 characters. The default profile name is optical_alarm_profile_x, where "x" is replaced by the actual profile number.

【Configuration Case】

Case 1: Bind the PON1 port to the optical module alarm template 1.

```
OLT(config- gpon-0/1 )# optical-alarm-profile 1 profile_id 1
OLT(config- gpon-0/1 )#
```

Case 2: Delete the optical module alarm template bound to the PON1 port.

```
OLT(config- gpon-0/1 )# no optical-alarm-profile 1
OLT(config- gpon-0/1 )#
```

1.1.7. show port ddm-info

Command Syntax	show port ddm-info [(gpon eth) F/S/P]
Applicable View	config view
Function Description	This command is used to view the optical power information of the OLT , the temperature and voltage of the optical module, and the model information of the PON module.
alarm gpon eth	Different interfaces for optical power information
F/S/P	The port number to be configured, in the format of 0/x/x

【Configuration Case】

Case 1: View all optical power information of OLT.

```
OLT(config)# show port ddm-info
gpon 0/1 /1 Transceiver information:
```

```
-----
Temp(C):-1.00
Vot age (V):1677.67
Bias(mA):33553.41
TX power(dBM):32.25
```

```
-----
Transceiver Type : OC48/STM16_IR_SFP
Connector Type: SC
Wavelength(nm): 1490(nm)
Transfer Distance : 20km(9um)
Diagnostic Monitor : YES
Vendor Name : HISILICON
Ordering Name : SSX1T1LTD
```

```
Serial Number   : 031QVGNMJ9002007
Manufact Date   : 2018090411
-----
```

```
gpon 0/1/2 Transceiver information:
Info: Transceiver is absent.
```

```
gpon 0/1/3 Transceiver information:
Info: Transceiver is absent.
```

```
gpon 0/1/4 Transceiver information:
Info: Transceiver is absent.
```

```
eth 0/0/1 Transceiver information:
Info: Transceiver is absent.
```

```
eth 0/0/2 Transceiver information:
Info: Transceiver is absent.
```

```
eth 0/0/3 Transceiver information:
Info: Transceiver is absent.
```

```
eth 0/0/4 Transceiver information:
Info: Transceiver is absent.
```

Case 2: Check the optical power information of PON1 port on OLT.

```
OLT(config)# show port ddm-info gpon 0/1/1
gpon 0/1/1 Transceiver information:
-----
```

```
Temp(C)       :41.00
Voltage(V)     :3.30
Bias(mA)       :36.28
TX power(dBM)  :5.17
-----
```

```
Transceiver Type : OC48/STM16_IR_SFP
Connector Type   : SC
Wavelength(nm)   : 1490(nm)
Transfer Distance : 20km(9um)
Diagnostic Monitor : YES
Vendor Name      : HISILICON
Ordering Name    : SSX1T1LTD
Serial Number    : 031QVGNMJ9002007
Manufact Date    : 2018090411
-----
```

1.1.8. show port ddm-info alarm

Command Syntax	<code>show port ddm-info alarm [gpon F/S/P eth F/S/P]</code>
Applicable View	config view
Function Description	This command is used to view the alarm optical power information of OLT.
<code>alarm gpon eth</code>	Different interfaces for optical power information
<code>F/S/P</code>	The port number to be configured, in the format of 0/x/x

【Configuration Case】

Case 1: Check the alarm optical power information of the ETH1 port of the OLT.

```
OLT(config)# show port ddm-info alarm eth 0/0/1
```

Case 2: View all optical power information of OLT.

```
OLT(config)# show port ddm-info alarm
```

1.1.9. show port isolate

Command Syntax	<code>show port isolate</code>
Applicable View	GPON view
Function Description	This command is used to view the isolation status of the PON port.

【Configuration Case】

Case 1: Check the isolation status of the PON port.

```
OLT( config-gpon-0/1 )# show port isolate
Port isolate config:
-----
Port Isolate
-----
gpon 0/1 /1 enable
gpon 0/1/2  enable
gpon 0/1/3  enable
gpon 0/1/4  enable
-----
OLT(config-gpon-0/1)#
```

1.1.10. show port state

Command Syntax	<code>show port state (portid all)</code>
Applicable View	eth view, GPON view
Function Description	This command is used to view the attribute information of the OLT uplink port or PON port.
<code>portid all</code>	port id: The port number to be checked all: View the properties of all ports

【Configuration Case】

Case 1: View the properties and status information of all PON ports of the OLT.

```
OLT(config- gpon-0/1 )# show port state all
-----
Port      Optic Pvid Flow Learn Admin Frame Link Auto Auto
Status    Ctrl  State Max  State Find Mode
-----
gpon 0/1/1 normal 1  on  enable enable 1526  on  enable A-S
gpon 0/1/2 absence 1  on  enable enable 1526  off enable A-S
gpon 0/1/3 absence 1  on  enable enable 1526  off enable A-S
gpon 0/1/4 absence 1  on  enable enable 1526  off enable A-S
-----
```

Case 2: View the properties and status information of all eth ports of OLT.

```
OLT(config- eth-0/0 )# show port state all
-----
Port      Optic Pvid Auto Speed Dup Flow Learn Enable Link Frame Media
Status    Nego /Mbps lex Ctrl Max Type
-----
eth0/0/1 absence 1 disable 100 full on  enable enable on 1526 Auto
eth0/0/2 absence 1 enable  -  -  on  enable enable off 1526 Auto
eth0/0/3 absence 1 enable  -  -  on  enable enable off 1526 Auto
eth0/0/4 absence 1 enable  -  -  on  enable enable off 1526 Auto
-----
```

Case 3: View the properties and status information of the OLT PON1 port.

```
OLT(config- gpon-0/1 )# show port state 1
-----
Frame/ Slot: 0/0
Port: 1
Optical Module status: normal
```

```

Admin state: enable
Link state : on
Auto find      : enable
Policy authentication : --
Authentication mode : auto to sn-auth
Available bandwidth : --
Anti-rogueont auto-detect : enable
-----
Port Name      : gpon 0/1/1
Native vlan    : 1
Maximum frame size : 1526
Flow-control   : on
FEC check     : disable
MAC address Learn : enable
Optical alarm profile : --
Maximum learned I2 entries : --
-----
Broadcast storm control : 150 pps(default:150 pps)
Unknow multicast storm control : disable(default:disable)
Unknown unicast storm control : 150 pps(default:150 pps)
Rx bandwidth alarm threshold : --
Tx bandwidth alarm threshold : --
Port 15 minute statistics status : disable
Port 1 hour statistics status : disable
-----
    
```

Case 4: Check the properties and status information of the OLT eth2 port.

```

OLT(config- eth-0/0 )# show port state 2
-----
Port Name: eth 0/0/2
Current port state: --
Current link state : down
The maximum frame size : 1526
Media Type : Auto
Link speed : autonegotiation( - )
Link duplex : autonegotiation(full)
Flow-control : on
Maximum number of learned I2 entries : --
Broadcast storm control : 150 pps(default:150 pps)
Unknow multicast storm control : disable(default:disable)
Unknown unicast storm control : 150 pps(default:150 pps)
Rx bandwidth alarm threshold : --
Tx bandwidth alarm threshold : --
-----
Native-vlan: 1 Link-type: Access Priority: 0
Native-vlan: --
    
```

```

Untagethd VLAN ID:
1
-----

Statistics 15 minute status      : disable
Statistics 1 hour status        : disable

Statistics from last clean(maybe the statistics would overflow):
Input(total): 0 bytes
Input:unicast 0, broadcasts 0, multicasts 0, errors 0
Output(total): 0 bytes
Output:unicast 0, broadcasts 0, multicasts 0, errors 0
-----
    
```

1.1.11. show port bandwidth

Command Syntax	show port bandwidth
Applicable View	config view
Function Description	This command is used to view the OLT Channel and bandwidth information of the PON port. If it is a gpon board, there is no channel value, and the xgspn board will distinguish the channel value.

【Configuration Case】

Case 1: View the channel and status bandwidth information of all PON ports of OLT.

```

OLT(config)# show port bandwidth
-----

Port Channel Max guaranteed Left guaranteed Rate
(0:10g;1:1g) Bindwitch(Kbps) Bindwitch(Kbps)
-----

gpon 0/1/1 - 1000000 1000000 0.000000
gpon 0/1/2 - 1000000 1000000 0.000000
gpon 0/1/3 - 1000000 1000000 0.000000
gpon 0/1/4 - 1000000 1000000 0.000000
gpon 0/1/5 - 1000000 1000000 0.000000
gpon 0/1/6 - 1000000 1000000 0.000000
gpon 0/1/7 - 1000000 1000000 0.000000
gpon 0/1/8 - 1000000 1000000 0.000000
gpon 0/2/1 0 9600000 9600000 0.000000
gpon 0/2/1 1 1000000 999744 0.000256
gpon 0/2/2 0 9600000 9600000 0.000000
gpon 0/2/2 1 1000000 1000000 0.000000
gpon 0/2/3 0 9600000 9600000 0.000000
gpon 0/2/3 1 1000000 1000000 0.000000
gpon 0/2/4 0 9600000 9600000 0.000000
gpon 0/2/4 1 1000000 1000000 0.000000
    
```

gpon 0/2/5	0	9600000	9600000	0.000000
gpon 0/2/5	1	1000000	1000000	0.000000
gpon 0/2/6	0	9600000	9600000	0.000000
gpon 0/2/6	1	1000000	1000000	0.000000
gpon 0/2/7	0	9600000	9600000	0.000000
gpon 0/2/7	1	1000000	1000000	0.000000
gpon 0/2/8	0	9600000	9600000	0.000000
gpon 0/2/8	1	1000000	1000000	0.000000

1.1.12. shutdown

Command Syntax	shutdown portlist no shutdown portlist
Applicable View	eth view ,GPON view
Function Description	This command is used to disable or enable the specified uplink port or PON port.
<i>portlist</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1.

【 Configuration Case 】

Case 1: Close the ETH1 uplink port:

OLT(config- eth-0/0)# shutdown 1

Case 2: Enable PON2 and PON3:

OLT(config- gpon-0/1)# no shutdown 2-3

1.1.13. speed

Command Syntax	speed portlist (1000 10000) speed 5-8 (1000 10000 100000 25000 50000)
Applicable View	eth view
Function Description	This command is used to set the Ethernet port speed and make the port work at the set speed.
<i>portlist</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1.
1000 10000	1000: 1000Mbps, set the port rate to 1G. 10000: 10000Mbps, set the port rate to 10G.
1000 10000 100000 25000 50000 0	1000: 1000Mbps, set the port rate to 1G. 10000: 10000Mbps, set the port rate to 10G. 100000:100000Mbps, sets the port rate to 100G.

	25000: 25000Mbps, set the port rate to 25G. 50000: 50000Mbps, set the port rate to 50G.
--	--

【Configuration Case】

Case 1: Configure the OLT's ETH1 uplink port to a rate of 1000 Mbps.

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

1.2 Traffic Suppression Function

1.2.1. traffic-suppress

Command Syntax	<code>traffic-suppress portid (broadcast multicast unicast) (pps kbps) value</code> <code>traffic-suppress portid (broadcast multicast unicast) disable</code> <code>traffic-suppress (broadcast multicast unicast) (pps kbps) value</code> <code>traffic-suppress (broadcast multicast unicast) disable</code>
Applicable View	eth view, GPON view
Function Description	This command is used to enable or disable the storm suppression function of the eth uplink port and its pulse value per second, to prevent such messages from occupying too many network resources and causing network congestion.
<i>portid</i>	The port number to be configured. The gpon port is configured by slot, so no port number needs to be configured.
broadcast multicast unicast	broadcast: configure the uplink port broadcast storm suppression function multicast: configure the uplink port multicast storm suppression function Unicast: Configure the uplink port unicast storm suppression function
pps kbps	pps: pulse value, unit is pps kbps: pulse value, in kbps
<i>value</i>	The pulse value per second, the range is 2-148810 (pps) or 64-1000000 (kbps), the default value is 150

【Configuration Case】

Case 1: Configure the broadcast storm suppression function of the ETH1 port to a pulse value of 14000 pps.

```
OLT(config-eth-0/0)# traffic-suppress 1 broadcast pps 14000
```

Case 2: Configure the unicast storm suppression function of the gpon 0/1 slot port with a pulse value of 1 81000 per second kb ps.

```
OLT(config-gpon-0/1)# traffic-suppress unicast kbps 181000
```

Case 3: Disable the broadcast storm suppression function of the ETH1 port.

```
OLT(config-eth-0/0)# traffic-suppress 1 broadcast disable
```

1.3 MAC Address Configuration

1.3.1. mac-address learning

Command Syntax	mac-address learning <i>port-list</i> (enable disable)
Applicable View	eth view
Function Description	This command is used to enable or disable the Mac address learning function of the eth uplink port. It is enabled by default.
<i>port-list</i>	List of ports to be configured, the value range is 1-4, the format is 1-2, 3:2, 4:1
enable disable	enable: Enable the Mac address learning function of the eth uplink port disable: Disable the Mac address learning function of the eth uplink port

【Configuration Case】

Case 1: Enable the Mac address learning function of the ETH1 port.

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

1.3.2. mac-address learning disable action

Command Syntax	mac-address learning <i>port-list</i> disable action (forward discard)
Applicable View	eth view
Function Description	This command is used to configure the eth uplink port to handle out-of-range Mac addresses.
<i>port-list</i>	List of ports to be configured, the value range is 1-4, the format is 1-2, 3:2, 4:1
forward discard	forward: forwards the exceeded MAC address discard: discard the exceeded MAC addresses

【Configuration Case】

Case 1: Forwarding the Mac addresses that are exceeded on ETH1 port.

```
OLT(config-interface- eth-0/0 )# mac-address learning 1 disabled action forward
OLT(config-interface- eth-0/0 )#
```

1.3.3. mac-address limit

Command Syntax	mac-address limit <i>port-list number</i>
Applicable View	eth view

Function Description	This command can set the maximum number of learned MAC addresses. When the number exceeds the set maximum value, the excess MAC addresses are discarded by default.
<i>port-list</i>	The port list to be configured has a value range of 1-16 and a format of 1,6-7,8.
<i>number</i>	The number of Mac addresses , the value range is 0-8092 , 0 means no limit. The default is no limit.

【Configuration Case】

Case 1: Configure the maximum number of MAC addresses learned by the uplink ETH1 port to 500.

```
OLT(config)# mac-address limit 1 500
OLT(config)#
```

1.3.4. mac-address limit exceed-action

Command Syntax	mac-address limit <i>port- list number</i> exceed-action (forward discard)
Applicable View	eth view
Function Description	This command is used to configure the eth uplink port to handle Mac addresses that exceed the entry limit.
<i>port- list</i>	List of ports to be configured, the value range is 1-4, the format is 1-2, 3:2, 4:1
<i>number</i>	The number of Mac addresses , the value range is 0-8092 , 0 means no limit. The default is no limit.
forward discard	forward: forwards the exceeded MAC address discard: discard the exceeded MAC addresses

【Configuration Case】

Case 1: Forwarding the Mac address of the ETH1 port that exceeds the entry limit.

```
OLT(config-interface- eth-0/0 )# mac-address limit 1 1 exceed-action forward
OLT(config-interface- eth-0/0 )#
```

1.3.5. mac-address static

Command Syntax	mac-address static Port eth <i>F/S/P vlan vlan-ID mac-address</i> mac-address static Port lag <i>lagId vlan vlan-ID mac-address</i>
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 directly forwards data based on the static MAC.
eth lag	eth: Uplink port

	lag: aggregation group
<i>F/S/P</i>	The port number to be configured , in the format of 0/x/x
<i>lagId</i>	The aggregation group id to be configured , the value range is 1-8
<i>vlan-ID</i>	VLAN ID. The value range is 1-4094.
<i>mac-address</i>	Mac address , in the format of XX:XX:XX:XX:XX:XX

【 Configuration Case 】

Case 1: Bind the mac address e0:67:b3:12:eb:f6 to the ETH1 port and vlan100.

```
OLT(config)# mac-address static port eth 0/0/1 vlan 100 e0:67:b3:12:eb:f6
OLT(config)#
```

2 Layer 2 Commands

2.1 Vlan Configuration

2.1.1. show vlan

Command Syntax	<code>show vlan (<i>vlanid</i> all)</code>
Applicable View	config view
Function Description	This command is used to view the VLAN information.
<i>vlanid</i>	View the VLAN information of the specified VLAN ID. The value range is 1-4094
all	View all vlan information

【Configuration Case】

Case 1:View information on VLAN 1.

```
OLT(config)# show vlan 1
VLAN ID: 1
VLAN Description: tttt
User-bridge: disable
VLAN Type: Normal vlan
Tagethd Ports: none
Untagethd Ports:
  gpon 0/1/1      gpon 0/1/2      gpon 0/1/3
  gpon 0/1/4      gpon 0/1/5      gpon 0/1/6
  gpon 0/1 /7 gpon 0/1 /8 eth 0/0/1
  eth 0/0/2 eth 0/0/3 eth 0/0/4

OLT(config)#
```

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

```
OLT(config)# show vlan all
VLAN ID: 1
VLAN Description: tttt
User- bridge: disable
VLAN Type: Normal vlan
Tag eth d Ports: none
untagethd Ports:
  gpon 0/1/1      gpon 0/1/2      gpon 0/1/3
  gpon 0/1/4      gpon 0/1/5      gpon 0/1/6
  gpon 0/1/7      gpon 0/1/8      eth 0/0/1
  eth 0/0/2      eth 0/0/3      eth 0/0/4
```

```
VLAN ID: 100
VLAN Description:
User- bridge: disable
VLAN Type: Normal vlan
Tag eth d Ports: none
untagethd Ports: none

OLT(config)#
```

2.1.2. show port vlan

Command Syntax	<code>show port vlan portid</code>
Applicable View	eth view , GPON view
Function Description	This command is used to view the VLAN information of the specified port.
<code>portid</code>	View the VLAN information of the specified port

【Configuration Case】

Case 1: Check the VLAN information of ETH1 port.

```
OLT(config- eth-0/0 )# show port vlan 1
-----
Port: eth 0/0/1 Mode: Trunk Native-Vlan: 1 Priority: 0
-----
Tag eth d-Vlan:
200-300
-----
untagethd-Vlan:
1
-----
```

Case 2: Check the VLAN information of the PON1 port.

```
OLT(config- gpon-0/1 )# show port vlan 1
-----
Port: gpon 0/1 /1 Mode: Trunk Native-Vlan: 510 Priority: 0
-----
Tagethd-Vlan:
1,500-509,511-600
-----
Untagethd-Vlan:
510
-----
```

2.1.3. vlan

Command Syntax	vlan <i>vlanlist</i> no vlan <i>vlanlist</i>
Applicable View	config view
Function Description	This command is used to create or delete a single VLAN or batches of VLANs.
<i>vlanlist</i>	The vlan id created or deleted has a value range of 1-4094 and a format of 1,20-99,100

【Configuration Case】

Case 1: Create vlan 200.

```
OLT(config)# vlan 200
Create vlan successfully:
200
```

Case 2: Create vlan 2000-2100 in batches.

```
OLT(config)# vlan 2000-2100
Create vlan successfully:
2000-2100
```

Case 3: Delete vlan 200.

```
OLT(config)# no vlan 200
```

Case 4: Batch delete vlan 2000-2100.

```
OLT(config)# no vlan 2000 -2100
```

2.1.4. vlan access

Command Syntax	vlan access [<i>port id</i>] [vlan] <i>vlanid</i> no-vlan [<i>port id</i>] [vlan] <i>vlanid</i>
Applicable View	eth view , link-aggregation view
Function Description	The vlan access command is used to configure the VLAN mode of the OLT to access. The no vlan access command is used to delete a VLAN whose mode is access on a port. This command cannot be used in eth view.
<i>port id</i>	The port number to be configured. This parameter is not required in link-aggregation view.
vlan	Followed by the VLAN ID. This parameter is only required in the link-aggregation view.
<i>vla n id</i>	VLAN ID, the value is 1-4094. When the VLAN access configuration is canceled in link-aggregation view, this parameter is not available.

【Configuration Case】

Case 1: Add access VLAN 10 to the ETH1 port of the OLT.

```
OLT(config-eth-0/0)# vlan access 1 10
```

Case 2: Delete the VLAN with access mode in aggregation group 1 of the OLT.

```
OLT(config-link-aggregation-1)# no vlan access vlan
```

2.1.5. vlan description

Command Syntax	vlan description <i>vlanlist DESCRIPTION</i> no vlan description <i>vlanlist</i>
Applicable View	config view
Function Description	This command is used to configure or delete the description of a VLAN.
<i>vlan list</i>	VLAN ID, the value is 1-4094. The format can be 1, 11-27, 100. When the VLAN access configuration is canceled in link-aggregation view, this parameter is not available.
<i>DESCRIPTION</i>	VLAN description, character length is 1-64

【Configuration Case】

Case 1: Configure the description of VLAN 1 as test.

```
OLT(config)# vlan description 1 test
OLT(config)#
```

Case 2: Delete the description of vlan 1.

```
OLT(config)# no vlan description 1
OLT(config)#
```

2.1.6. vlan trunk

Command Syntax	vlan trunk [<i>Portlist</i>] [vlan] <i>vlanlist</i> no-vlan trunk [<i>port id</i>] [vlan] <i>vlanlist</i>
Applicable View	eth view, GPON view, link-aggregation view
Function Description	This command is used to configure the VLAN mode of the OLT to trunk.
<i>Portlist</i>	The port number to be configured. This parameter is not required in link-aggregation view. The format is 1-2,3:2,4:1.
vlan	Followed by the VLAN ID. This parameter is only required in the link-aggregation view.

<i>vlan list</i>	VLAN ID, the value is 1-4094. The format can be 1, 11-27, 100. When the VLAN access configuration is canceled in link-aggregation view, this parameter is not available.
------------------	--

【Configuration Case】

Case 1: Add trunk VLAN 115 to the PON 1 port of the OLT.

```
OLT(config-gpon-0/1)# vlan trunk 1 1 1 5
```

Case 2: Delete the VLAN with the trunk mode and VLAN ID 115 on the PON 1 port of the OLT.

```
OLT(config-gpon-0/1)# vlan trunk 1 115
```

2.1.7. vlan hybrid

Command Syntax	vlan hybrid [<i>portid</i>] [<i>tagethd</i> <i>untagethd</i>] [<i>vlan</i>] <i>vlanlist</i> <i>no vlan hybrid</i> [<i>port id</i>] [<i>tagethd</i> <i>untagethd</i>] [<i>vlan</i>] <i>vlanlist</i>
Applicable View	eth view , link-aggregation view
Function Description	This command is used to configure the VLAN mode of the OLT.
<i>port id</i>	The port number to be configured. This parameter is not required in link-aggregation view.
<i>vlan</i>	Followed by the VLAN ID. This parameter is only required in the link-aggregation view.
<i>vlan list</i>	VLAN ID, the value is 1-4094. The format can be 1, 11-27, 100. When the VLAN access configuration is canceled in link-aggregation view, this parameter is not available.
<i>tagethd</i> <i>untagethd</i>	<i>tagethd</i> : The packets sent out from the port carry the corresponding VLAN tag <i>untagethd</i> : removes the VLAN tag from the packets going out of the port

【Configuration Case】

Case 1: Add hybrid VLAN 200 to OLT aggregation group 1.

```
OLT(config-link-aggregation-0/0)# vlan hybrid tagethd vlan 200
```

2.1.8. vlan mode

Command Syntax	vlan mode [<i>portlist</i>] (<i>access</i> <i>hybrid</i> <i>trunk</i>)
-----------------------	---

Applicable View	eth view , link-aggregation view
Function Description	This command is used to configure the VLAN mode of the OLT. The default mode is Access mode.
<i>portlist</i>	The port list to be configured, the value range is 1-4, the format is 1-2, 3:2, 4:1. This parameter is not required in the aggregation group view
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, can receive and send messages from multiple VLANs, and are generally used as ports connecting switches. In the GPON view, only the trunk mode can be configured, and the other two modes are not selectable. Hybrid: Hybrid type ports can allow multiple VLANs to pass through, can receive and send messages from multiple VLANs, can be used to connect between switches, and can also be used to connect user computers.

【Configuration Case】

Case 1: Configure the VLAN mode of the OLT's ETH1 uplink port to Access mode.

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

Case 2: Configure the VLAN mode of OLT aggregation group 1 to hybrid mode.

```
OLT(config-link-aggregation-1)# vlan mode hybrid
```

2.1.9. vlan native-vlan

Command Syntax	vlan native-vlan [<i>portlist</i>] <i>vlanid</i>
Applicable View	eth view, GPON view, link-aggregation view
Function Description	This command is used to configure the Native VLAN of the OLT port. The default value is 1.
<i>portlist</i>	The port number to be configured, in the format of 1-2,3:2,4:1. This parameter is not selectable in the aggregation group view. The gpon port is configured by slot, and the port number does not need to be configured.
<i>vlanid</i>	VLAN ID, the value range is 1-4094.

【Configuration Case】

Case 1: Configure the Native VLAN of the OLT's ETH1 uplink port to 10.

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

Case 2: Configure the Native VLAN of OLT aggregation group 1 to 20.

```
OLT(config-link-aggregation-1)# vlan native-vlan 20
```

2.1.10. vlan user- bridge

Command Syntax	vlan <i>VLANLIST</i> user-bridge (<i>enable</i> <i>disable</i>)
Applicable View	config view
Function Description	This command is used to enable or disable the communication function between ONUs under the port.
<i>VLANLIST</i>	VLAN list to be configured has a value range of 1-4094 and a format of 1,6-7,8.
<i>enable</i> <i>disable</i>	enable: Enable the communication function between ONUs under this port disable: Disable the communication function between ONUs under this port

【Configuration Case】

Case 1: Disable the communication function between ONUs in VLAN 1.

```
OLT (config)# vlan 1 user-bridge disable
Set vlan user-bridge successfully:
1
OLT(config)#
```

2.2 MAC Address Configuration

2.2.1. mac-address black-hole

Command Syntax	mac-address black-hole vlan <i>vlanid</i> <i>mac-addr</i> no mac-address black-hole vlan <i>vlanid</i> <i>mac-addr</i>
Applicable View	config view
Function Description	This command is used to specify a blackhole MAC address entry. If the source MAC address or destination MAC address of a packet is equal to the MAC address of the blackhole MAC address entry, the switch discards the packet. no mac-address black-hole command is used to delete a specified black-hole MAC address entry.
<i>vlanid</i>	VLAN ID , the value range is 1-4094.
<i>mac-addr</i>	Mac address , in the format of XX:XX:XX:XX:XX:XX

【Configuration Case】

Case 1: Configure the black hole MAC address of vlan 1000 to be E0:72:5B:2B:3D:5F.

```
OLT(config)# mac-address black-hole vlan 1000 E0:72:5B:2B:3D:5F
```

2.2.2. mac-address flush

Command Syntax	mac-address flush [port eth <i>F/S portid</i> vlan <i>vlanid</i>] (all dynamic static black-hole)
Applicable View	config view
Function Description	This command is used to clear various types of MAC addresses learned by the OLT.
port vlan	port: Clear the mac address learned on the specified port vlan: clear the mac address learned in the specified vlan
eth	eth: Uplink port
F/S	The slot number to be selected, in the format of 0/0
portid	The port number to be selected
vlanid	The VLAN ID to be selected, the value range is 1-4094
all dynamic static black-hole	all: all learned mac addresses dynamic: dynamic mac address static: static mac address black - hole: Black hole MAC address. This parameter is not optional when clearing the MAC address of the specified port.

【Configuration Case】

Case 1: Clear all MAC addresses learned by the OLT.

```
OLT(config)# mac-address flush all
```

Case 2: Clear all static MAC addresses learned by the OLT.

```
OLT(config)# mac-address flush static
```

Case 3: Clear all dynamic MAC addresses learned by the OLT.

```
OLT(config)# mac-address flush dynamic
```

Case 4: Clear all black hole MAC addresses of OLT.

```
OLT(config)# mac-address flush black-hole
```

Case 5: Clear all static MAC addresses under VLAN 2500 of OLT.

```
OLT(config)# mac-address flush vlan 2500 static
```

Case 6: Clear all dynamic MAC addresses under the eth3 port of OLT.

```
OLT(config)# mac-address flush port eth 0/0 3 dynamic
```

2.2.3. mac-address limit

Command Syntax	mac-address limit port eth <i>F/S portlist mac-number</i> [exceed-action (discard forward)]
-----------------------	--

Applicable View	config view
Function Description	This command can set the maximum number of learned MAC addresses. When the number exceeds the set maximum value, the excess MAC addresses are discarded by default.
eth	eth: Uplink port
F/S	The slot number to be selected, in the format of 0/0
portlist	The port list to be configured has a value range of 1-8 and a format of 1-2,3:2,4:1.
mac-number	The number of Mac addresses , the value range is 0-8092 , 0 means no limit. By default, it is unlimited.
exceed-action	The default method for handling excessive MAC addresses is to discard them.
discard forward	Exceeding MAC address processing method: discard is discarded, forward is forwarded

【Configuration Case】

Case 1: Configure the maximum number of MAC addresses learned by the ETH1 port to 500.

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

Case 2: Configure the maximum number of MAC addresses learned by the eth2 port to 100 , and discard the MAC addresses exceeding the limit.

```
OLT(config)# mac-address limit port eth 0/0 2 100 exceed-action discard
```

2.2.4. mac-address static

Command Syntax	mac-address static port eth F/S/P vlan vlanid mac-addr no mac-address static port (eth lag) F/S/P vlan vlanlist mac-addr
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 directly forwards data based on the static MAC.
eth lag	eth: Uplink port lag: aggregation group
F/S/P	The port number to be configured , in the format of 0/x/x
vlanid	VLAN ID. The value range is 1-4094.
mac-addr	Mac address , in the format of XX:XX:XX:XX:XX:XX

【Configuration Case】

Case 1: Bind mac address E 0:67: B 3:12: EB: F 6 to ETH1 port and vlan100.

```
OLT(config)# mac-address static port eth 0/0/1 vlan 100 E0:67:B3:12:EB:F6
```

2.2.5. mac-address timer

Command Syntax	mac-address timer (aging <i>AGING-TIME</i> 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. The MAC address aging time takes effect immediately after it is set successfully. The system periodically checks the dynamic MAC address. If the system does not send or receive any message carrying the source MAC address within the aging period, the corresponding MAC address will be deleted from the MAC address table. Regular aging of dynamic MAC addresses can release MAC address table resources to prevent the system from failing to learn new MAC addresses.
Aging <i>AGING-TIME</i> no-aging	aging-time: mac address aging time, the value range is 10-1000000 , the unit is seconds. The default value is 300. no-aging: Set the MAC address to non-aging. Use this parameter when you do not need to enable the MAC address aging function.

【Configuration Case】

Case 1: Configure the MAC address aging time to 1000 seconds.

```
OLT(config)# mac-address timer 1000
```

2.2.6. show mac-address

Command Syntax	show mac-address (all black - hole dynamic static vlan <i>vlanid</i> port eth <i>portid</i> [(include exclude) <i>string</i>])
Applicable View	config view
Function Description	This command is used to view the MAC address configuration of the OLT.
all black - hole dynamic static vlan port	all: View all MAC addresses learned by the OLT black-hole: View all black hole MAC addresses of OLT dynamic: View all dynamic MAC addresses learned by the OLT static: View all static MAC addresses of the OLT timer: Check the aging time of the OLT MAC address vlan: View the MAC address of the OLT in the specified vlan port: View the MAC address learned by the OLT uplink port
<i>vlanid</i>	VLANID to be checked
eth	eth: Uplink port

<i>portid</i>	The uplink port number to be checked
include exclude	include: matches the included string with a regular expression exclude: matches the excluded string with the regular expression
<i>string</i>	The string to be matched

【Configuration Case】

Case 1: View all MAC addresses learned by the OLT.

```
OLT(config)# show mac-address all
```

MAC	VLAN	Sport	Port	Onu	gemid	MAC-Type
A4:BD:C4:79:3E:C0	1	-	eth0/0/1	-	-	dynamic
E0:72:5B:2B:3D:5F	1000	-	cpu	-	-	blackhole
00:E0:FC:09:BC:F9	1	-	eth 0/0/1	-	-	dynamic
Total: 3						

Case 2: View all black hole MAC addresses of OLT.

```
OLT(config)# show mac-address black-hole
```

MAC	VLAN	Sport	Port	Onu	gemid	MAC-Type
E0:72:5B:2B:3D:5F	1000	-	cpu	-	-	blackhole
Total: 1						

Case 3: View all dynamic MAC addresses learned by OLT.

```
OLT(config)# show mac-address dynamic
```

MAC	VLAN	Sport	Port	Onu	gem id	MAC-Type
A4:BD:C4:79:3E:C0	1	-	eth 0/0/1	-	-	dynamic
00:E0:FC:09:BC:F9	1	-	eth 0/0/1	-	-	dynamic
Total: 3						

Case 4: View all static MAC addresses learned by the OLT.

```
OLT(config)# show mac-address static
```

```
-----
MAC          VLAN Sport Port Onu  gemid  MAC-Type
-----
E0:BE:B7:C9:43:4F 2500 - eth0/0/1 - - static
E0:9C:BF:DD:44:6D 2600 - eth0/0/2 - - static
-----
```

```
Total: 2
-----
```

Case 5: Check the MAC address of OLT under VLAN 2500.

```
OLT(config)# show mac-address vlan 2500
```

```
-----
MAC VLAN Sport Port Onu  gem id MAC-Type
-----
E0:BE:B7:C9:43:4F 2500 - eth 0/0/1 - - static
-----
```

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

Case 6: Check the MAC address learned by the ETH1 port.

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

```
-----
MAC          VLAN Sport Port Onu  gemid  MAC-Type
-----
EC:D0:9F:D2:6B:E7 101 - eth0/0/1 - - dynamic
E4:A4:71:49:9E:31 101 - eth0/0/1 - - dynamic
48:A9:D2:52:98:11 101 - eth0/0/1 - - dynamic
-----
```

```
Total: 3
-----
```

2.2.7. show mac-address timer

Command Syntax	<code>show mac-address timer</code>
Applicable View	config view
Function Description	This command is used to view the MAC address aging time of the OLT.

【Configuration Case】

Case 1: Check the aging time of the OLT mac address.

```
OLT(config)# show mac-address timer
MAC aging time: 300s
```

3 Layer 3 Commands

3.1 ARP Management

3.1.1. arp aging-time

Command Syntax	arp aging-time <i>aging-time</i> no arp aging-time
Applicable View	config view
Function Description	Use the arp age time set command to configure the ARP aging time. The no arp age time set command is used to restore the default ARP aging time. The default aging time is 600 seconds (10 minutes).
<i>aging-time</i>	The aging time value to be configured, the value range is 60-3600

【Configuration Case】

Case 1: Configure the arp aging time to 1 minute.

```
OLT(config)# arp aging-time 60
OLT(config)#
```

Case 2: Restore the ARP default aging time.

```
OLT(config)# no arp aging-time
OLT(config)#
```

3.1.2. arp gratuitous-arp learning

Command Syntax	arp gratuitous-arp learning (enable disable)
Applicable View	config view
Function Description	This command is used to enable or disable the gratuitous ARP learning function. By default, the free ARP learning function is disabled.
(enable disable)	enable: Enable the free arp learning function disable: Disable the free arp learning function

【Configuration Case】

Case 1: Enable the device's free ARP learning function.

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

3.1.3. arp gratuitous-arp send

Command Syntax	arp gratuitous-arp send (enable disable)
-----------------------	---

Applicable View	config view
Function Description	This command is used to enable or disable the function of sending gratuitous ARP packets periodically. By default, the function is disabled.
(enable disable)	enable: Enable the free ARP periodic sending function disable: Disable the free ARP periodic sending function

【Configuration Case】

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

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

3.1.4. arp gratuitous-arp send time

Command Syntax	arp gratuitous-arp send time time
Applicable View	config view
Function Description	This command is used to set the gratuitous ARP sending period. The default period is 5 minutes.
time	Free ARP sending period, setting range is 1-60 minutes

【Configuration Case】

Case 1: Set the gratuitous ARP sending period to 3 minutes.

```
OLT(config)# arp gratuitous-arp send time 3
OLT(config)#
```

3.1.5. arp learn-limit-num

Command Syntax	arp learn-limit-num limit-vlaue vlanif vlan-id no arp learn-limit-num vlanif vlan-id
Applicable View	config view
Function Description	Use the arp learn-limit-num limit-vlaue vlanif command to configure the ARP entry limit on a specified VLANIF. Use the no arp learn-limit-num vlanif command to cancel the ARP entry limit on a specified VLANIF. The default ARP learning number on a VLANIF interface is 2048.
limit-vlaue	The maximum number of ARP entries on the interface. The value range is 1-2048
vlan-id	vlan-id of the VLAN interface to be configured. The value range is 1 to 4094

【Configuration Case】

Case 1: Configure the ARP entry limit on vlanif 100 to 300.

```
OLT(config)# arp learn-limit-num 3 00 vlanif 100
```

```
OLT(config)#
```

3.1.6. arp mac-address change-check

Command Syntax	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, which means that the ARP table entry is updated when the MAC address changes.
(enable disable)	enable: Enable the ARP MAC address change check function disable: Disable the 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)#
```

3.1.7. arp quick-update

Command Syntax	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 when the port or MAC address of the same device is changed without changing the IP, the device can quickly update the port and MAC corresponding to the local ARP without waiting for the original ARP to age and then re-learning. By default, the ARP fast update function is disabled.
(enable disable)	enable: Enable the ARP fast update function disable: Disable the ARP fast update function

【Configuration Case】

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

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

3.1.8. arp static

Command Syntax	arp static ip-addr mac-addr vid vlanid port (eth lag) (F/S/P lagid) no arp static (ip-addr all)
Applicable View	config view

Function Description	The arp static command is used to configure static ARP entries in the ARP mapping table. The no arp static ip-addr command is used to delete the static ARP entry of the specified IP address. The no arp static all command is used to delete all static ARP entries. It should be noted that: Static ARP entries are valid during normal operation of the device. When the VLAN interface corresponding to an ARP entry of a device is deleted or its IP address is modified, 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 a 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 both the vlan-id and ip-address parameters are specified, the IP address of the VLAN interface corresponding to the vlan-id parameter must belong to the same network segment as the IP address specified by the ip-address parameter.
<i>ip-addr</i>	The IP address of the ARP entry, in dotted decimal format ABCD
<i>mac-addr</i>	The MAC address part of the ARP entry, in the format of XX:XX:XX:XX:XX:XX
<i>vlanid</i>	VLAN to which the static ARP entry belongs. The value range is 1 to 4094.
(eth lag)	Port type, including eth lag type
<i>F / S / P</i>	Port number (for example, 0/0/1)
<i>lagid</i>	Aggregation group ID, the value range is 1-8

【Configuration Case】

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

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

Case 2: Configure the static ARP IP address to 10.11.100.198 and the corresponding MAC address to 01:02:03:04:05:07, which belongs to aggregation group 1 of VLAN 2.

```
OLT(config)# arp static 10.11.100.19 8 01:02:03:04:05:0 7 vid 2 port lag 1
OLT(config)#
```

Case 3: Delete static ARP IP 10.11.100.198.

```
OLT(config)# no arp static 10.11.100.19 8
OLT(config)#
```

Case 4: Delete all static ARP.

```
OLT(config)# no arp static all
OLT(config)#
```

3.1.9. reset arp dynamic

Command Syntax	reset arp dynamic (all ip <i>ip-addr</i> vlanif <i>vlan-id</i> port (eth <i>F/S/P</i> lag <i>lagid</i>))
Applicable View	config view
Function Description	Use the reset arp dynamic all command to clear all dynamic ARPs. The reset arp dynamic ip <i>ip-address</i> command is used to clear the dynamic arp of the specified IP address. reset arp dynamic port <i>port-type</i> <i>port-num</i> is used to clear the dynamic arp on the specified port. reset arp dynamic vlanif <i>vlan-id</i> is used to clear the dynamic arp on the specified vlanif.
<i>ip-addr</i>	The IP address of the ARP entry, in dotted decimal format
<i>vlan-id</i>	VLAN to which the static ARP entry belongs. The value range is 1 to 4094.
<i>F/S/P</i>	Port number (for example, 0/0/1)
<i>lagid</i>	Aggregation group ID, the value range is 1-8

【Configuration Case】

Case 1: Clear all dynamic arp.

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

Case 2: Clear the dynamic arp with IP 11.1.1.1.

```
OLT(config)# reset arp dynamic ip 11.1.1.1
OLT(config)#
```

Case 3: Clear dynamic arp under aggregation group 1.

```
OLT(config)# reset arp dynamic port lag 1
OLT(config)#
```

Case 4: Clear dynamic arp of vlanif 100.

```
OLT(config)# reset arp dynamic vlanif 100
OLT(config)#
```

3.1.10. show arp

Command Syntax	show arp (all dynamic static vlanif <i>vlanid</i>)
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 is used to display the ARP entries of a specified vlanif.
<i>vlanid</i>	VLAN to which the static ARP entry belongs. The value range is 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 age Time
101.0.0.3 E0:67:B3:00:00:02 300 eth 0/0/1 Dynamic 569
101.0.0.6 E0:67:B3:00:00:09 300 eth 0/0/1 Static --
```

Case 2: View all dynamic arp entries on the device.

```
OLT(config)# show arp dynamic
arp entry max num: 2048
arp entry current: 2
IP address Mac address VLAN F/S/P Type age Time
101.0.0.3 E0:67:B3:00:00:02 300 eth 0/0/1 Dynamic 569
```

Case 3: Check the ARP table entries under all vlanif 300 on the device.

```
OLT(config)# show arp vlanif 3 00
arp entry max num: 2048
arp entry current: 2
IP address Mac address VLAN F/S/P Type age Time
101.0.0.3 E0:67:B3:00:00:02 300 eth 0/0/1 Dynamic 569
101.0.0.6 E0:67:B3:00:00:09 300 eth 0/0/1 Static --
```

3.1.11. show arp config

Command Syntax	show arp config
Applicable View	config view
Function Description	This command line is used to display the arp configuration.
<i>vlanid</i>	VLAN to which the static ARP entry belongs. The value range is 1 to 4094.

【Configuration Case】

Case 1: Check the ARP configuration on the device.

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

```

arp aging-time: 70
arp quick-update: enable
arp gratuitous-arp send: disable
arp gratuitous-arp send time: 3
arp gratuitous-arp learning: disable
arp mac-address change -check: disable

```

3.1.12. show arp history

Command Syntax	show arp history
Applicable View	config view
Function Description	This command line is used to display the arp history.
<i>vlanid</i>	VLAN to which the static ARP entry belongs. The value range is 1 to 4094.

【Configuration Case】

Case 1: Check the ARP history on the device.

```

OLT(config)# show arp config
arp aging-time: 70
arp quick-update: enable
arp gratuitous-arp send: disable
arp gratuitous-arp send time: 3
arp gratuitous-arp learning: disable
arp mac-address change -check: disable

```

3.2 Layer 3 Interface Configuration

3.2.1. default gateway

Command Syntax	default gateway ip-addr no default gateway
Applicable View	mgmt view
Function Description	This command is used to configure or cancel the default gateway of the network management port.
<i>ip-addr</i>	Default gateway of the network management port, in dotted decimal format.

【Configuration Case】

Case 1: Configure the default gateway of the mgmt port to 192.168.10.1.

```

OLT(config-interface-mgmt)# default gateway 192.168.10.1

```

Case 2: Unconfigure the default gateway of the mgmt port.

```
OLT(config-interface-mgmt)# no default gateway
```

3.2.2. description

Command Syntax	description <i>description</i> no description
Applicable View	mgmt view, vlanif view, loopback view
Function Description	This command line is used to configure or delete description information.
<i>description</i>	Interface description string (excluding spaces), the value range is 1-128 characters

【Configuration Case】

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

```
OLT(config-vlanif- 1 )# description vlanif 1_test
```

Case 2: Configure the description information of the Mgmt interface.

```
OLT(config- mgmt )# description mgmt_test
```

Case 3: Configure the description information of the loopback interface.

```
OLT(config- loopback-1 )# description loopback 1_test
```

3.2.3. interface loopback

Command Syntax	interface loopback <i>loopback-id</i> no interface loopback <i>loopback-id</i>
Applicable View	config view
Function Description	This command is used to create or delete a loopback interface. An existing loopback interface will be directly placed in the interface view.
<i>loopback-id</i>	Loopback interface ID, value range 1-1023

【Configuration Case】

Case 1: Create loopback interface 2.

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

Case 2: Delete loopback interface 2.

```
OLT (config) # no interface loopback 2
```

3.2.4. interface vlanif

Command Syntax	interface vlanif <i>vlanif-id</i> no interface vlanif <i>vlanif-id</i>
Applicable View	config view

Function Description	This command line is used to create or delete a vlanif interface. An existing vlanif interface will be directly put into the interface view. Note that vlan 1 cannot be deleted.
<i>vlanif-id</i>	vlanif interface id, value range 1-4094

【Configuration Case】

Case 1: Create vlanif interface 100.

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

Case 2: Delete vlanif interface 2.

```
OLT (config) # no interface vlanif 100
```

3.2.5. ip address

Command Syntax	ip address <i>ip-addr</i> (<i>mask-len</i> <i>mask-addr</i>) no ip address
Applicable View	mgmt view, vlanif view, loopback view
Function Description	This command line is used to configure or delete the IP address and mask of an interface.
<i>ip-addr</i>	IP address of the interface, in dotted decimal format
<i>mask-len</i> <i>mask-addr</i>	mask-len: Subnet mask length, that is, the number of consecutive "1"s in the mask. The value range is 0 to 32. mask-addr: The subnet mask corresponding to the interface IP address, in dotted decimal format

【Configuration Case】

Case 1: Configure the vlanif interface IP and mask length.

```
OLT(config-vlanif-2)#ip address 1.1.1.1 20
```

Case 2: Delete the IP address and mask length of the vlanif interface.

```
OLT(config-vlanif-2)# no ip address
```

3.2.6. show interface

Command Syntax	show interface (<i>mgmt</i> <i>vlanif</i> [<i>vlan-id</i>] <i>loopback</i> [<i>loopback-id</i>])
Applicable View	config view
Function Description	This command line is used to view detailed information about the specified interface.
<i>mgmt</i> <i>vlanif</i> <i>loopback</i>	mgmt: View mgmt interface information vlanif: View vlanif interface information

	loopback: View loopback interface information
<i>vlan-id</i>	If you fill in the vlan id, the vlanif interface information will be displayed. If you do not fill in the vlan id, the information of all vlanif interfaces will be displayed.
<i>loopback-id</i>	If you fill in the loopback id, the loopback interface information will be displayed. If you do not fill in the loopback id, the information of all loopback interfaces will be displayed.

【Configuration Case】

Case 1: Display all vlanif interface information.

```
OLT(config)# show interface vlanif
Vlanif10 current state: ADMIN DOWN
Line protocol current state: DOWN
Description: vlan10 Interface
The Maximum Transmit Unit is 1500 bytes
IP Sending Frames' Format is PKTFMT_ETHNT_2
Hardware Address is E0:67:B3:00:00:05
  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 window, 0 collisions

Vlanif20 current state: ADMIN DOWN
Line protocol current state: DOWN
Description: vlan20 Interface
The Maximum Transmit Unit is 1500 bytes
IP Sending Frames' Format is PKTFMT_ETHNT_2
Hardware Address is E0:67:B3:00:00:05
  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 window, 0 collisions
```

Case 2: Display VLANIF 10 interface information.

```
OLT(config)# show interface vlanif 10
Vlanif10 current state: ADMIN DOWN
Line protocol current state: DOWN
Description: vlan10 Interface
The Maximum Transmit Unit is 1500 bytes
IP Sending Frames' Format is PKTFMT_ETHNT_2
Hardware Address is E0:67:B3:00:00:05
```

```
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 window, 0 collisions
```

Case 3: Display all loopback interface information.

```
OLT(config)# show interface loopback
InLoop0 current state: ADMIN UP
Line protocol current state: UP
Description: lo Interface
The Maximum Transmit Unit is 16436 bytes
IP Sending Frames' Format is PKTFMT_ETHNT_2
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 window, 0 collisions

Loopback2 current state: ADMIN UP
Line protocol current state: DOWN
Description: lo:2 Interface
The Maximum Transmit Unit is 0 bytes
IP Sending Frames' Format is PKTFMT_ETHNT_2
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 window, 0 collisions
```

Case 4: Display loopback 2 interface information.

```
OLT(config)# show interface loopback 2
Loopback2 current state: ADMIN UP
Line protocol current state: DOWN
Description: lo:2 Interface
The Maximum Transmit Unit is 0 bytes
IP Sending Frames' Format is PKTFMT_ETHNT_2
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 window, 0 collisions
```

Case5:Display MGMT interface information.

```
OLT(config)# show interface mgmt
Mgmt0/0 current state: ADMIN UP
Line protocol current state: UP
Description: eth0 Interface
The Maximum Transmit Unit is 1500 bytes
IP Sending Frames' Format is PKTFMT_ETHNT_2
Hardware Address is E0:67:B3:00:00:04
  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 window, 0 collisions
```

3.2.7. shutdown

Command Syntax	shutdown no shutdown
Applicable View	mgmt view, vlanif view
Function Description	This command line is used to enable or disable an interface.

【 Configuration Case 】

Case 1: Shut down the vlanif 2 interface.

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

Case 2: Enable loopback 2 interface.

```
OLT(config- loopback -2)# no shutdown
```

Case 3: Shut down the mgmt interface.

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

3.3 Route Configuration

3.3.1. ip route

Command Syntax	ip route (<i>ip-addr/mask-len</i> <i>ip-addr mask-addr</i>) [<i>gateway-address</i>] [<i>distance</i>] no ip route (<i>ip-addr / mask-len</i> <i>ip-addr mask-addr</i>) [<i>gateway-address</i>] [<i>distance</i>]
Applicable View	config view

Function Description	This command is used to add or delete static routes for OLT. Only one default static route can be configured.
<i>ip-addr</i>	IP address , in dotted decimal format.
<i>mask-len</i>	Specifies the subnet mask length of the network segment interface. The value range is 0-32
<i>mask-addr</i>	Subnet mask, in dotted decimal format.
<i>gateway-address</i>	Gateway IP address, in dotted decimal format.
<i>distance</i>	The management distance that needs to be configured is in the range of 1-255.

【Configuration Case】

Case 1: Configure the static default route of the OLT, with the gateway being 192.168.2.253

```
OLT(config)#ip route 0.0.0.0 /0 192.168.5.253
```

Case 2: Configure a static route on the OLT with 192.168.3.0 and a mask of 255.255.255.0

```
OLT(config)# ip route 192.168.3.0 255.255.255.0 192.168.5.1
```

Case 3: Delete the static route 192.168.3.0 with a mask of 255.255.255.0 on the OLT

```
OLT(config)# no ip route 192.168.3.0 255.255.255.0 192.168.5.1
```

3.3.2. ip route-default

Command Syntax	ip route-default gateway <i>ip-addr</i> no ip route-default gateway <i>ip-addr</i>
Applicable View	config view
Function Description	This command is used to configure or delete the default routing gateway of the OLT.
<i>ip-addr</i>	The gateway of the OLT default route, in dotted decimal format.

【Configuration Case】

Case 1: Configure the default routing gateway of the OLT to 192.168.5.1

```
OLT(config)#ip route-default gateway 192.168.5.1
```

3.3.3. show fib

Command Syntax	show fib [<i>ip-addr</i> <i>ip-addr</i> / <i>mask-len</i>]
Applicable View	config view

Function Description	After the routing table selects a route, it sends the activated route to the FIB table. When the packet reaches the router, it forwards it by looking up the FIB table. Each forwarding entry in the FIB table indicates which physical or logical interface of the router the message destined for a certain network segment or host should be sent through, and then it can reach the next router on the path, or be transmitted to the destination host in the directly connected network without passing through other routers. The FIB table matches according to the longest match principle. When searching the FIB table, the destination address of the message and the mask of each entry in the FIB are bitwise "logically ANDed". If the address obtained matches the network address in the FIB entry, it matches. Finally, a FIB entry with the longest match is selected to forward the message.
<i>ip-addr</i>	Match the destination IP address of the route.
<i>mask-len</i>	Display by destination IP address and mask of the route

【Configuration Case】

Case 1: View the current fib table entry.

```
OLT(config)# show fib
FIB Table: Public
FIB Flags: U - Useable, G - Gateway, H - Host, B - Blackhole,
S - Static, D - Dynamic, R - Relay
Destination/Mask Nexthop Interface Flags TunnelID
-----
2.2.2.0/24 2.2.2.2 Vlanif10 U 0x0
2.2.2.2/32 127.0.0.1 Vlanif10 UH 0x0
3.3.3.0/24 3.3.3.3 Vlanif20 U 0x0
3.3.3.3/32 127.0.0.1 Vlanif20 UH 0x0
127.0.0.0/8 127.0.0.1 InLoop0 U 0x0
127.0.0.1/32 127.0.0.1 InLoop0 UH 0x0
192.168.2.0/24 0.0.0.0 Null0 UBS 0x0
```

Case 2: Check the fib table entry with the destination IP address of 2.2.2.2.

```
OLT(config)# show fib 2.2.2.2/24
FIB Table: Public
FIB Flags: U - Useable, G - Gateway, H - Host, B - Blackhole,
S - Static, D - Dynamic, R - Relay
Destination/Mask Nexthop Interface Flags TunnelID
-----
2.2.2.0/24    2.2.2.2    Vlanif10   U    0x0
```

3.3.4. show ip route

Command Syntax	<code>show ip route [ip-addr ip-addr/mask-len summary verbose] show ip route protocol (kernel connected static rip ospf isis bgp) (verbose inactive)</code>
Applicable View	config view
Function Description	This command is used to view the routing information on the OLT.
<i>ip-addr</i>	Routing destination IP address
<i>mask-len</i>	Mask of the route's destination IP address
summary verbose	summary: Displays statistics verbose: Display detailed information about the route
protocol	Display routing information by protocol or type
kernel connected static rip ospf isis bgp	kernel: Display kernel routing information connected: Displays direct route information static: Displays static routing information rip: Display routing information according to the RIP protocol ospf: Display routing information according to the OSPF protocol isis: Display routing information according to the ISIS protocol bgp: Display routing information according to the BGP protocol

【Configuration Case】

Case 1: View all 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
-----
2.2.2.0/24 direct  0 0 D  2.2.2.2 Vlanif10
2.2.2.2/32 direct  0 0 D  127.0.0.1 Vlanif10
127.0.0.0/8 direct  0 0 D  127.0.0.1 InLoop0
127.0.0.1/32 direct  0 0 D  127.0.0.1 InLoop0
192.168.2.0/24 static  1 0 D  0.0.0.0 Null0
```

Case 2: View routing statistics on the OLT

```
OLT(config)# show ip route summary
Route Source Routes FIB
connected 4          4
static 1 1
-----
Totals    5          5
```

Case 3: Viewing detailed routing information on the OLT

```
OLT(config)# show ip route verbose
```

```
Routing Table: Public
```

```
Destination: 2.2.2.0/24
```

```
Protocol: direct ProcessID: 0
```

```
Preference: 0 Cost: 0
```

```
NextHop: 2.2.2.2 Interface: Vlanif10
```

```
RelayNextHop: 0.0.0.0 RelayIntf: -
```

```
Tunnel ID: 0x0 Label: NULL
```

```
age: 00h16m23s RefCnt: 0
```

```
State: Active, best, fib
```

```
Destination: 2.2.2.2/32
```

```
Protocol: direct ProcessID: 0
```

```
Preference: 0 Cost: 0
```

```
NextHop: 127.0.0.1 Interface: Vlanif10
```

```
RelayNextHop: 0.0.0.0 RelayIntf: -
```

```
Tunnel ID: 0x0 Label: NULL
```

```
age: 00h16m23s RefCnt: 0
```

```
State: Active, best, fib
```

```
Destination: 127.0.0.0/8
```

```
Protocol: direct ProcessID: 0
```

```
Preference: 0 Cost: 0
```

```
NextHop: 127.0.0.1 Interface: InLoop0
```

```
RelayNextHop: 0.0.0.0 RelayIntf: -
```

```
Tunnel ID: 0x0 Label: NULL
```

```
age: 03h57m09s RefCnt: 0
```

```
State: Active, best, fib
```

```
Destination: 127.0.0.1/32
```

```
Protocol: direct ProcessID: 0
```

```
Preference: 0 Cost: 0
```

```
NextHop: 127.0.0.1 Interface: InLoop0
```

```
RelayNextHop: 0.0.0.0 RelayIntf: -
```

```
Tunnel ID: 0x0 Label: NULL
```

```
age: 03h57m09s RefCnt: 0
```

```
State: Active, best, fib
```

```
Destination: 192.168.2.0/24
```

```
Protocol: static ProcessID: 0
```

```
Preference: 1 Cost: 0
```

```
NextHop: 0.0.0.0 Interface: Null0
```

```
RelayNextHop: 0.0.0.0 RelayIntf: -
```

```
Tunnel ID: 0x0 Label: NULL
```

```
age: 00h15m00s RefCnt: 0  
State: Active, best, blkh, fib
```

Case 4: View the routing information of the destination IP 2.2.2.2/32 on the OLT

```
OLT(config)# show ip route 2.2.2.2  
2.2.2.2/32 direct 0 0 D 127.0.0.1 Vlanif10
```

4 ACL Configuration Management

4.1 ACL Template Configuration

4.1.1. acl

Command Syntax	<code>acl (basic-acl-id adv-acl-id link-acl-id)</code> <code>no acl (all basic-acl-id adv-acl-id link-acl-id)</code>
Applicable View	config view
Function Description	This command is used to create and delete ACLs.
<i>basic-acl-id</i>	The basic acl ID to be created and deleted. The value range is 2000-2999
<i>adv-acl-id</i>	The ID of the advanced acl to be created or deleted. The value range is 3000-4999
<i>link-acl-id</i>	The link acl ID to be created and deleted. The value range is 5000-5999
all	All ACLs. Note: When an ACL rule is applied to a port, it cannot be deleted directly. You need to delete the ACL rule from the port first before you can delete it successfully.

【Configuration Case】

Case 1: Create basic acl 2001

```
OLT(config)# acl 2001
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: Deleting ACL 2001

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

OLT(config)#
```

4.1.2. acl ipv6

Command Syntax	<code>acl ipv6 (basic-acl-id adv-acl-id)</code> <code>no acl ipv6 (all basic-acl-id adv-acl-id)</code>
-----------------------	---

Applicable View	config view
Function Description	This command is used to create or delete an IPv6 ACL.
<i>basic-acl-id</i>	The basic acl ID to be created and deleted. The value range is 2000-2999
<i>adv-acl-id</i>	The ID of the advanced acl to be created or deleted. The value range is 3000-4999
all	All ACLs. Note: When an ACL rule is applied to a port, it cannot be deleted directly. You need to delete the ACL rule from the port first before you can delete it successfully.

【Configuration Case】

Case 1: Create basic acl 2001

```
OLT(config)# acl ipv6 2001

OLT (ACL 6 - Basic-2001)#
```

Case 2: Create advanced ACL 3000

```
OLT(config)# acl ipv6 3000

OLT(acl6 - adv-3000)#
```

Case 3: Deleting acl 2001

```
OLT(config)# no acl ipv6 2001

OLT(config)#
```

4.1.3. acl name

Command Syntax	acl name <i>NAME</i>
Applicable View	acl-adv view, acl-basic view, Link acl view
Function Description	This command is used to configure the name of an ACL.
<i>NAME</i>	ACL name, with a character length of 1 to 10.

【Configuration Case】

Case 1:Set the name of ACL to 'test'

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

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

4.1.4. rule (acl-basic)

Command Syntax	rule <i>rule-id</i> (permit deny) source (<i>ip-address sour-wildcard</i> any) no rule <i>rule-id</i>
-----------------------	--

Applicable View	acl-basic view,acl6-basic view
Function Description	The rule command is used to create ACL rules in Acl-basic mode. This command is used when you need to formulate ACL rules based on the source IP address of the message. After successfully creating the rule, you can use the packet-filter command to reference the rule to filter the message. Or use it with the QoS policy to provide quality of service guarantee for specific messages. no rule command is used to delete or modify ACL rules.
<i>rule-id</i>	ACL rule ID. A larger ACL ID has a higher priority. The value range is 1-16.
permit deny	deny: Do not allow the traffic matching the packet to pass. permit: Allows qualified packets to pass.
<i>ip-address any</i>	ip-address: Source IP address segment in ACL rules any: matches any source IP packet
<i>sour-wildcard</i>	Negative mask: IP address and negative mask are used together to match the host of the network number. Negative mask is a wildcard mask, which tells the device which bit should be matched by marking 0 and 1. In the negative mask, the address with the corresponding bit 1 is ignored in the comparison, and the address with 0 must be checked.

【Configuration Case】

Case 1: Specify that port 1 can only receive packets from the IP address 10.10.10.2.

```
OLT(config)# acl 2000
OLT(acl-basic-2000)#rule 2 permit source 10.10.10.2 0.0.0.0
OLT(acl-basic-2000)#
```

Case 2: Delete ACL rule 1.

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

4.1.5. rule (acl-adv)

Command Syntax	When the protocol type is ICMP, the command format of the advanced access control list is: <pre>rule <i>rule-id</i> (permit deny) (icmp protocol-id) { soure (<i>ip-address sour-wildcard any</i>) destination (<i>ip-address sour-wildcard any</i>) icmp-type <i>icmp-type</i> precedence <i>precedence-value</i> dscp <i>dscp-value</i> }</pre> When the protocol type is TCP or UDP, the command format of the advanced access control list is:
-----------------------	--

	rule <i>rule-id</i> (permit deny) (tcp udp <i>protocol-id</i>) {source (<i>ip-address</i> <i>sour-wildcard</i> any) destination (<i>ip-address</i> <i>sour-wildcard</i> any) src-port <i>port-list</i> dest-port <i>port-list</i> precedence <i>precedence-value</i> dscp <i>dscp-value</i>} When the protocol type is GRE, IGMP, IPINIP, or OSPF, the command format of the advanced access control list is: rule <i>rule-id</i> (permit deny) (gre igmp ospf ipinip <i>protocol-id</i>) { source (<i>ip-address</i> <i>sour-wildcard</i> any) destination (<i>ip-address</i> <i>sour-wildcard</i> any) precedence <i>precedence-value</i> dscp <i>dscp-value</i> } When the version type is IPv4, the command format of the advanced access control list is: rule <i>rule-id</i> (permit deny) ip { source (<i>ip-address</i> <i>sour-wildcard</i> any) destination (<i>ip-address</i> <i>sour-wildcard</i> any) precedence <i>precedence-value</i> dscp <i>dscp-value</i> } no rule <i>rule-id</i>
Applicable View	acl-adv view, acl6-adv view
Function Description	The rule command is used to create advanced ACL rules in acl-adv mode. This command is used when you need to formulate matching rules based on the source address information, destination address information, IP-borne protocol type, and protocol characteristics of the data packet. After successfully creating the rule, you can use the packet-filter command to reference the rule to filter the message. Or use it in conjunction with the QoS policy to provide quality of service guarantees for specific messages. The no rule command is used to delete or modify the rules in the ACL.
<i>rule-id</i>	ACL rule ID. The larger the ACL ID, the higher the priority.
permit deny	deny: Do not allow the traffic matching the packet to pass. permit: Allows qualified packets to pass.
<i>ip-address</i>	ip-address: Source IP address segment in ACL rules
<i>sour-wildcard</i>	Negative mask: IP address and negative mask are used together to match the host of the network number. Negative mask is a wildcard mask, which tells the device which bit should be matched by marking 0 and 1. In the negative mask, the address with the corresponding bit 1 is ignored in the comparison, and the address with 0 must be checked.
source	ACL matches the source IP address of the packet
destination	ACL matches the destination IP address of the packet

dscp	Differentiated Services Code Point Priority
dest-port	ACL matches the destination port in UDP or TCP
src-port	ACL matches source ports in UDP or TCP
lpinip	The acl matches double-layered IP packets. That is, IP data encapsulation and tunneling, IP Encapsulation within IP, protocol number 4, just as it was 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 mobile node's care-of address.

【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)#
```

Case 2: Delete ACL rule 1.

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

4.1.6. rule (acl-link)

Command Syntax	rule <i>rule-id</i> (permit deny) { <i>source</i> <i>src-mac-address</i> <i>mac-address-mac-wildcard</i> <i>destination</i> <i>des-mac-address</i> <i>mac-address-mac-wildcard</i> dot1p <i>dot1p-value</i> inner-dot1p <i>inner-dot1p-value</i> vlan <i>vlan-id</i> inner-vlan <i>inner-vlan-id</i> type <i>Ethernet-type</i> } no rule <i>rule-id</i>
Applicable View	acl-link view
Function Description	The rule command is used to create ACL rules in Acl-link mode. This command is used when you need 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 the message. After successfully creating ACL rules, you can use the packet-filter command to reference the rules to filter messages. Or use it in conjunction with QoS policies to provide quality of service guarantees for specific messages.
<i>rule-id</i>	ACL rule ID. The larger the ACL ID, the higher the priority.
permit deny	deny: Do not allow the traffic matching the packet to pass. permit: Allows qualified packets to pass.
destination	Destination MAC address of the matching packet in the ACL

<i>source</i>	Source MAC address field of the matched packet in the ACL
<i>mac-addr</i>	mac address
<i>mac-wildcard</i>	The inverse mask of the mac address. The inverse mask is a wildcard mask that tells the device which bit should be matched by marking 0 and 1. In the inverse mask, the address with the corresponding bit as 1 is not matched (ignored) in the comparison, and the address with the corresponding bit as 0 must be checked;
<i>inner-dot1p-value</i>	Match the cos value of the inner VLAN of the layer 2 message
<i>dot1p-value</i>	Match the cos value of the outer vlan
<i>vlan-id</i>	Match the vlanid value of the outer vlan
<i>inner-vlan-id</i>	Match the cos value of the inner VLANID
<i>Ethernet-type</i>	Matches the Ethernet type field

【Configuration Case】

Case 1: Specify that port 1 can only receive packets from a destination MAC address of 22-22-22-22-22-22.

```
OLT(config)# acl 5000
OLT(acl-link-5000)# rule 1 permit destination 22:22:22:22:22:22 0000-0000-0000
OLT(acl-link-5000)# rule 2 deny destination 22:22:22:22:22:22 FFFF-FFFF-FFFF
OLT(acl-link-5000)#exit
OLT(config)# packet-filter inbound 5000 port eth 0|0 1
```

4.1.7. show acl

Command Syntax	show acl [ipv6] (<i>acl-id</i> <i>all</i>)
Applicable View	config view
Function Description	This command is used to view the configured ACL.
<i>acl-id</i>	Specific ACL.
<i>all</i>	Display all ACLs

【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)#
```

4.1.8. show current

Command Syntax	<code>show current</code>
Applicable View	acl-basic view, acl-adv 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 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)#
```

5 Service Configuration

5.1 DBA Template Configuration

5.1.1. commit

Command Syntax	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 for DBA will take effect.

【Configuration Case】

Case 1: Submit the current DBA template configuration.

```
OLT(config-dba-profile-1)# commit
OLT(config-dba-profile-1)#
```

5.1.2. dba-profile

Command Syntax	dba-profile {profile-id <i>profile-id</i> profile-name <i>profile-name</i>} no dba-profile (profile-id <i>profile-id</i> profile-name <i>profile-name</i>)
Applicable View	config view
Function Description	The DBA (Dynamic Bandwidth Assignment) template defines the upstream access bandwidth of the ONU and can dynamically configure the ONU upstream bandwidth based on actual service requirements. The dba-profile command is used to add a new DBA profile or enter an existing DBA profile. The dba-profile command without any parameters automatically creates a new DBA profile. The bound DBA profile cannot be modified. If you need to modify it, you need to unbind it first. The no dba-profile command is used to delete an unnecessary DBA profile. The default DBA profile of the system cannot be deleted.
<i>profile-id</i>	DBA template number, ranging from 0 to 128. If not specified, the system automatically assigns the smallest free template number. Template 0 is the system default template, and the automatically online ONT automatically matches template 0.
<i>profile-name</i>	DBA profile name, which can be 1 to 64 characters long. 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: Automatically create a new DBA template and enter the DBA template configuration view.

```
OLT(config)# dba-profile
OLT(config-dba-profile-2)#
```

Case 2: Delete a DBA template based on profile-id.

```
OLT(config)# no dba-profile profile-id 20
DBA profile not found, DBA profile delete failed.
OLT(config)# no dba-profile profile-id 2
OLT(config)#
```

5.1.3. show dba-profile

Command Syntax	show dba-profile (all profile-id <i>profile-id</i> profile-name <i>profile-name</i>)
Applicable View	enable view , config view , line template configuration view
Function Description	This command is used to view the information of all or specific DBA templates that currently exist. If the DBA template being viewed has not been created, an error message will be displayed.
all	You can view all current DBA template information
<i>profile-id</i>	DBA template number, the value range is 0-128, you can view specific DBA template information through the template number
<i>profile-name</i>	DBA template name, string length range 1-64, you can view specific DBA template information through the template name

【Configuration Case】

Case 1: View the detailed information of all DBA templates currently configured on the OLT device.

```
OLT(config)# show dba-profile all
-----
ID type Fix Assure Max bind name
(kbps) (kbps) (kbps) times
-----
0 1 256 0 0 3 dba-profile_0
1 4 0 0 1024000 4 dba-profile_1
2 1 512 0 0 0 dba-profile_2
-----
Total: 3
-----
```

Case 2: View the detailed information of the specific DBA template currently configured on the OLT device.

```
OLT(config)# show dba-profile profile-id 0
-----
Profile-ID: 0
Profile-name: dba-profile_0
type: 1
Fix(kbps): 256
Assure(kbps): 0
Max(kbps): 0
```

```
bind-times: 3
```

```
-----
OLT(config)# show dba-profile profile-id 3
ERROR: DBA profile eth t failed
```

5.1.4. show dba-profile current

Command Syntax	show dba-profile current
Applicable View	DBA template configuration view
Function Description	This command is used to display the detailed information of the currently configured DBA template.

【Configuration Case】

Case 1: View the detailed information of the currently configured DBA template.

```
OLT(config-dba-profile-2)# show dba-profile current
-----
Profile-ID   : 2
Profile-name : dba-profile_2
type        : 5
Fix(kbps)   : 256
Assure(kbps) : 256
Max(kbps)   : 128000
bind-times  : 0
-----
```

5.1.5. type

Command Syntax	type1 fix <i>fix-bandwidth</i> type2 assure <i>assure-bandwidth</i> type3 assure <i>assure-bandwidth</i> max <i>max-bandwidth</i> type4 max <i>max-bandwidth</i> type5 fix <i>fix-bandwidth</i> assure <i>assure-bandwidth</i> max <i>max-bandwidth</i>
Applicable View	DBA template configuration view
Function Description	This group of commands is used to configure the DBA bandwidth type. A DBA template can only be configured with one DBA bandwidth type. If a new bandwidth type is configured under the condition that a bandwidth type already exists in the DBA template, the new bandwidth type configuration will directly overwrite the old bandwidth type configuration.

type1	Configure a DBA template with fixed bandwidth. Fixed bandwidth is completely reserved for a specific ONU or a specific service of the ONU. Even if the ONU has no upstream service flow, this bandwidth cannot be used by other ONUs. Fixed bandwidth is mainly used for services that are very sensitive to service quality, such as TDM, VoIP, etc.
type2	Configure a DBA template with guaranteed bandwidth. Guaranteed bandwidth is the bandwidth that is guaranteed to be available when the ONT needs to use 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 its remaining bandwidth to the services of other ONTs. Since the DBA mechanism is required to control the allocation, its real-time performance is worse than fixed bandwidth.
type3	The configuration type is a DBA template with guaranteed bandwidth + maximum bandwidth. Type 3 is a bandwidth combination type, which guarantees users a certain bandwidth while also allowing users to occupy a certain bandwidth, but the total 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 template with the maximum bandwidth type. The maximum bandwidth is the upper limit of the bandwidth that can be obtained when the ONT uses bandwidth, which satisfies the bandwidth resources used by the ONT to the greatest extent. The maximum bandwidth type is commonly used for ordinary Internet access and other services.
type5	The configuration type is a DBA template with fixed bandwidth + guaranteed bandwidth + maximum bandwidth. Type 5 is a bandwidth combination type, which not only reserves fixed bandwidth resources for users that cannot be preempted by other users, but also ensures that the guaranteed bandwidth is available when bandwidth is needed, and allows users to preempt a certain amount of bandwidth, but the total will not exceed the maximum bandwidth configured by the user.
<i>fix-bandwidth</i>	Fixed bandwidth, value range is 256-9600000, unit is kbps. This part of bandwidth is fixedly allocated to the user, even if the user does not use it, other users cannot occupy it.
<i>ensure-bandwidth</i>	Guaranteed bandwidth, value range 256-9600000, unit kbps. This part of bandwidth is allocated to users. If users do not use it, other users can occupy this part of bandwidth.
<i>max-bandwidth</i>	Maximum bandwidth, ranging from 512-9600000, in kbps. This bandwidth refers to the maximum bandwidth value that a user can use. In a type 3 DBA template, the maximum bandwidth must be greater than or equal to the guaranteed bandwidth.

	In a type 5 DBA template, the maximum bandwidth must be greater than or equal to the sum of the fixed bandwidth and the guaranteed bandwidth.
--	---

【Configuration Case】

Case 1: Enter the DBA template configuration view and configure the DBA template.

```
OLT(config)#dba-profile profile-id 2
OLT(config-dba-profile-2)# type5 fix 256 assure 256 max 128000
OLT(config-dba-profile-2)#
```

5.2 Line Template Configuration

5.2.1. commit

Command Syntax	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 for the line will take effect.

【Configuration Case】

Case 1: Submit the current line template configuration.

```
OLT(config-ont-lineprofile-1)# commit
OLT(config-ont-lineprofile-1)#
```

5.2.2. fec

Command Syntax	fec (disable enable)
Applicable View	Line template configuration view
Function Description	This command is used to enable or disable the forward error correction (FEC) function of the ONT upstream. The default value is disable.
disable	Disable the upstream FEC function of the line profile ONT. Configure this keyword when the error correction capability of the line is not required to be high and some bandwidth resources need to be saved.
enable	Enable the upstream FEC function of the line template ONT. Configure this keyword when the network fiber transmission signal is weak and the error correction capability of the line needs to be enhanced.

【Configuration Case】

Case 1: Enable the upstream FEC function of the line template ONT.

```
OLT(config-ont-lineprofile-1)# fec enable
OLT(config-ont-lineprofile-1)#
```

5.2.3. gem add

Command Syntax	<code>gem add gem-id tcont tcont-id {downstream-priority-queue downstream-priority-queue encrypt (disable enable) gem-car traffic-profile-id priority-queue upstream-priority-queue}</code>
Applicable View	Line template configuration view
Function Description	gem add command is used to configure the binding relationship between gem Port and T-CONT in the ONT line template and related attributes.
<i>gem -id</i>	gem Port ID ranges from 1 to 30 and is used to specify the gem Port bound to the TCONT. In the same line template, the gem -id must be unique.
<i>tcont-id</i>	TCONT number, ranging from 1 to 7 , is used to specify the TCONT bound to the gem Port. The TCONT bound to the gem Port must have been created.
<i>downstream-priority-queue</i>	Downstream scheduling priority queue number, ranging from 1 to 8 , is used to specify the downstream queue priority configured in the T-CONT by gem index.
disable	Disable the data encryption switch to disable data encryption when creating a gem port.
enable	Enable the data encryption switch to enable data encryption when creating a gem port.
<i>traffic-profile-id</i>	Line traffic template number, ranging from 1 to 256 , configures the downstream rate limit of the gem port of the ONT (traffic-table-id). The traffic-table needs to be created in advance.
<i>upstream-priority-queue</i>	The upstream scheduling priority queue number ranges from 1 to 8 and is used to specify the upstream queue priority configured in the T-CONT by gem index.

【Configuration Case】

Case 1: Create a new gem Port and bind TCONT to it.

```
OLT(config-ont-lineprofile-1)#tcont 1 dba-profile-id 1
OLT(config-ont-lineprofile-1)# gem add 1 tcont 1
```

Case 2: Create a new gem Port, bind TCONT to it, and configure its related properties.

```
OLT(config-ont-lineprofile-1)#tcont 2 dba-profile-id 1
OLT(config-ont-lineprofile-1)# gem add 2 tcont 2 downstream-priority-queue 1 en
crypt enable gem -car 1 priority-queue 1
OLT(config-ont-lineprofile-1)# show ont-line-profile current
-----
Profile-ID: 1
Profile-name: line-profile_1
```

Binding times : 0

FEC upstream : Disable

OMCC encrypt : Disable

Qos mode : PQ

Mapping mode : VLAN

TR069 management : Default

TR069 IP index : 0

<T-CONT 0> DBA-Profile ID: 0

<T-CONT 1> DBA-Profile ID: 1

<gem ID 1>

US-gem-CAR: - DS-ENCRYPT-MODE: disable

US-PRIORITY-QUEUE: 1 DS-PRIORITY-QUEUE: 1

<T-CONT 2> DBA-Profile ID: 1

<gem ID 2>

US-gem-CAR: 1 DS-ENCRYPT-MODE: enable

US-PRIORITY-QUEUE: 1 DS-PRIORITY-QUEUE: 1

5.2.4. gem delete

Command Syntax	gem delete gem -id
Applicable View	Line template configuration view
Function Description	gem delete command is used to delete the gem Port created in the ONT line template.
gem -id	gem Port number, ranging from 1 to 30 , is used to specify the gem -id to be deleted. The gem delete command can only delete existing gem -ids.

【Configuration Case】

Case 1:Delete an existing gem port.

OLT(config-ont-lineprofile-1)# gem delete 2

OLT(config-ont-lineprofile-1)# show ont-line-profile current

Profile-ID : 1

Profile-name : line-profile_1

Binding times : 0

FEC upstream : Disable

OMCC encrypt : Disable

Qos mode : PQ

Mapping mode : VLAN

TR069 management : Default

TR069 IP index : 0

<T-CONT 0> DBA-Profile ID: 0

<T-CONT 1> DBA-Profile ID: 1

<gem ID 1>

US-gem-CAR: - DS-ENCRYPT-MODE: disable

US-PRIORITY-QUEUE: 1 DS-PRIORITY-QUEUE: 1

<T-CONT 2> DBA-Profile ID: 1

5.2.5. gem mapping

Command Syntax	gem mapping gem-id mapping-index [vlan (vlan-id [priority priority] untagethd transparent) [priority priority [vlan vlan-id] eth ont-port-id { vlan vlan-id priority priority }] no gem mapping gem-id mapping-index
Applicable View	Line template configuration view
Function Description	gem mapping command is used to establish the mapping between the gem port and the ONT side service, that is, to establish the mapping relationship between the gem port and the upstream data flow of the ONT user interface. Users can choose the service flow transmission method that suits them according to a variety of mapping methods. After this command is executed, the gem port will establish a mapping planning relationship with the ONT side data flow, and the corresponding gem port can be used to carry services. gem mapping command must match the global mapping mode configured by the mapping-mode command. When the mapping-mode command configures the global mapping relationship as a VLAN mapping relationship, the gem mapping command can only be configured with the VLAN keyword. In this case, the specific vlan-id, untagethd, and transparent VLAN modes can be configured. When the mapping-mode command configures the global mapping relationship as a priority mapping relationship, the gem mapping command can only be configured with the priority keyword; when the mapping-mode command configures the global mapping relationship as a vlan+priority mapping relationship, the gem mapping command needs to be configured with both the VLAN keyword and the priority keyword, and at this time only the specific vlan-id VLAN mode can be configured; when the mapping-mode command configures the global mapping relationship as a port mapping relationship, gem mapping can continue to specify VLAN and priority. At this time, if VLAN is specified, the VLAN can only be specified in the vlan-id mode.

	no gem mapping command cancels the mapping relationship between the gem port and the ONT-side service.
<i>gem -id</i>	gem Port number ranges from 1 to 30. It is used to specify the gem Port that needs to establish a mapping relationship with the ONT-side service , or to specify the gem Port that needs to cancel the mapping relationship.
<i>mapping-index</i>	gem mapping index number ranges from 1 to 8 and is used to distinguish different service flows under the same gem port.
<i>vlan-id</i>	VLAN number, ranging from 1 to 4094 , is used to map the service flow of the specified VLAN to a specific gem mapping index.
<i>priority</i>	Priority level, ranging from 0 to 7 , is used to specify the priority carried by eth messages.
<i>ont-port-id</i>	ONT device eth port number, ranging from 1 to 8, is used to map the specified ONT device ETH port service flow to the specified gem mapping index.
untagethd	Enable the untagethd flow transparent transmission function in mapping mode. After the untagethd flow transparent transmission function is enabled , all untagethd data frames on the gem mapping are transparently transmitted to the OLT.
transparent	Enable the transparent transmission function of the mapping mode. After enabling the transparent transmission function, all services on the gem mapping will be transparently transmitted to the OLT.

【Configuration Case】

Case 1: Create an ONT-side service mapping relationship with the gem port number 1, gem mapping index 1, and VLAN flow transparent transmission function.

```
OLT(config-ont-lineprofile-1)# mapping-mode vlan
OLT(config-ont-lineprofile-1)# gem mapping 1 1 vlan transparent
OLT(config-ont-lineprofile-1)# show ont-lineprofile current

-----
Profile-ID: 1
Profile-name: lineprofile_1
Binding times : 0
-----

FEC upstream : Enable
OMCC encrypt : Off
Qos mode : PQ
Mapping mode : VLAN
TR069 management: Disable
TR069 IP index : 0
-----

<T-CONT 0> DBA-Profile ID: 0
```

```

-----
<T-CONT 1>          DBA-Profile ID: 1
  <gem ID 1>
US- gem -CAR: - DS-ENCRYPT-MODE: off
US-PRIORITY-QUEUE: 1 DS-PRIORITY-QUEUE: 1
-----

```

```

Mapping-ID VLAN Priority Port-ID
1 - - -
-----

```

```

<T-CONT 2> DBA-Profile ID: 1
-----

```

Case 2: Create a mapping relationship with the configuration gem port number as 2, gem mapping index as 1, and mapping mode as vlan+priority.

```

OLT(config-ont-lineprofile-1)# no gem mapping 1 1
OLT(config-ont-lineprofile-1)# mapping-mode vlan-priority
OLT(config-ont-lineprofile-1)# gem add 2 tcont 2
OLT(config-ont-lineprofile-1)# gem mapping 2 1 vlan 3 priority 7
OLT(config-ont-lineprofile-1)# show ont-lineprofile current
-----

```

```

Profile-ID   : 1
Profile-name  : lineprofile_1
Binding times : 0
-----

```

```

FEC upstream   : Enable
OMCC encrypt    : Off
Qos mode       : PQ
Mapping mode    : VLAN + 802.1p PRI
TR069 management: Disable
TR069 IP index  : 0
-----

```

```

<T-CONT 0>          DBA-Profile ID: 0
-----

```

```

<T-CONT 1>          DBA-Profile ID: 1
  <gem ID 1>
  US-gem-CAR: -      DS-ENCRYPT-MODE: off
  US-PRIORITY-QUEUE: 1 DS-PRIORITY-QUEUE: 1
-----

```

```

<T-CONT 2>          DBA-Profile ID: 1
  <gem ID 2>
  US-gem-CAR: -      DS-ENCRYPT-MODE: off
  US-PRIORITY-QUEUE: 1 DS-PRIORITY-QUEUE: 1
-----

```

```

Mapping-ID VLAN Priority Port-ID
1      3      7      -
-----

```

Case 3: Create a mapping relationship with the configuration gem port number 1, gem mapping index 1, mapping mode port, specified VLAN 3 , and specified priority 7.

```
OLT(config-ont-lineprofile-1)# no gem mapping 2 1
OLT(config-ont-lineprofile-1)# mapping-mode port
OLT(config-ont-lineprofile-1)# gem mapping 1 1 eth 1 vlan 3 priority 7
OLT(config-ont-lineprofile-1)# show ont-lineprofile current

-----
Profile-ID: 1
Profile-name: lineprofile_1
Binding times : 0

-----
FEC upstream : Enable
OMCC encrypt : Off
Qos mode : PQ
Mapping mode : PORT
TR069 management: Disable
TR069 IP index : 0

-----
<T-CONT 0> DBA-Profile ID: 0

-----
<T-CONT 1> DBA-Profile ID: 1
<gem ID 1>
US-gem-CAR: - DS-ENCRYPT-MODE: off
US-PRIORITY-QUEUE: 1 DS-PRIORITY-QUEUE: 1

-----
Mapping-ID VLAN Priority Port-ID
1 3 7 1

-----
<T-CONT 2> DBA-Profile ID: 1
<gem ID 2>
US-gem-CAR: - DS-ENCRYPT-MODE: off
US-PRIORITY-QUEUE: 1 DS-PRIORITY-QUEUE: 1

-----
```

5.2.6. gem modify

Command Syntax	gem modify <i>gem-id</i> { tcont <i>tcont-id</i> downstream-priority-queue <i>downstream-priority-queue</i> encrypt (disable enable) gem-car <i>traffic-profile-id</i> priority-queue <i>upstream-priority-queue</i> }
Applicable View	Line template configuration view
Function Description	gem modify command is used to modify the binding relationship and related attributes between gem Port and T-CONT in an ONT line template.

<i>gem -id</i>	gem Port number, ranging from 1 to 30 , is used to specify the gem -id to be modified. The gem modify command can only modify an existing gem -id.
<i>tcont-id</i>	TCONT number, ranging from 0 to 7 , is used to reassign the TCONT bound to the gem port. The reassigned TCONT must have been created.
<i>downstream-priority-queue</i>	Downstream scheduling priority queue number, ranging from 1 to 8 , is used to reassign the priority of the downstream queue configured by gem index in T-CONT.
encrypt	Data encryption switch, used to modify the gem port data encryption switch. disable: turn off data encryption enable: Enable data encryption
<i>traffic-profile-id</i>	Line traffic template number, ranging from 1 to 256 , is used to re-specify the traffic template bound to the gem port.
<i>upstream-priority-queue</i>	The upstream scheduling priority queue number ranges from 1 to 8 and is used to reassign the upstream queue priority configured by gem index in the T-CONT.

【Configuration Case】

Case 1: Modify an existing gem Port configuration, rebind TCONT and reconfigure related properties.

```
OLT(config-ont-lineprofile-1)#tcont 3 dba-profile-id 0
OLT(config-ont-lineprofile-1)# gem modify 2 tcont 3 encrypt disable downstream-priority-queue 2 gem -car 2 priority-queue 3
OLT(config-ont-lineprofile-1)# show ont-line-profile current
```

```
Profile-ID      : 1
Profile-name    : line-profile_1
Binding times   : 0
```

```
FEC upstream    : Disable
OMCC encrypt    : Disable
Qos mode        : PQ
Mapping mode    : VLAN
TR069 management : Default
TR069 IP index  : 0
```

```
<T-CONT 0>      DBA-Profile ID: 0
<T-CONT 1>      DBA-Profile ID: 1
<gem ID 1>
  US-gem-CAR: -   DS-ENCRYPT-MODE: disable
  US-PRIORITY-QUEUE: 1 DS-PRIORITY-QUEUE: 1
```

```
<T-CONT 2>      DBA-Profile ID: 1
```

```
<T-CONT 3>          DBA-Profile ID: 0
<gem ID 2>
  US-gem-CAR: 2      DS-ENCRYPT-MODE: disable
  US-PRIORITY-QUEUE: 3 DS-PRIORITY-QUEUE: 2
  -----
```

5.2.7. gempport

Command Syntax	gempport gempport-id (tag-action vlan-transparent vlan vlan-id user-vlan user-vlan-id tag-action (default translate transparent translate-and-add inner-vlan inner-vlan-id [inner-priority inner-priority])) no gempport gempport-id tag-action
Applicable View	Line template view
Function Description	These commands are used to configure the automatic generation rules of associated virtual ports. There are two modes for automatically generating virtual ports: vlan-transparent (full transparent transmission) and automatic flow creation. The default mode for generating virtual ports is vlan-transparent. If the automatic generation rules of associated virtual ports are modified, the virtual ports generated by the ONUs that have referenced the line template will also be updated synchronously. no gempport gempport-id tag-action is used to delete the virtual port creation rule of the specified gempport. Note: If gempport is 1 and cannot be deleted, it will be restored to the default virtual port creation rule of the line template; the default virtual port creation rule of line template <0> is vlan1 transparent transmission; the default virtual port creation rule of other line templates is vlan-transparent (full transparent transmission). Note: If you use gem delete <gem-id>, the associated gempport virtual port generation rule will also be deleted.
<i>gem port-id</i>	gem Port id to create , the value range is 1-30
default	QINQ mode, the C-VLAN carried by the user side remains unchanged, and an S-VLAN is added. If VLAN is set on the new 16Port/8Port GPON OLT to distinguish different services, and the VLAN tag of the user-side message is not changed, this mode is used.
translate	The C-VLAN carried by the user side is converted into S-VLAN by one-layer VLAN switching. This mode is used when only one-layer VLAN tag is needed to identify the user service and the service VLAN configured on the new 16Port/8Port GPON OLT is different from the VLAN in the user-side message.
translate-and-add	Switch VLAN and add a layer of VLAN tag. Switch the C-VLAN carried by the user side to S -VLAN, and then add a layer of inner-vlan to form S+C

	two-layer VLAN uplink. This mode is used when two layers of VLAN tags are needed to identify user services (for example, one layer identifies the service and one layer identifies the user), and the VLAN of the user-side message is different from the user-side VLAN planned on the new 16Port/8Port GPON OLT. VLAN after translation. When the processing mode is translate-and- add , you can specify the inner VLAN.
transparent	Transparent transmission mode, without any VLAN change. Directly use the C-VLAN carried by the user side as the S-VLAN for uplink. If the VLANs used to identify different services on the new 16Port/8Port GPON OLT are consistent with the VLANs of the user side messages, this mode can be used.
vlan-transparent	Vlan full transparent transmission mode.
<i>vlan-id</i>	Service VLAN, used to uniquely identify a VLAN. Value range: 1-4094
<i>user-vlan-id</i>	User-side VLAN ID. This parameter is used when users need to be distinguished by user-side VLAN. The value range is 1-4094
<i>inner- vlan-id</i>	inner-vlan: The inner VLAN after switching. Value range: 1-4094
<i>inner- priority</i>	Inner VLAN priority, value range: 0-7, default is 0

【Configuration Case】

Case 1: In line template 1, configure the virtual port mode generated by gemport 1 to be fully transparent.

```
OLT(config-ont-lineprofile-1)# gemport 1 tag-action vlan-transparent
OLT(config-ont-lineprofile-10)#
```

5.2.8. mapping-mode

Command Syntax	mapping-mode (port priority vlan vlan-priority)
Applicable View	Line template view
Function Description	This command is used to configure the mapping relationship between the global gem port and the ONT side service. After configuring the global mapping relationship, the corresponding relationship must be configured when using the gem mapping command to establish the mapping between the gem port and the ONT side service. The default configuration mode is vlan.
port	Configure the global mapping relationship to map based on port ID.
priority	Configure the global mapping relationship to map based on priority.
vlan	Configure the global mapping relationship to be based on VLAN mapping.

vlan-priority	Configure the global mapping relationship to be based on VLAN+priority mapping.
----------------------	---

【Configuration Case】

Case 1: Create a mapping relationship between the global gem port and the ONT-side service.

```
OLT(config-ont-lineprofile-1)# mapping-mode port
OLT(config-ont-lineprofile-1)# show ont-line-profile current

-----
Profile-ID: 1
Profile-name: line-profile_1
Binding times: 0
-----
FEC upstream: Disable
OMCC encrypt: Disable
Qos mode: PQ
Mapping mode: PORT
```

5.2.9. no gem gem -car

Command Syntax	no gem gem -car gem -id
Applicable View	Line template configuration view
Function Description	This command is used to unbind the traffic template from the gem port that is bound to the traffic template.
<i>gem -id</i>	gem port number ranges from 1 to 30 and is used to specify the gem port from which the traffic template is to be unbound.

【Configuration Case】

Case 1: Unbind the traffic template from a gem port that has been bound to a traffic template.

```
OLT(config-ont-lineprofile-1)# no gem gem -car 2
OLT(config-ont-lineprofile-1)# show ont-line-profile current

-----
Profile-ID: 1
Profile-name: line-profile_1
Binding times: 0
-----
FEC upstream: Disable
OMCC encrypt: Disable
Qos mode      : PQ
Mapping mode   : VLAN
TR069 management : Default
TR069 IP index  : 0
-----
<T-CONT 0>      DBA-Profile ID: 0
<T-CONT 1>      DBA-Profile ID: 1
```

```
<gem ID 1>
US-gem-CAR: -      DS-ENCRYPT-MODE: disable
US-PRIORITY-QUEUE: 1 DS-PRIORITY-QUEUE: 1
-----
```

```
<gem ID 2>
US-gem-CAR: -      DS-ENCRYPT-MODE: disable
US-PRIORITY-QUEUE: 1 DS-PRIORITY-QUEUE: 1
-----
```

5.2.10. omcc encrypt

Command Syntax	omcc encrypt (disable enable)
Applicable View	Line template view
Function Description	This command is used to configure the ONT OMCC (Ont Management and Control Channel) encryption switch status. When the OMCC encryption switch is on, the ONT OMCC channel will be encrypted. The default value is off.
disable	Disable the OMCC encryption function of the ONT.
enable	Enable the OMCC encryption function of the ONT.

【Configuration Case】

Case 1: Enable the OMCC encryption function of the ONT.

```
OLT(config-ont-lineprofile-1)#omcc encrypt enable
OLT(config-ont-lineprofile-1)#
```

5.2.11. ont-line-profile

Command Syntax	ont-line-profile gpon { profile-id <i>profile-id</i> profile-name <i>profile-name</i> } no ont-line-profile (profile-id <i>profile-id</i> profile-name <i>profile-name</i>)
Applicable View	config view
Function Description	The line template defines the creation and configuration method of the logical communication line between the OLT device and the ONU device. The ONT line-related attributes are centrally configured in the line template. For the same ONT, it only needs to be configured once, saving configuration workload. The ont-line-profile command is used to add a new line profile or enter an existing line profile. The ont-line-profile gpon command is used without any parameters to automatically create a new line profile. Line profile 0 is the system default profile, and the ONT that automatically goes online automatically matches line profile 0.

	The no ont-line-profile command is used to delete an unnecessary line profile. The system default line profile cannot be deleted. If the GPON ONT line profile has been bound to the ONT, it cannot be deleted either.
<i>profile-id</i>	ONT line template number, used to identify a line template, the value range is 0-2300. If not specified, the system automatically assigns the smallest idle template number. Line template 0 is the system default template, and the automatically online ONT automatically matches line template 0.
<i>profile-name</i>	line profile name, the name length supports 1-64 characters. The default profile name is lineprofile_x, where "x" is replaced by the actual profile number.

【Configuration Case】

Case 1: Automatically create a new line template and enter the line template configuration view.

```
OLT(config)# ont-line-profile gpon
OLT(config-ont-lineprofile-3)#
```

Case 2: Delete a line template based on profile-id.

```
OLT(config)# no ont-line-profile profile-id 4
Error: Unknown err code=2
line profile delete failed.
OLT(config)# no ont-line-profile profile-id 3
OLT(config)#
```

5.2.12. qos-mode

Command Syntax	qos-mode (flow-car gem -car priority-queue)
Applicable View	Line template configuration view
Function Description	This command is used to configure the QoS mode in the ONT line template. This command is used when you need to provide end-to-end quality assurance to users and control the traffic of the upstream data flow of the ONT user interface mapped to the gem Port through the gem mapping command. By default, the QoS mode of the ONT in the GPON ONT line template is priority-queue mode. The Service flow control mode (flow-car) has the finest flow control (based on each Service flow), and the gem flow control mode (gem -car) has the second finest flow control (based on gem Port). The priority queue scheduling mode (priority-queue) is a scheduling method based on gem Port messages, while the first two modes are flow control modes.
flow-car	Service flow control mode. When this mode is selected, the ONT performs flow control based on each service flow of the gem port. The

	control strength is finer than the gem flow control mode. After the service flow is processed by flow control, it is scheduled in the queue of the T-CONT. The scheduling method depends on the scheduling method configured by the ONT.
gem -car	Gem flow control mode. When this mode is selected, the ONT performs flow control based on the gem port. When the T-CONT contains multiple gem ports, the scheduling method of data packets between multiple gem ports also depends on the scheduling method configured by 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 uplink data, it is sent according to the strict queue priority.

【Configuration Case】

Case 1: Configure the QoS mode in the line template to gem traffic control mode.

```
OLT(config-ont-lineprofile-1)# qos-mode gem -car
OLT(config-ont-lineprofile-1)#
```

5.2.13. type (gpon|xgpon|xgspon)

Command Syntax	type (gpon xgpon xgspon)
Applicable View	Line template configuration view
Function Description	For tcont resources, under GPON resources, each ONU is fixedly allocated 4 dynamic/static alloc and 3 static alloc resources, while under XGS resources, the number of dynamic/static resources is reduced from 4 to 3. Therefore , when users configure line templates, they must specify the template type, whether it is gpon, xgpon or xgspon. The gpon ONU can only be bound to the gpon type line template, and the same is true for 10gpon. The default line template will become 3, and the default multi-service template will also become 3.
gpon	The template type is gpon, and only gpon onu can be bound.
xgpon	The template type is xgpon, and only xgpon onu can be bound. The default line template will become 3, and the default multi-service template will also become 3.
xgspon	The template type is xgspon, and only xgspon onu can be bound. The default line template will become 3, and the default multi-service template will also become 3.

【Configuration Case】

Case 1: Configure the line template type to gpon.

```
OLT(config-ont-lineprofile-1)# type gpon
```

```
OLT(config-ont-lineprofile-1)#
```

5.2.14. show ont-line-profile

Command Syntax	show ont-line-profile gpon (all profile-id <i>profile-id</i> profile-name <i>profile-name</i>)
Applicable View	enable view, config view
Function Description	This command is used to view the information of all/specific line templates that currently exist. If the line template being viewed has not been created, an error message will be displayed.
all	You can view all current line template information
profile-id	ONT line template number, value range 0-2300 , you can view specific line template information by template number
profile-name	ONT line template name, string length range 1-64, you can view line template information through the template name

【Configuration Case】

Case 1: View all line templates currently configured on the OLT device.

```
OLT(config)# show ont-line-profile gpon all
-----
Profile-ID Binding times Profile-name
-----
0 0 line-profile_0
1 0 line-profile_1
-----
Total: 2
-----
```

Case 2: View the detailed information of the specific line template currently configured on the OLT device.

```
OLT(config)# show ont-line-profile gpon profile-id 1
-----
Profile-ID: 1
Profile-name: line-profile_1
Binding times: 0
-----
FEC upstream: Disable
OMCC encrypt: Disable
Qos mode: PQ
Mapping mode: VLAN
TR069 management : Enable
TR069 IP index : 1
-----
<T-CONT 0> DBA-Profile ID: 0
```

```
<T-CONT 1>          DBA-Profile ID: 1
<gem ID 1>
  US-gem-CAR: -      DS-ENCRYPT-MODE: disable
  US-PRIORITY-QUEUE: 1 DS-PRIORITY-QUEUE: 1
```

5.2.15. show ont-line-profile current

Command Syntax	<code>show ont-line-profile current</code>
Applicable View	Line template configuration view
Function Description	This command is used to display the detailed information of the currently configured line template.

【Configuration Case】

Case 1: View the detailed information of the currently configured line template.

```
OLT(config-ont-lineprofile-1)# show ont-line-profile current
```

```
Profile-ID: 1
```

```
Profile-name: line-profile_1
```

```
Binding times: 0
```

```
FEC upstream      : Disable
```

```
OMCC encrypt      : Disable
```

```
Qos mode          : PQ
```

```
Mapping mode      : VLAN
```

```
TR069 management  : Enable
```

```
TR069 IP index    : 1
```

```
<T-CONT 0>          DBA-Profile ID: 0
```

```
<T-CONT 1>          DBA-Profile ID: 1
```

```
<gem ID 1>
```

```
  US-gem-CAR: -      DS-ENCRYPT-MODE: disable
```

```
  US-PRIORITY-QUEUE: 1 DS-PRIORITY-QUEUE: 1
```

5.2.16. tcont

Command Syntax	<code>tcont tcont-id (dba-profile-id profile-id dba-profile-name profile-name)</code> <code>no tcont tcont-id</code>
Applicable View	Line template configuration view
Function Description	The tcont command is used to bind TCONT to the DBA template. Only the TCONT bound to the DBA template can carry services and provide flexible dynamic bandwidth allocation solutions based on different configurations in the DBA template.

	no tcont command is used to delete tcont according to the tcont number. The default tcont of the system cannot be deleted, but the bound DBA template can be modified.
<i>tcont-id</i>	TCONT number, value range 0-7 , can be used to create/delete tcont
<i>profile-id</i>	Specify the dba template id that tcont needs to bind. The dba template needs to be created in advance. The value range is 0-128
<i>profile-name</i>	Specify the name of the dba template that tcont needs to bind. The dba template needs to be created in advance. The string length range is 1-64.

【Configuration Case】

Case 1: Create a new TCONT and bind the DBA template to it.

```
OLT(config-ont-lineprofile-3)#tcont 3 dba-profile-id 1
OLT(config-ont-lineprofile-3)#
```

Case 2: Deleting TCONT based on tcont-id.

```
OLT(config-ont-lineprofile-3)# no tcont 4
Error: The specified T-CONT index does not exist.
Tcont delete failed.
OLT(config-ont-lineprofile-3)# no tcont 3
OLT(config-ont-lineprofile-3)#
```

5.3 Line Template Discrete Configuration

5.3.1. ont fec

Command Syntax	<i>ont fec port - id ont - id (disable enable)</i>
Applicable View	GPON view
Function Description	This command is used to discretely configure the upstream forward error correction (FEC) function of a specified ONT.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
disable	Disable the upstream FEC function of the line profile ONT. Configure this keyword when the error correction capability of the line is not required to be high and some bandwidth resources need to be saved.
enable	Enable the upstream FEC function of the line template ONT. Configure this keyword when the network fiber transmission signal is weak and the error correction capability of the line needs to be enhanced.

【Configuration Case】

Case 1: Enable the upstream FEC function of the line template ONT.

```
OLT(config- gpon-0/1 )# ont fec 1 1 enable
OLT(config- gpon-0/1 )#
```

5.3.2. ont gempport

Command Syntax	ont gempport <i>port-id ont-id gempport-id</i> (tag-action vlan-transparent [vlan <i>vlan-id</i> user-vlan <i>user-vlan-id</i> tag-action (default translate transparent translate-and-add inner-vlan <i>inner-vlan-id</i> [inner-priority <i>inner-priority</i>])) no ont gempport <i>port - id ont - id gempport-id</i> tag-action
Applicable View	GPON view
Function Description	ont gem port command is used to configure the automatic generation rules of the associated virtual ports for the ONT device under the specified PON port. There are two modes for automatically generating virtual ports: vlan-transparent (full transparent transmission) and automatic flow creation. The default mode for generating virtual ports is vlan-transparent. If the automatic generation rules of the associated virtual ports are modified, the virtual ports generated by the ONTs that have referenced the line template will also be updated synchronously. no ont gempport tag-action is used to delete the virtual port creation rule of the specified gempport. Note: If gempport is 1, it cannot be deleted and will be restored to the default virtual port creation rule, which is vlan-transparent (full transparent transmission). Note: If you use the no ont port-id ont-id gempport command to delete a gempport, the associated gempport virtual port creation rule will also be deleted.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
<i>gem port-id</i>	gem Port id to create , the value range is 1-30
default	QINQ mode, the C-VLAN carried by the user side remains unchanged, and an S-VLAN is added. If VLAN is set on the new 16Port/8Port GPON OLT to distinguish different services, and the VLAN tag of the user-side message is not changed, this mode is used.
translate	The C-VLAN carried by the user side is converted into S-VLAN by one-layer VLAN switching. This mode is used when only one-layer VLAN tag is needed to identify the user service and the service VLAN configured on the new 16Port/8Port GPON OLT is different from the VLAN in the user-side message.
translate-and-add	Switch VLAN and add a layer of VLAN tag. Switch the C-VLAN carried by the user side to S -VLAN, and then add a layer of inner-vlan to form S+C two-layer VLAN uplink. This mode is used when two layers of VLAN tags

	are needed to identify user services (for example, one layer identifies the service and one layer identifies the user), and the VLAN of the user-side message is different from the user-side VLAN planned on the new 16Port/8Port GPON OLT. VLAN after translation. When the processing mode is translate-and- add , you can specify the inner VLAN.
transparent	Transparent transmission mode, without any VLAN change. Directly use the C-VLAN carried by the user side as the S-VLAN for uplink. If the VLANs used to identify different services on the new 16Port/8Port GPON OLT are consistent with the VLANs of the user side messages, this mode can be used.
vlan-transparent	Vlan full transparent transmission mode.
<i>vlan-id</i>	Service VLAN, used to uniquely identify a VLAN. Value range: 1-4094
<i>user-vlan-id</i>	User-side VLAN ID. This parameter is used when users need to be distinguished by user-side VLAN. The value range is 1-4094
<i>inner- vlan-id</i>	inner-vlan: The inner VLAN after switching. Value range: 1-4094
<i>inner- priority</i>	Inner VLAN priority, value range: 0-7, default is 0

【Configuration Case】

Case 1: Configure a service virtual port for transparent transmission of all VLANs for ONT device No. 1 of PON1 port in slot 0.

```
OLT(config- gpon-0/1 )# ont gem port 1 1 1 tag-action vlan-transparent
OLT(config- gpon-0/1 )#
```

Case 2: Configure the service virtual port of the VLAN mapping mode of ONT device No. 2 of the PON1 port in slot 0 as translate-and-add. The C-VLAN before mapping is 10, and the inner VLAN after mapping is 20. VLAN priority The level is 7 and the S-VLAN after mapping is 30.

```
OLT(config- gpon-0/1 )# ont gem port 1 2 1 vlan 30 user-vlan 10 tag-action translate-and-
add inner-vlan 20 inner-priority 7
OLT(config-gpon-0/1)#
```

5.3.3. ont gemport mapping

Command Syntax	ont gemport mapping <i>port-id ont-id gemport-id mapping-index</i> [vlan (vlan-id [priority priority] untagethd transparent) priority priority [vlan vlan-id] eth ont-port-id {vlan vlan-id priority priority }] no ont gemport mapping <i>port-id ont-id gemport-id mapping-index</i>
Applicable View	GPON view
Function Description	This command is used to establish a gem mapping relationship for the ONT device under the specified PON port. After the mapping relationship

	is established, the upstream data flow of the ONT user can be mapped to the specified gem Port , so that the OLT device and the specified ONU device can interact through the gem Port. The service mapping relationship configured by gem port mapping of the ONT device must match the mapping mode configured by mapping-mode of the ONT device. When the mapping mode configured by mapping-mode is based on VLAN mapping, gem port mapping can only be configured with mapping relationship as VLAN. At this time, the specific vlan-id, untagethd and transparent VLAN modes can be configured; the mapping mode configured by mapping-mode is mapping based on priority, the gem port mapping command can only configure the mapping relationship as priority; when the mapping mode configured by mapping-mode is mapping based on VLAN+priority, gem port mapping can only configure the mapping relationship as vlan+ priority, and at this time only the specific vlan-id VLAN mode can be configured; when the mapping mode configured by mapping-mode is mapping based on port ID, gem port mapping can continue to specify VLAN and priority. At this time, if VLAN is specified, VLAN can only specify the vlan-id mode. no ont gem port mapping command cancels the gem mapping relationship of the specified ONT device.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
<i>gem port-id</i>	gem Port number ranges from 1 to 30 and is used to specify the gem Port bound to TCONT.
<i>mapping-index</i>	gem mapping index number ranges from 1 to 8 and is used to distinguish different service flows under the same gem port.
untagethd	Enable the untagethd flow transparent transmission function in mapping mode. After the untagethd flow transparent transmission function is enabled , all untagethd data frames on the gem mapping are transparently transmitted to the OLT.
transparent	Enable the transparent transmission function of the mapping mode. After enabling the transparent transmission function, all services on the gem mapping will be transparently transmitted to the OLT.
<i>ont-port-id</i>	The upstream scheduling priority queue number is in the range of 1-8 and is used to specify the priority of the upstream data flow of the gem port in the T-CONT upstream queue.
<i>vlan-id</i>	VLAN number, ranging from 1 to 4094 , is used to map the service flow of the specified VLAN to a specific gem mapping index.

<i>priority</i>	Priority level, ranging from 0 to 7 , is used to specify the priority carried by eth messages.
-----------------	--

【Configuration Case】

Case 1: Create an ONT-side service mapping relationship for ONT device No. 1 of PON1 port in slot 0 with a configuration of gem port number 1, gem port mapping index 1, and VLAN flow transparent transmission function.

```
OLT(config- gpon-0/1 )# ont mapping-mode 1 1 vlan
OLT(config- gpon-0/1 )# ont gem port mapping 1 1 1 1 vlan transparent
OLT(config- gpon-0/1 )#
```

Case 2: Create a mapping relationship for ONT device No. 1 of PON1 port in slot 0 with gem port number 2, gem port mapping index 1, and mapping mode vlan+priority.

```
OLT(config- gpon-0/1 )# ont mapping-mode 1 1 vlan-priority
OLT(config- gpon-0/1 )# ont gem port mapping 1 1 2 1 vlan 100 priority 3
OLT(config- gpon-0/1 )#
```

Case 3: Create a mapping relationship for ONT device No. 2 of PON1 port in slot 0 with the configuration gem port number 1, gem port mapping index 1, and mapping mode port.

```
OLT(config- gpon-0/1 )# ont mapping-mode 1 2 port
OLT(config- gpon-0/1 )# ont gem port mapping 1 2 1 1 eth 1
OLT(config- gpon-0/1 )#
```

Case 4: Unmap the gem port number 1 and gem port mapping index 1 for ONT device No. 1 of PON1 port in slot 0.

```
OLT(config- gpon-0/1 )# no ont gem port mapping 1 1 1 1
OLT(config- gpon-0/1 )#
```

5.3.4. ont gempport tcont

Command Syntax	ont gempport <i>port-id ont-id gempport-id tcont tcont-id {gem-car traffic-profile-id encrypt (disable enable) priority-queue upstream-priority-queue downstream-priority-queue downstream-priority-queue}</i> no ont gempport <i>port - id ont - id gempport-id [gem -car]</i>
Applicable View	GPON view
Function Description	ont gem port The tcont command is used to create or modify a gem Port for the ONT device under the specified PON port and configure the binding relationship and related properties between the gem Port and T-CONT. no ont gempport command is used to delete the gempport of a specified ont.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.

<i>gemport-id</i>	gem Port number ranges from 1 to 30 and is used to create a gem Port or delete an existing gem Port.
<i>tcont-id</i>	TCONT number, ranging from 0 to 7 , is used to specify the TCONT bound to the gem Port. The TCONT bound to the gem Port must have been created.
<i>traffic-profile-id</i>	Line traffic template number, ranging from 1 to 256 , is used to bind an existing traffic template to the created gem port or delete the traffic template bound to the gem port.
disable	Disable the data encryption switch to disable data encryption when creating a gem port.
enable	Enable the data encryption switch to enable data encryption when creating a gem port.
<i>upstream-priority-queue</i>	The upstream scheduling priority queue number is in the range of 1-8 and is used to specify the priority of the upstream data flow of the gem port in the T-CONT upstream queue.
<i>downstream-priority-queue</i>	Downstream scheduling priority queue number, ranging from 1 to 8 , is used to specify the priority of the gem port 's downstream data flow in the T-CONT downstream queue.

【Configuration Case】

Case 1: Configure the gem Port for ONT device No. 1 of PON1 port in slot 0.

```
OLT(config-gpon-0/1)# ont gem port 1 1 1 tcont 1 gem -car 10 encrypt disable downstream-priority-queue 7 priority-queue 7
OLT(config-gpon-0/1)#
```

Case 2: Delete the traffic template bound to gem Port 1 of ONT device No. 1 on PON1 port in slot 0.

```
OLT(config-gpon-0/1)# no ont gemport 1 1 1 gem-car
OLT(config-gpon-0/1)#
```

5.3.5. ont mapping-mode

Command Syntax	ont mapping-mode <i>port-id ont-id (vlan priority vlan-priority port)</i>
Applicable View	GPON view
Function Description	This command is used to configure the ONT-side service mapping mode for the ONT device under the specified PON port. The ONT device interacts with the OLT device through the gem Port using the configured service mapping mode. The default service mapping mode is based on VLAN mapping.
<i>port - id</i>	number of the ONU to be configured.

<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
vlan	Configure the service mapping mode to VLAN mapping.
priority	Configure the service mapping mode to priority mapping.
vlan-priority	Configure the service mapping mode to VLAN+priority mapping.
port	Configure the service mapping mode to map based on port ID.

【Configuration Case】

Case 1: Configure the service mapping mode for ONT device No. 1 of PON1 port in slot 0 to map based on port ID.

```
OLT(config- gpon-0/1 )# ont mapping-mode 1 1 port
OLT(config- gpon-0/1 )#
```

5.3.6. ont omcc encrypt

Command Syntax	ont omcc encrypt <i>port - id ont - id (disable enable)</i>
Applicable View	GPON view
Function Description	This command is used to discretely configure the OMCC (Ont Management and Control Channel) encryption switch status of a specified ONT. When the OMCC encryption switch is on, the ONT OMCC channel will be encrypted.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
disable	Disable the OMCC encryption function of the ONT.
enable	Enable the OMCC encryption function of the ONT.

【Configuration Case】

Case 1: Enable the OMCC encryption function of the ONT.

```
OLT(config- gpon-0/1 )# ont omcc encrypt 1 1 enable
OLT(config- gpon-0/1 )#
```

5.3.7. ont qos-mode

Command Syntax	ont qos-mode <i>port-id ont-id (flow-car gem-car priority-queue)</i>
Applicable View	GPON view
Function Description	This command is used to discretely configure the QoS mode of a specified ONT. This command is used when you need to provide end-to-end quality assurance to users and control the traffic of the upstream data flow of the ONT user interface mapped to the gem port through the

	gem mapping command. By default, the QoS mode of the ONT is priority-queue mode. The Service flow control mode (flow-car) has the finest flow control (based on each Service flow), and the gem flow control mode (gem -car) has the second finest flow control (based on gem Port). The priority queue scheduling mode (priority-queue) is a scheduling method based on gem Port messages, while the first two modes are flow control modes.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
flow-car	Service flow control mode. When this mode is selected, the ONT performs flow control based on each service flow of the gem port. The control strength is finer than the gem flow control mode. After the service flow is processed by flow control, it is scheduled in the queue of the T-CONT. The scheduling method depends on the scheduling method configured by the ONT.
gem -car	Gem flow control mode. When this mode is selected, the ONT performs flow control based on the gem port. When the T-CONT contains multiple gem ports, the scheduling method of data packets between multiple gem ports also depends on the scheduling method configured by 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 uplink data, it is sent according to the strict queue priority.

【Configuration Case】

Case 1: Configure the QoS mode of the specified ONT to gem traffic control mode.

```
OLT(config- gpon-0/1 )# ont qos-mode 1 1 gem -car
OLT(config- gpon-0/1 )#
```

5.3.8. ont tcont

Command Syntax	ont tcont <i>port-id ont-id tcont-id (dba-profile-id profile-id dba-profile-name profile-name)</i> no ont tcont <i>port-id ont-id tcont-id</i>
Applicable View	GPON view
Function Description	This command is used to bind the TCONT and DBA template of the ONT device under the specified PON port and configure the dynamic bandwidth allocation scheme for the specified ONT device.
<i>port - id</i>	number of the ONU to be configured.

<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
<i>tcont-id</i>	TCONT number, value range 0-7 , can be used to create/delete tcont.
<i>profile-id</i>	Specify the dba template id that tcont needs to bind. The dba template needs to be created in advance. The value range is 0-128
<i>profile-name</i>	Specify the name of the dba template that tcont needs to bind. The dba template needs to be created in advance. The string length range is 1-64.

【Configuration Case】

Case 1: Create TCONT numbered 1 for ONT device No. 1 of PON1 port in slot 0, and bind DBA template numbered 0 to the created TCONT.

```
OLT(config- gpon-0/1 )# ont tcont 1 1 1 dba-profile-id 0
OLT(config- gpon-0/1 )#
```

Case 2: Delete TCONT numbered 1 of ONT device numbered 1 on PON1 port in slot 0.

```
OLT(config- gpon-0/1 )# no ont tcont 1 1 1
OLT(config- gpon-0/1 )#
```

5.4 Service Template Configuration

5.4.1. commit

Command Syntax	commit
Applicable View	srv-profile configuration view
Function Description	This command is used to submit the current srv-profile configuration. Only after this command is successfully submitted, all parameter configurations for the Service will take effect.

【Configuration Case】

Case 1: Submit the current srv-profile configuration.

```
OLT(config-srv-profile-1)# commit
OLT(config-srv-profile-1)#
```

5.4.2. looppdetect

Command Syntax	looppdetect (disable enable) {detect-frequency detect-frequency auto-shutdown (disable enable) resume-interval resume-interval }
Applicable View	srv-profile configuration view
Function Description	This command is used to configure the settings related to ring network detection. In order to handle the ring network that appears in the network and prevent the ring network from affecting the service, it is necessary to detect the user-side ring network. After the user-side ring

	network detection function is successfully enabled, the system automatically detects the user-side ring network. The ring network detection function is disabled by default.
disable	Disable the user-side ring network detection function.
enable	Enable the user-side ring network detection function.
detect-frequency	The detection frequency of the ring network detection function, the value range is 1 - 20 , the unit is pps.
auto-shutdown	Automatically disable the user-side ring network detection function. The default setting is on.
resume-interval	The automatic activation time interval, ranging from 60 to 43200 seconds, is used to set the automatic activation time interval of ports, ONTs, and CNUs in ring network detection. When the system detects a ring network, it automatically activates the ports, ONTs, and CNUs at the sender of the ring network detection message after the set automatic activation time interval.

【Configuration Case】

Case 1: Enable the user-side ring network detection function.

```
OLT(config-srv-profile-2)# loopdetect enable
OLT(config-srv-profile-2)#
```

5.4.3. mac-aging

Command Syntax	mac-aging (<i>aging-time</i> no-aging)
Applicable View	srv-profile configuration view
Function Description	This command is used to configure the aging time of the ONT MAC address. The default value is 300 seconds.
<i>aging-time</i>	MAC address aging time, the value range is 10 - 1000000, the unit is seconds.
no-aging	MAC address non-aging option.

【Configuration Case】

Case 1: Configure the ONT service template MAC address to not age.

```
OLT(config-srv-profile-2)# mac-aging no-aging
OLT(config-srv-profile-2)#
```

5.4.4. mac-learning

Command Syntax	mac-learning (disable enable)
-----------------------	--

Applicable View	srv-profile configuration view
Function Description	This command is used to disable or enable the MAC address learning function of the ONT. The default value is to enable the MAC address learning function of the ONT device (enable).
disable	Disable the MAC address learning function of the ONT.
enable	Enable the MAC address learning function of the ONT device.

【Configuration Case】

Case 1: Disable the MAC address learning function of the ONT device.

```
OLT(config-srv-profile-2)# mac-learning disable
OLT(config-srv-profile-2)#
```

5.4.5. multicast fast-leave

Command Syntax	multicast fast-leave (disable enable)
Applicable View	srv-profile configuration view
Function Description	This command is used to configure the multicast fast leave function of the ONT device. This command can only be used when the multicast function is enabled, that is, the multicast mode is not unconcern. The multicast fast leave function of the ONT device is disabled by default.
disable	Disable the multicast fast leave function of the ONT device. After disabling the multicast fast leave function of the ONT device , after receiving the multicast leave message of the user, the ONT needs to send a specific group query to confirm the online status of the user. If the specific group query cycle times out and still does not receive the user's report message, it is considered that the user is offline and the local multicast table entry is updated. This parameter is used when the user does not need to switch channels at a faster speed.
enable	Enable the multicast fast leave function of the ONT device. After the multicast fast leave function of the ONT device is enabled, the ONT immediately updates the local multicast table according to the multicast leave message after receiving the multicast leave message, without sending a specific group query message to confirm whether the user is offline. This parameter is used when the user needs to switch channels at a faster speed.

【Configuration Case】

Case 1: Enable the multicast fast leave function.

```
OLT(config-srv-profile-2)# multicast fast-leave enable
OLT(config-srv-profile-2)#
```

5.4.6. multicast mode

Command Syntax	multicast mode (snooping proxy unconcern)
Applicable View	srv-profile configuration view
Function Description	This command is used to set the IGMP mode of the multicast VLAN. Only when the IGMP mode of the multicast VLAN is proxy or snooping, the system will capture the IGMP messages of the multicast programs belonging to the multicast VLAN for software processing and carry out multicast services normally. By default, the IGMP mode of the multicast VLAN is unconcern.
snooping	Set the IGMP mode of the multicast VLAN to IGMP snooping. IGMP snooping is multicast listening. IGMP snooping obtains relevant information and maintains multicast forwarding entries by snooping IGMP messages communicated between users and multicast routers. The system does not process multicast messages belonging to this multicast VLAN and only transmits them transparently.
proxy	Set the IGMP mode of the multicast VLAN to IGMP proxy. IGMP proxy is a multicast proxy. IGMP proxy intercepts IGMP messages between users and multicast routers, processes them, and then forwards them to the upper-layer multicast router. From the user's perspective, the system is equivalent to a multicast server; from the upper-layer device's perspective, the system is equivalent to a multicast user. IGMP proxy mode reduces the multicast protocol message traffic on the network side.
unconcern	Disable the IGMP function of the multicast VLAN. When the IGMP function is disabled, multicast users will not be able to watch programs in the multicast VLAN.

【Configuration Case】

Case 1: Set the IGMP mode of the multicast VLAN to snooping.

```
OLT(config-srv-profile- 2 )# multicast mode snooping
OLT(config-srv-profile- 2 )#
```

5.4.7. native-vlan

Command Syntax	native-vlan (concern unconcern)
Applicable View	srv-profile configuration view
Function Description	This command is used to configure whether the ONT cares about Native VLAN in the ONT service template. If Native VLAN is cared about, the Unt age d message on the user side will be added with Native VLAN; if Native VLAN is not cared about, the Unt age d message on the user side will not

	be added with Native VLAN. By default, the ONT cares about Native VLAN (concern).
concern	Set the Native-VLAN option to Focus.
unconcern	Set the Native-VLAN option to Don't Care.

【Configuration Case】

Case 1: Configure the Native-VLAN option of the ONT service template to Don't Care.

```
OLT(config-srv-profile-2)# native-vlan unconcern
OLT(config-srv-profile-2)#
```

5.4.8. ont-port

Command Syntax	ont-port { eth (<i>eth-port</i> adaptive) catv (<i>catv-port</i> adaptive) pots (<i>pots-port</i> adaptive) iphost (<i>iphost-port</i> adaptive) }
Applicable View	srv-profile configuration view
Function Description	This command is used to set the port capability set in the ONT service template, that is, to set the number of ports of each type on the ONT. When the ONT is bound to a service template and the number of ports of each type on the ONT needs to be set in the service template, use this command. The number of ports set with this command must be consistent with the number of ONT ports that are actually online, otherwise the ONT port status is "mismatch".
<i>eth-port</i>	The number of Ethernet ports on the ONT, ranging from 0 to 24.
<i>catv-port</i>	The number of CATV ports on the ONT. The value range is 0 - 8.
<i>pots-port</i>	The number of POTS ports on the ONT. The value range is 0 - 8.
<i>iphost-port</i>	iphost ports on the ONT , ranging from 0 to 2.
adaptive	Indicates that the number of ports is adaptive and will be automatically matched according to the number of ports reported by the ONT.

【Configuration Case】

Case 1: Configure an ONT port capability set with 4 eth ports, 2 POTS ports, and adaptive CATV ports and iphost ports.

```
OLT(config-srv-profile-2)# ont-port eth 4 pots 2 catv adaptive iphost adaptive
OLT(config-srv-profile-2)#
```

5.4.9. ont-srv-profile

Command Syntax	ont-srv-profile gpon { profile-id <i>profile-id</i> profile-name <i>profile-name</i> } no ont-srv-profile (profile-id <i>profile-id</i> profile-name <i>profile-name</i>)
Applicable View	config view

Function Description	The service template is mainly used to configure the actual capabilities of the ONT and service-related parameters. The service-related attributes of the ONT are configured in the service template. For ONTs with the same service, they only need to be configured once, saving configuration workload. The ont-srvprofile gpon command is used to create and enter the GPON ONT service template mode or enter the created GPON ONT service template mode. The ont-srv-profile gpon command without any parameters automatically creates a new service template. Service template 0 is the system default template. When adding an ONT, you need to bind the GPON ONT service template. If you do not specify it, the system will automatically bind the ONT to the default service template 0. After the command is successfully executed, the corresponding GPON ONT service template configuration mode is entered, and the relevant attributes of the GPON ONT service template can be set. The no ont-srv-profile command is used to delete an unnecessary service profile. The default line profile of the system cannot be deleted. If the GPON ONT service profile has been bound to the ONT, it cannot be deleted either.
<i>profile-id</i>	ONT service template number, used to identify a service template, ranges from 0 to 2300. If not specified, the system automatically assigns the smallest idle template number. Service template 0 is the system default template, and the automatically online ONT automatically matches service template 0.
<i>profile-name</i>	ONT service profile name, which can contain 1 to 16 characters. The default profile name is srv-profile_x, where "x" is replaced by the actual profile number.

【Configuration Case】

Case 1: Automatically create a new srv-profile and enter the srv-profile configuration view.

```
OLT(config)# ont-srv-profile gpon
OLT(config-srv-profile-2)#
```

Case 2: Delete a service profile based on profile-id.

```
OLT(config)# no ont-srv-profile profile-id 2
OLT(config)#
OLT(config)# no ont-srv-profile profile-id 0
% Unknown command.
```

5.4.10. ont-type

Command Syntax	ont-type force (hgu sfu) no ont-type
-----------------------	---

Applicable View	srv-profile configuration view
Function Description	ont-type force command is used to forcibly set the ONT type. no ont-type command is used to set the ONT type to the default adaptive type.
hgu	Home Gateway Unit.
sfu	Single Family Unit (SingleFamilyUnit).

【Configuration Case】

Case 1: Configure the ONT device type as HGU.

```
OLT(config-srv-profile-2)# ont-t ype force hgu
OLT(config-srv-profile-2)#
```

Case 2: Restore the default configuration of the ONT device type.

```
OLT(config-srv-profile-2)# no ont-type
OLT(config-srv-profile-2)#
```

5.4.11. port eth

Command Syntax	port eth eth -list (max-frame-size max-frame-size max-mac-count (max-mac-count unlimited))
Applicable View	srv-profile configuration view
Function Description	port eth command is used to configure the service attributes of the Ethernet port in the ONU service template. Before configuring the service attributes of the Ethernet port, you must first configure the number of Ethernet ports using the ont-port command.
eth -list	Ethernet port list (eg:1,3-5,8) , the port value range is 1 - 24 , which can be used to batch set Ethernet port service attributes.
max-frame-size	Maximum frame length, the value range is 1500 - 1996 , the default value is 1518, it is used to set the maximum length of the data frame that the ONU Ethernet port can receive.
max-mac-count	The maximum number of MAC addresses, the value range is 1 - 255 , the default value is unlimited. When the MAC addresses learned by the ONU Ethernet port reach this value, the Ethernet port will no longer learn new MAC addresses.
unlimited	Indicates that there is no limit on the maximum number of MAC addresses. The ONT port does not impose any limit on the number of MAC addresses that pass through.

【Configuration Case】

Case 1: Configure the multicast template bound to the 2nd to 4th Ethernet interfaces of the ONT device to be 1 , the maximum frame length to be 1700 , and the maximum number of MAC addresses to be 255.

```
OLT(config-srv-profile-2)# ont-port eth 4 pots 2 catv adaptive iphost adaptive
OLT(config-srv-profile-2)#port eth 2-4 igmp-profile profile-id 1
OLT(config-srv-profile-2)# port eth 2-4 max-mac-count 255
Configure ONT ethernet port max mac count, total: 3, success: 3
OLT(config-srv-profile-2)# port eth 2-4 max-frame-size 1700
Configure ONT ethernet port(s) max frame size, total: 3, success: 3
OLT(config-srv-profile-2)# show ont-srv-profile current
```

```
-----
Profile-ID : 2
Profile-name : srv-profile_2
Binding times: 0
-----
```

```
-----
Port-type    Port-number  Max-adaptive-number
-----
ETH          4          -
POTS         2          -
CATV         adaptive  1
IPHOST       adaptive  2
-----
```

```
-----
MAC aging time(s):      : 300
MAC learning switch:    : Enable
Ring check switch       : Disable
Ring port auto-shutdown : Enable
Ring check detect frequency(pps): 8
Ring resume interval(s) : 300
VEIP mode               : Trunk
Native VLAN option:     : Concern
-----
```

```
-----
Port  Port  Service-type Index S-VLAN S-PRI C-VLAN C-PRI ENCAP S-PRI
type ID
-----
ETH  1  Transparent - - - - - - -
ETH  2  Transparent - - - - - - -
ETH  3  Transparent - - - - - - -
ETH  4  Transparent - - - - - - -
IPHOST 1  Transparent - - - - - - -
IPHOST 2  Transparent - - - - - - -
-----
```

```
-----
Port-type Port-ID Max-MAC-Count Max-Frame-Size N-VLAN N-PRI IGMP-PRF
-----
ETH  1  unlimited 1522 1 0 -
ETH  2  255 1700 1 0 1
ETH  3  255 1700 1 0 1
ETH  4  255 1700 1 0 1
-----
```

5.4.12. port igmp-forward

Command Syntax	port igmp-forward eth <i>eth-list</i> (transparent default vlan <i>vlan-id</i> [priority <i>priority</i>])
Applicable View	Service Template Configuration View
Function Description	This command is used to set the upstream multicast packet forwarding mode of the ONT multicast function. The default mode is transparent. This command requires the multicast mode to be not in unconcern state.
<i>eth-list</i>	Ethernet port list (eg:1,3-5,8) , port value range 1 - 24 , used to batch set Ethernet port uplink multicast message forwarding mode.
transparent	In transparent transmission mode, uplink multicast packets are forwarded directly without any VLAN processing.
default	default mode , a VLAN is added to the upstream multicast message before forwarding.
<i>vlan-id</i>	VLAN number, ranging from 1 to 4074 , is used to specify the value of adding VLAN in default mode.
<i>priority</i>	Priority level, ranging from 0 to 7 , is used to specify the priority value of the added VLAN in default mode.

【Configuration Case】

Case 1: Configure the upstream multicast packet forwarding mode for Ethernet port 1-2 of the ONT device to be default, add the outer VLAN 10, and the priority to 7.

```
OLT(config-srv-profile- 2 )# port igmp-forward eth 1-2 default vlan 10 priority 7
Configure ONT ethernet port igmp-forward, total: 2, success: 2
OLT(config-srv-profile- 2 )#
```

5.4.13. port multicast-forward

Command Syntax	port multicast-forward eth <i>eth-list</i> (transparent untag)
Applicable View	srv-profile configuration view
Function Description	This command is used to set the downstream multicast message forwarding mode of the ONT multicast function. The default mode is transparent. This command requires the multicast mode to be not in unconcern state.
<i>eth-list</i>	Ethernet port list (eg:1,3-5,8) , the port value range is 1 - 24 , used to batch set the Ethernet port downstream multicast message forwarding mode.
transparent	In transparent transmission mode, downlink multicast packets are forwarded directly without any VLAN processing.

untag	In untag mode , the VLAN tag carried by downstream multicast packets is removed before forwarding.
--------------	--

【Configuration Case】

Case 1: Configure the downstream multicast packet forwarding mode to untag for Ethernet port 1-2 of the ONT device.

```
OLT(config-srv-profile-2)# port multicast-forward eth 1-2 untag
Configure ONT ethernet port multicast-forward, total: 2, success: 2
OLT(config-srv-profile-2)
```

5.4.14. port multicast-vlan

Command Syntax	port multicast-vlan eth eth-list (multicast-vlan-id untagethd) [ip ipaddr batch-ip start-ip end-ip] no port multicast-vlan eth eth-list (multicast-vlan -id untagethd) [ip ipaddr batch-ip start-ip end-ip]
Applicable View	srv-profile configuration view
Function Description	The port multicast-vlan command is used to add a multicast entry rule to an Ethernet port of an ONT device. no port multicast-vlan command clears the multicast entry rules of the corresponding ONT Ethernet port.
<i>eth-list</i>	Ethernet port list (eg:1,3-5,8) , the port value range is 1 - 24 , used to batch set the multicast table rules of Ethernet ports.
<i>multicast-vlan -id</i>	Multicast VLAN ID, the value range is 1-4094.
untagethd	The multicast VLAN is set to untagethd mode, indicating that no multicast VLAN is added.
<i>ipaddr</i>	Multicast program IP, the value range is multicast IP address.
<i>start-ip</i>	The starting IP of the multicast program. The value range is the multicast IP address.
<i>end-ip</i>	The termination IP of the multicast program. The value range is the multicast IP address.

【Configuration Case】

Case 1: Add a multicast VLAN entry for Ethernet port 1-2 of the ONT device with the mode of untagethd and the multicast program IP of 224.1.1.1-224.1.1.10.

```
OLT(config-srv-profile- 2 )# port multicast-vlan eth 1-2 untagethd batch-ip 224.1.1.1 224.1.1.10
OLT(config-srv-profile- 2 )#
```

Case 2: Add a multicast entry with multicast VLAN 10 and multicast program IP 224.1.1.10 to Ethernet port 3-4 of the ONT device.

```
OLT(config-srv-profile- 2 )# port multicast-vlan eth 3-4 10 ip 224.1.1.1
```

```
OLT(config-srv-profile- 2 )#
```

5.4.15. port native -vlan

Command Syntax	<code>port native-vlan eth <i>eth -list</i> <i>vlan-id</i> [<i>priority</i> <i>priority</i>]</code>
Applicable View	srv-profile configuration view
Function Description	This command is used to configure the default VLAN of the Ethernet port in the ONU service template. The port corresponding to the default VLAN is the untagethd port.
<i>eth -list</i>	Ethernet port list (eg:1,3-5,8) , the port value range is 1 - 24 , which can be used to batch set the default VLAN of Ethernet ports.
<i>vlan-id</i>	Default VLAN is used to specify the default VLAN of the Ethernet port. A physical port can only have one default VLAN. The value range is 1-4094.
<i>priority</i>	Default VLAN priority is used to specify the priority of the default VLAN. The value range is 0-7.

Port-type	Port-ID	Max-MAC-Count	Max-Frame-Size	N-VLAN	N-PRI	IGMP-PRF
ETH	1	unlimited	1522	1	0	-
ETH	2	unlimited	1522	100	7	-
ETH	3	unlimited	1522	100	7	-
ETH	4	unlimited	1522	100	7	-

5.4.16. port vlan

Command Syntax	port vlan (eth <i>eth-list</i> user-vlan-list iphost <i>iphost-list</i> user-vlan-id) [priority priority user-cos] port vlan (eth <i>eth-list</i> iphost <i>iphost-list</i>) (transparent translation service-vlan-id (priority user-cos (user-vlan-id user-vlan user-vlan-id priority) [service-priority] user-vlan user-vlan-id [priority])) q-in-q service-vlan-id [service-priority priority user-cos] user-vlan user-vlan-id [priority]) no port vlan (eth <i>eth-list</i> iphost <i>iphost-list</i>) user-vlan-list [priority]
Applicable View	Srv-profile configuration view
Function Description	The port vlan command is used to configure the port VLAN of the UNI (User Network Interface) in the ONT service template. This command is used when you need to assign the ONT port to a specified VLAN or process the VLAN Tag for the data packets entering and leaving the port. no port vlan command is used to delete the port VLAN of the UNI in the ONT service template. This command is used when user packets with this VLAN are no longer required to pass through the UNI port and the uplink port needs to be deleted from the VLAN. The port list and user-side VLAN are directly appended after the port vlan command, indicating that the VLANs and port priorities that the ONT port can pass are directly configured. - in - q after the port vlan command indicates that the ONT port VLAN is configured in QinQ mode. You can add a layer of VLAN QinQ configuration on the ONT port. translation after the port vlan command indicates that the ONT port VLAN is configured in switching mode. You can configure the mapping relationship between the user-side VLAN and the service-side VLAN of the ONT port. Adding transparent after the port vlan command indicates that the ONT port VLAN is configured in transparent transmission mode. In this case, there is no need to specify a specific VLAN ID.
<i>eth-list</i>	Ethernet port list (eg:1,3-5,8) , the port value range is 1 - 24 , which can be used to batch configure VLAN of Ethernet ports.
<i>iphost-list</i>	iphost port list (eg: 1, 1-2) , the port value range is 1 - 2 , which can be used to batch set the VLAN of the iphost port. The IPHOST port is a virtual port, through which the configuration on the OLT is sent to the POTS port of the ONT, and is often used to open the management channel between the OLT and the ONT.
<i>user-vlan-list</i>	User-side VLAN (C- VLAN ID before switching) list, used to set user-side VLAN in batches.

<i>user-vlan-id</i>	C- VLAN ID before switching) index, used to identify a unique user-side VLAN.
<i>priority</i>	User-side priority, the priority set before VLAN switching.
user-cos	The service side VLAN message priority policy is to copy from the 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 service side VLAN message is directly copied from the user side VLAN.
<i>service-vlan-id</i>	S- VLAN ID after switching) index.
<i>service-priority</i>	Service-side priority, the priority reset after VLAN switching. When the OLT needs to re-plan the VLAN priority or does not trust the original priority, it will re-assign the priority after VLAN switching.
q-in-q	QinQ VLAN. VLAN messages with QinQ attributes contain the inner VLAN from the user's private network and the outer VLAN assigned by the device, which can form a Layer 2 VPN tunnel between the user's private network and realize transparent transmission of services between private networks.
translation	Set the VLAN configuration type to switching mode. According to the VLAN service planning in the actual network, switch the VLAN tag of the message. Do not distinguish between uplink and downlink. For example, when uplinking, switch the user-side VLAN to the configured VLAN.
transparent	Set the packet transparent transmission mode of the specified port to TAG transparent transmission mode, do not process the packet in any way, and keep the VLAN tag unchanged.

【Configuration Case】

Case 1: Add ONU device Ethernet port 1 and port 2 to VLAN 10-12 , 15 , and perform batch setting of port VLANs.

```
OLT(config-srv-profile-2)# port vlan eth 1-2 12-13,15 7
Configure ONT port(s) VLAN, total: 2, success: 2
Configure ONT port(s) VLAN, total: 2, success: 2
Configure ONT port(s) VLAN, total: 2, success: 2
OLT(config-srv-profile-2)# show ont-srv-profile current

-----
Profile-ID   : 2
Profile-name : srv-profile_2
Binding times : 0
-----

-----
Port-type   Port-number  Max-adaptive-number
-----
ETH         4           -
POTS        adaptive   2
```

```
CATV      adaptive  1
IPHOST    2        -
```

```
-----
MAC aging time(s):      : 300
MAC learing switch:     : Enable
Ring check switch      : Disable
Ring port auto-shutdown : Enable
Ring check detect frequency(pps) : 8
Ring resume interval(s) : 300
VEIP mode              : Trunk
Native VLAN option:     : Concern
-----
```

Port type	Port ID	Service-type	Index	S-VLAN	S-PRI	C-VLAN	C-PRI	ENCAP	S-PRI
ETH	1	Translation	1	12	7	12	-	-	-
ETH	1	Translation	2	13	7	13	-	-	-
ETH	1	Translation	3	15	7	15	-	-	-
ETH	2	Translation	1	12	7	12	-	-	-
ETH	2	Translation	2	13	7	13	-	-	-
ETH	2	Translation	3	15	7	15	-	-	-
ETH	3	Transparent	-	-	-	-	-	-	-
ETH	4	Transparent	-	-	-	-	-	-	-
IPHOST	1	Transparent	-	-	-	-	-	-	-
IPHOST	2	Transparent	-	-	-	-	-	-	-

```
-----
Port-type Port-ID Max-MAC-Count Max-Frame-Size N-VLAN N-PRI IGMP-PRF
ETH      1      unlimited    1522      1    0    -
ETH      2      unlimited    1522      1    0    -
ETH      3      unlimited    1522      1    0    -
ETH      4      unlimited    1522      1    0    -
-----
```

Case 2: Add ONU device ETH port 3-4 to QinQ VLAN 100 with a priority of 2.

```
OLT(config-srv-profile-2)#port vlan eth 3-4 q-in-q 100 2 user-vlan 12
Configure ONT port(s) VLAN, total: 2, success: 2
OLT(config-srv-profile-2)# show ont-srv-profile current
```

```
-----
Profile-ID: 2
Profile-name: srv-profile_2
Binding times: 0
-----
```

```
-----
Port-type Port-number Max-adaptive-number
-----
```

```
ETH      4      -
POTS     adaptive  2
```

```
CATV      adaptive  1
IPHOST    2        -
```

```
-----
MAC aging time(s):      : 300
MAC learing switch:     : Enable
Ring check switch      : Disable
Ring port auto-shutdown : Enable
Ring check detect frequency(pps): 8
Ring resume interval(s) : 300
VEIP mode               : Trunk
Native VLAN option:     : Concern
-----
```

```
Port  Port  Service-type Index S-VLAN S-PRI C-VLAN C-PRI  ENCAP S-PRI
type  ID
-----
ETH  1  Translation  1   12   7   12   -   -   -
ETH  1  Translation  2   13   7   13   -   -   -
ETH  1  Translation  3   15   7   15   -   -   -
ETH  2  Translation  1   12   7   12   -   -   -
ETH  2  Translation  2   13   7   13   -   -   -
ETH  2  Translation  3   15   7   15   -   -   -
ETH  3  QinQ      1  100   2   12   -   -   -
ETH  4  QinQ      1  100   2   12   -   -   -
IPHOST 1  Transparent -   -   -   -   -   -   -
IPHOST 2  Transparent -   -   -   -   -   -   -
-----
```

```
Port-type Port-ID Max-MAC-Count Max-Frame-Size N-VLAN N-PRI IGMP-PRF
-----
ETH      1    unlimited    1522      1    0    -
ETH      2    unlimited    1522      1    0    -
ETH      3    unlimited    1522      1    0    -
ETH      4    unlimited    1522      1    0    -
-----
```

Case 3: Configure the ONU device ETH port 4 to translation mode, and set the service-side VLAN message priority policy to copy from the user-side VLAN.

```
OLT(config-srv-profile-2)# no port vlan eth 4 12
OLT(config-srv-profile-2)# port vlan eth 4 translation 200 priority user-cos user-vlan 12 7
OLT(config-srv-profile-2)# show ont-srv-profile current
```

```
-----
Profile-ID: 2
Profile-name: srv-profile_2
Binding times: 0
-----
```

```
-----
Port-type  Port-number  Max-adaptive-number
-----
ETH        4        -
-----
```

```
POTS      adaptive  2
CATV      adaptive  1
IPHOST    2        -
```

```
-----

MAC aging time(s):      : 300
MAC learning switch:    : Enable
Ring check switch       : Disable
Ring port auto-shutdown : Enable
Ring check detect frequency(pps) : 8
Ring resume interval(s) : 300
VEIP mode               : Trunk
Native VLAN option:     : Concern
```

```
-----

Port  Port  Service-type Index S-VLAN  S-PRI C-VLAN  C-PRI  ENCAP S-PRI
type  ID
ETH  1  Translation  1   12   7   12   -   -   -
ETH  1  Translation  2   13   7   13   -   -   -
ETH  1  Translation  3   15   7   15   -   -   -
ETH  2  Translation  1   12   7   12   -   -   -
ETH  2  Translation  2   13   7   13   -   -   -
ETH  2  Translation  3   15   7   15   -   -   -
ETH  3  QinQ      1   100  2   12   -   -   -
ETH  4  Translation  1   200  -   12   7   -   copy
IPHOST 1  Transparent  -   -   -   -   -   -   -
IPHOST 2  Transparent  -   -   -   -   -   -   -
```

```
-----

Port-type Port-ID Max-MAC-Count Max-Frame-Size N-VLAN N-PRI IGMP-PRF
ETH 1 unlimited 1522 1 0 -
ETH 2 unlimited 1522 1 0 -
ETH 3 unlimited 1522 1 0 -
ETH 4 unlimited 1522 1 0 -
```

Case 4: Configure ONU device ETH port 3 to transparent mode.

```
OLT(config-srv-profile-2)# no port vlan eth 3 12
OLT(config-srv-profile-2)#port vlan eth 3 transparent
OLT(config-srv-profile-2)# show ont-srv-profile current
```

```
-----

Profile-ID : 2
Profile-name : srv-profile_2
Binding times: 0
```

```
-----

Port-type  Port-number  Max-adaptive-number
```

```

-----
ETH      4      -
POTS     adaptive 2
CATV     adaptive 1
IPHOST   2      -
-----

```

```

-----
MAC aging time(s):      : 300
MAC learing switch:     : Enable
Ring check switch      : Disable
Ring port auto-shutdown : Enable
Ring check detect frequency(pps) : 8
Ring resume interval(s) : 300
VEIP mode              : Trunk
Native VLAN option:    : Concern
-----

```

```

-----
Port  Port  Service-type Index S-VLAN S-PRI C-VLAN C-PRI ENCAP S-PRI
type  ID
-----
ETH  1  Translation  1  12  7  12  -  -  -
ETH  1  Translation  2  13  7  13  -  -  -
ETH  1  Translation  3  15  7  15  -  -  -
ETH  2  Translation  1  12  7  12  -  -  -
ETH  2  Translation  2  13  7  13  -  -  -
ETH  2  Translation  3  15  7  15  -  -  -
ETH  3  Transparent  -  -  -  -  -  -  -
ETH  4  Translation  1  200 -  12  7  -  copy
IPHOST 1  Transparent  -  -  -  -  -  -  -
IPHOST 2  Transparent  -  -  -  -  -  -  -
-----

```

```

-----
Port-type Port-ID Max-MAC-Count Max-Frame-Size N-VLAN N-PRI IGMP-PRF
-----
ETH      1    unlimited    1522      1    0    -
ETH      2    unlimited    1522      1    0    -
ETH      3    unlimited    1522      1    0    -
ETH      4    unlimited    1522      1    0    -
-----

```

Case 5: Delete VLAN 12 and VLAN 13 of ETH port 1 and port 2 of the ONU device.

```

OLT(config-srv-profile-2)# no port vlan eth 1-2 12-13
Delete ONT port(s) VLAN, total: 2, success: 2
Delete ONT port(s) VLAN, total: 2, success: 2
OLT(config-srv-profile-2)# show ont-srv-profile current
-----

```

```

Profile-ID: 2
Profile-name: srv-profile_2
Binding times: 0
-----

```

Port-type	Port-number	Max-adaptive-number							

ETH	4	-							
POTS	adaptive	2							
CATV	adaptive	1							
IPHOST	2	-							

MAC aging time(s):			: 300						
MAC learing switch:			: Enable						
Ring check switch			: Disable						
Ring port auto-shutdown			: Enable						
Ring check detect frequency(pps):			8						
Ring resume interval(s)			: 300						
VEIP mode			: Trunk						
Native VLAN option:			: Concern						

Port type	Port ID	Service-type	Index	S-VLAN	S-PRI	C-VLAN	C-PRI	ENCAP	S-PRI
POLICY									
ETH	1	Translation	1	15	7	15	-	-	-
ETH	2	Translation	1	15	7	15	-	-	-
ETH	3	Transparent	-	-	-	-	-	-	-
ETH	4	Translation	1	200	-	12	7	-	copy
IPHOST	1	Transparent	-	-	-	-	-	-	-
IPHOST	2	Transparent	-	-	-	-	-	-	-

Port-type	Port-ID	Max-MAC-Count	Max-Frame-Size	N-VLAN	N-PRI	IGMP-PRF			
ETH	1	unlimited	1522	1	0	-			
ETH	2	unlimited	1522	1	0	-			
ETH	3	unlimited	1522	1	0	-			
ETH	4	unlimited	1522	1	0	-			

5.4.17. show ont-srv-profile

Command Syntax	show ont-srv-profile gpon (all profile-id <i>profile-id</i> profile-name <i>profile-name</i>)
Applicable View	enable view ,config view
Function Description	This command is used to view the information of all or specific service templates that currently exist. If the service template being viewed has not been created, an error message will be displayed.
all	You can view all current srv-profile information
<i>profile-id</i>	srv-profile number, the value range is 0-2300 , you can view specific srv-profile information through the template number

profile-name

srv-profile name. You can view specific srv-profile information through the template name. The string length is 1-64

【Configuration Case】

Case 1: View all service templates currently configured on the OLT device.

```
OLT(config)# show ont-srv-profile gpon all
```

```
-----
Profile-ID Profile-name Binding times
-----
```

```
0 srv-profile_0 3
```

```
1 srv-profile_1 0
```

```
2 srv-profile_2 0
```

```
-----
Total: 3
-----
```

Case 2: View detailed information about the specific line services currently configured on the OLT device.

```
OLT(config)# show ont-srv-profile gpon profile-id 1
```

```
-----
Profile-ID: 1
```

```
Profile-name: srv-profile_1
```

```
Binding times: 0
```

```
-----
Port-type Port-number Max-adaptive-number
-----
```

```
ETH      0      -
```

```
POTS     0      -
```

```
CATV     0      -
```

```
IPHOST   adaptive 2
```

```
-----
MAC aging time(s):      : 300
```

```
MAC learning switch:    : Enable
```

```
Ring check switch      : Disable
```

```
Ring port auto-shutdown : Enable
```

```
Ring check detect frequency(pps) : 8
```

```
Ring resume interval(s) : 300
```

```
VEIP mode              : Trunk
```

```
Native VLAN option:     : Concern
```

5.4.18. show ont-srv-profile current

Command Syntax	<code>show ont-srv-profile current</code>
Applicable View	srv-profile configuration view
Function Description	This command is used to display the detailed information of the currently configured service template.

【Configuration Case】

Case 1: View the detailed information of the currently configured service template.

```
OLT(config-srv-profile-2)# show ont-srv-profile current
-----
Profile-ID: 2
Profile-name: srv-profile_2
Binding times: 0
-----
Port-type   Port-number  Max-adaptive-number
-----
ETH         4           -
POTS        adaptive    2
CATV        adaptive    1
IPHOST      2           -
-----
MAC aging time(s):      : NoAging
MAC learing switch:     : Disable
Ring check switch       : Enable
Ring port auto-shutdown : Enable
Ring check detect frequency(pps): 8
Ring resume interval(s) : 300
VEIP mode               : Trunk
Native VLAN option:     : Unconcern
-----
--M Port Port  Service-type Index  S-VLAN S-PRI C-VLAN C-PRI  ENCAP  S-PRI
type ID
POLICY
ETH 1 Translation 1 15 7 15 - - -
ETH 2 Translation 1 15 7 15 - - -
ETH 3 Transparent - - - - - - -
ETH 4 Translation 1 200 - 12 7 - copy
IPHOST 1 Transparent - - - - - - -
IPHOST 2 Transparent - - - - - - -
-----
Port-type Port-ID Max-MAC-Count  Max-Frame-Size N-VLAN N-PRI IGMP-PRF
ETH 1 unlimited 1522 1 0 -
ETH 2 unlimited 1522 100 7 -
ETH 3 unlimited 1522 100 7 -
```

ETH 4 unlimited 1522 100 7 -

5.4.19. veip

Command Syntax	veip (transparent trunk)
Applicable View	srv-profile configuration view
Function Description	This command is used to configure veip (virtual ethernet interface The mode of the point interface. The default value is trunk.
transparent	Transparent transmission mode.
trunk	Dry road mode.

【Configuration Case】

Case 1: Configure the veip interface mode to trunk mode.

```
OLT(config-srv-profile-2)#veip trunk
OLT(config-srv-profile-2)#
```

5.4.20. ipconfig

Command Syntax	ipconfig <i>IP-host-index</i> dhcp vlan <i>VLAN-ID</i> priority <i>VLAN-priority</i> ipconfig <i>IP-host-index</i> static {ip-address <i>ONT-IP</i> mask <i>ONT-subnet-mask</i> gateway <i>ONT gateway</i> pri-dns <i>ONT-primary-DNS</i> slave-dns <i>ONT-slave-DNS</i> vlan <i>VLAN-ID</i> priority <i>VLAN-tag-priority</i>} ipconfig <i>IP-host-index</i> pppoe ([service-name <i>NAME</i>] username <i>NAME</i> password <i>PWD</i> null) vlan <i>vlan</i> priority <i>priority</i> ipconfig <i>IP-host-index</i> (ipconfig-profile-id <i>prf-id</i> ipconfig-profile-name <i>prf-name</i>) no ipconfig <i>IP-host-index</i> [ipconfig-profile]
Applicable View	srv-profile configuration view
Function Description	The ont ipconfig command is used to configure the iphost function of the ONT, including the management IP address, subnet mask, gateway, management VLAN, priority, etc. no ont ipconfig command is used to delete the iphost function of the ONT. no ont ipconfig ip- index <0-1> The ipconfig-profile command is used to unbind the ipconfig template.
ip-index <i>IP - host - index</i>	Configure the IP Host interface index, value range: 0-1

dhcp	Configure the ONT to obtain its IP address dynamically through DHCP.
vlan <i>VLAN-ID</i>	Configure the management VLAN of the ONT. The value range is 1-4094.
priority <i>VLAN - priority</i>	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 <i>ONT-IP</i>	Configure a static management IP address in the format of XXXX
mask <i>ONT - subnet - mask</i>	Configure the address mask of the static IP address in the format of XXXX
gateway <i>ONT gateway</i>	Configure the IP address of the gateway of the ONT management network. It must be in the same network segment as the configured static IP address and the format is XXXX
pri-dns <i>ONT - primary - DNS</i>	Configure the primary DNS server IP address. 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 <i>ONT - slave - DNS</i>	Configure the secondary DNS server IP address in the format of XXXX
username password	Enable PPPoE on WAN and set username and password
null	Setting the PPPoE username and password of the WAN to blank does not mean disabling PPPoE.
Prf-id/prf-name	Prf-id: specify iphost index by template id to bind ipconfig template, The Id range is 0-128. Prf-name: specify iphost index to bind ipconfig template through template name, The length of Name is 1-64.

【Configuration Case】

Case 1: Configure the static management IP of service template 2 to 192.168.101.1, the subnet mask to 255.255.255.0, the gateway IP to 192.168.101.254, the management VLAN to 101, and the priority to 0.

```
OLT(config-srv-profile-2)# ipconfig 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-srv-profile-2)#
```

Case 2: Configure the management IP address of service template 2 to DHCP mode.

```
OLT(config-srv-profile-2) #ipconfig ip-index 0 dhcp vlan 101 priority 0
```

```
OLT(config-srv-profile-2)#
```

Case 3: Deleting the management IP address of service template 2.

```
OLT(config-srv-profile-2)# no ipconfig
```

```
OLT(config-srv-profile-2)#
```

Case 4: Configure ipconfig 0 of service template 2 and bind ipconfig template 0.

```
OLT(config-srv-profile-2)# ipconfig ip-index 0 ipconfig-profile-id 0
```

```
OLT(config-srv-profile-2)#
```

5.4.21. port dhcp-ip

Command Syntax	port eth <i>eth-list</i> dhcp-ip (form-onu form-internet) no port eth <i>eth-list</i> dhcp-ip
Applicable View	srv-profile configuration view
Function Description	The port eth dhcp-ip command is used to configure the L2/L3 mode of the Ethernet port in the ONT service template. no port eth dhcp-ip command is used to cancel the L2/L3 mode of the Ethernet port in the ONT service template.
<i>eth-list</i>	Ethernet port list (eg: 1,3-5,8) , port value range 1 - 24 , can be used to batch set Ethernet port L2/L3 mode
from-onu/from-internet	from-onu: The port is set to HGU mode from-internet: The port is set to SFU mode

【 Configuration Case 】

Case 1: Configure the mode of the eth1 port of the ONT service template to HGU.

```
OLT(config-srv-profile-2)# port eth 1 dhcp-ip form-onu
```

```
OLT(config-srv-profile-2)#
```

5.5 Service Template Discrete Configuration

5.5.1. ont loopdetect

Command Syntax	ont loopdetect port-id ont-id (disable enable) { detect-frequency <i>detect-frequency</i> auto-shutdown (disable enable) resume-interval <i>resume-interval</i> }
Applicable View	GPON view
Function Description	This command is used to discretely configure the loop detection function of a specified ONT device.

<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
(disable enable)	Enable or disable loop detection of ONT.
detect-frequency	Configure the frequency of sending loop detection messages. Value range: 1-20. Unit: pps. Default value: 8.
auto-shutdown	Configure the loop port auto-shutdown function.
resume-interval	Configure the interval for loop fault recovery. Value range: 60-43200. Unit: s. Default value: 300.

【Configuration Case】

Case 1: Set PON 1 ONT 1 to disable loop detection.

```
OLT( config- gpon-0/1 )# ont loopdetect 1 1 disable
OLT( config- gpon-0/1 )#
```

5.5.2. ont mac-aging

Command Syntax	ont mac-aging port - id ont - id (aging-time no-aging)
Applicable View	GPON view
Function Description	This command is used to discretely configure the aging time of the MAC address of a specified ONT.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
<i>aging-time</i>	MAC address aging time, the value range is 10 - 1000000.
no-aging	MAC address non-aging option.

【Configuration Case】

Case 1: Set the MAC address aging time of PON 1 ONT 1 to no aging.

```
OLT(config-gpon-0/1)# ont mac-aging 1 1 no-aging
OLT(config-gpon-0/1)#
```

5.5.3. ont mac-learning

Command Syntax	ont mac-learning port - id ont - id (disable enable)
Applicable View	GPON view
Function Description	This command is used to discretely configure the MAC address learning function of a specified ONT.

<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
disable	Disable the MAC address learning function of a specified ONT device.
enable	Enable the MAC address learning function of the specified ONT device.

【Configuration Case】

Case 1: Enable the MAC address learning function of PON 1 ONT 1.

```
OLT(config- gpon-0/1 )# ont mac-learning 1 1 enable
OLT(config-gpon-0/1)#
```

5.5.4. ont multicast fast-leave

Command Syntax	ont multicast fast-leave <i>port-id ont-id (disable enable)</i>
Applicable View	GPON view
Function Description	This command is used to discretely configure the multicast fast leave function of a specified ONT device. This command can only be used when the multicast function is enabled, that is, when the multicast mode is not unconcerned. The multicast fast leave function of the ONT device is disabled by default.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
disable	Disable the multicast fast leave function of the ONT device. After disabling the multicast fast leave function of the ONT device , after receiving the multicast leave message of the user, the ONT needs to send a specific group query to confirm the online status of the user. If the specific group query cycle times out and still does not receive the user's report message, it is considered that the user is offline and the local multicast table entry is updated. This parameter is used when the user does not need to switch channels at a faster speed.
enable	Enable the multicast fast leave function of the ONT device. After the multicast fast leave function of the ONT device is enabled, the ONT immediately updates the local multicast table according to the multicast leave message after receiving the multicast leave message, without sending a specific group query message to confirm whether the user is offline. This parameter is used when the user needs to switch channels at a faster speed.

【Configuration Case】

Case 1: Enable the multicast fast leave function of pon 1 onu 1.

```
OLT(config- gpon-0/1 )# ont multicast fast-leave 1 1 enable
```

```
OLT(config- gpon-0/1 )#
```

5.5.5. ont multicast mode

Command Syntax	ont multicast mode port - id ont - id (snooping proxy uncern)
Applicable View	GPON view
Function Description	This command is used to set the IGMP mode of the multicast VLAN of the specified ONT device. Only when the IGMP mode of the multicast VLAN is proxy or snooping, the system will capture the IGMP messages of the multicast programs belonging to the multicast VLAN for software processing and carry out multicast services normally. By default, the IGMP mode of the multicast VLAN is unconcern.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
snooping	Set the IGMP mode of the multicast VLAN to IGMP snooping. IGMP snooping is multicast listening. IGMP snooping obtains relevant information and maintains multicast forwarding entries by snooping IGMP messages communicated between users and multicast routers. The system does not process multicast messages belonging to this multicast VLAN and only transmits them transparently.
proxy	Set the IGMP mode of the multicast VLAN to IGMP proxy. IGMP proxy is a multicast proxy. IGMP proxy intercepts IGMP messages between users and multicast routers, processes them, and then forwards them to the upper-layer multicast router. From the user's perspective, the system is equivalent to a multicast server; from the upper-layer device's perspective, the system is equivalent to a multicast user. IGMP proxy mode reduces the multicast protocol message traffic on the network side.
unconcern	Disable the IGMP function of the multicast VLAN. When the IGMP function is disabled, multicast users will not be able to watch programs in the multicast VLAN.

【Configuration Case】

Case 1: Set the IGMP mode of the multicast VLAN of pon 1 onu 1 to proxy.

```
OLT(config- gpon-0/1 )# ont multicast mode 1 1 proxy
OLT(config- gpon-0/1 )#
```

5.5.6. ont native-vlan

Command Syntax	ont native-vlan <i>port - id ont - id</i> (concern unconcern)
Applicable View	GPON view
Function Description	This command is used to discretely configure whether the specified ONT pays attention to Native VLAN. If Native VLAN is paid attention to, the Unt age d message on the user side will be added to the Native VLAN; if Native VLAN is not paid attention to, the Unt age d message on the user side will not be added to the Native VLAN. By default, ONT pays attention to Native VLAN.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
concern	Set the ONT to follow the Native VLAN
unconcern	Set the ONT to ignore the Native VLAN

【Configuration Case】

Case 1: Configure pon 1 onu 1 to follow the Native VLAN.

```
OLT(config - gpon-0/1 )# ont native-vlan 1 1 concern
OLT(config - gpon-0/1 )#
```

5.5.7. ont ont-port

Command Syntax	ont ont-port <i>port-id ont-id</i> { eth (<i>eth-port</i> adaptive) catv (<i>catv-port</i> adaptive) pots (<i>pots-port</i> adaptive) iphost (<i>iphost-port</i> adaptive)}
Applicable View	GPON view
Function Description	This command is used to discretely set the port capability set of a specified ONT, that is, to set the number of ports of each type on the ONT. The port capability set of the ONT must be consistent with the actual capability set of the ONT.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
<i>eth-port</i>	Configure the capability set number of the eth port on the ONT. The value range is 0-24 or adaptive. After adaptive is configured, it will automatically match the number of eth ports reported by the ONT.
<i>catv-port</i>	Configure the number of capability sets of the catv interface on the ONT. The value range is 0-8 or adaptive. After adaptive is configured, it will automatically match the number of eth ports reported by the ONT.

<i>pots-port</i>	Configure the capability set number of the eth port on the ONT. The value range is 0-8 or adaptive. After adaptive is configured, it will automatically match the number of eth ports reported by the ONT.
<i>iphost-port</i>	Configure the capability set number of the iphost port on the ONT. The value can be 0-2 or adaptive. After adaptive is configured, it will automatically match the number of iphost ports reported by the ONT.
adaptive	Indicates that the number of ports is adaptive and will be automatically matched according to the number of ports reported by the ONT.

【Configuration Case】

Case 1: Configure a port capability set for pon 1 onu 1 with 4 eth ports, 2 POTS ports, and adaptive CATV ports and iphost ports.

```
OLT(config-gpon-0/1)# ont ont-port 1 1 eth 4 pots 2 catv adaptive iphost adaptive
OLT(config-gpon-0/1)#
```

5.5.8. ont port attribute max-frame-size

Command Syntax	ont port attribute <i>port-id ont-id eth eth-list max-frame-size max-frame-size</i> no ont port attribute <i>port - id ont - id eth eth-list max-frame-size max-frame-size</i>
Applicable View	GPON view
Function Description	ont port attribute max-mac-count is used to discretely configure the maximum frame length of a specified ONT port. ont port attribute max-mac-count is used to set the maximum frame length of the specified ONT port back to the default value of 1522.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
<i>eth-list</i>	Ethernet port list (eg:1,3-5,8) , the port value range is 1 - 24 , which can be used to batch configure VLAN of Ethernet ports.
<i>max-frame-size</i>	The maximum frame length of the ONT port ranges from 1500 to 1996, and the default value is 1518.

【Configuration Case】

Case 1: Set the maximum frame length of the eth1 port of PON 1 ONT 1 to 1600

```
OLT( config- gpon-0/1 )# ont port attribute 1 1 eth 1 max-frame-size 1600
OLT( config- gpon-0/1 )#
```

5.5.9. ont port attribute max-mac-count

Command Syntax	ont port attribute <i>port-id ont-id eth eth-list max-mac-count</i> (unlimited <i>max-mac-count</i>) no ont port attribute <i>portid ontid eth eth-list max-mac-count</i>
Applicable View	GPON view
Function Description	ont port attribute max-mac-count is used to discretely configure the MAC address limit for a specified ONT port. ont port attribute max-mac-count is used to cancel the MAC address quantity limit for a specified ONT port.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
<i>eth-list</i>	Ethernet port list (eg:1,3-5,8) , the port value range is 1 - 24 , which can be used to batch configure VLAN of Ethernet ports.
unlimited	Indicates that there is no limit on the maximum number of MAC addresses. The ONT port does not impose any limit on the number of MAC addresses that pass through.
<i>max-mac-count</i>	Indicates the maximum number of MAC addresses that the ONT port passes. The value range is 1-255 and the default value is unlimited.

【Configuration Case】

Case 1: Set the maximum number of MAC addresses on the eth1 port of PON 1 ONT 1 to 10

```
OLT(config-gpon-0/1)# ont port attribute 1 1 eth 1 max-mac-count 10
OLT(config-gpon-0/1)#
```

5.5.10. ont port igmp-forward

Command Syntax	ont port igmp-forward <i>port-id ont-id eth eth-list</i> (transparent default vlan <i>vlan-id</i> [priority <i>priority</i>])
Applicable View	GPON view
Function Description	This command is used to set the uplink multicast packet forwarding mode of the multicast function of the specified ONT device. The default mode is transparent. This command requires that the multicast mode is not in unconcern state.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
<i>eth -list</i>	Ethernet port list (eg:1,3-5,8) , port value range 1 - 24 , used to batch set Ethernet port uplink multicast message forwarding mode.

transparent	In transparent transmission mode, uplink multicast packets are forwarded directly without any VLAN processing.
default	default mode , a VLAN is added to the upstream multicast message before forwarding.
<i>vlan-id</i>	VLAN number, ranging from 1 to 4094 , is used to specify the value of adding VLAN in default mode.
<i>priority</i>	Priority level, ranging from 0 to 7 , is used to specify the priority value of the added VLAN in default mode.

【Configuration Case】

Case 1: Configure the uplink multicast packet forwarding mode for Ethernet port 1-2 of pon 1 onu 1 to be default, add the outer VLAN 10, and set the priority to 7.

```
OLT(config- gpon-0/1 )# ont port igmp-forward 1 1 eth 1-2 default vlan 10 priority 7
Configure ONT ethernet port igmp-forward, total: 2, success: 2
OLT(config- gpon-0/1 )#
```

5.5.11. ont port multicast-forward

Command Syntax	ont port multicast-forward port - id ont - id eth eth -list (untag transparent)
Applicable View	GPON view
Function Description	This command is used to set the downstream multicast packet forwarding mode of the multicast function of the specified ONT device. The default mode is transparent. This command requires that the multicast mode is not in unconcern state.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
<i>eth -list</i>	Ethernet port list (eg:1,3-5,8) , the port value range is 1 - 24 , used to batch set the Ethernet port downstream multicast message forwarding mode.
transparent	In transparent transmission mode, downlink multicast packets are forwarded directly without any VLAN processing.
untag	In untag mode , the VLAN tag carried by downstream multicast packets is removed before forwarding.

【Configuration Case】

Case 1: Configure the downstream multicast packet forwarding mode to untag for Ethernet port 1-2 of pon 1 onu 1.

```
OLT(config- gpon-0/1 )# ont port multicast-forward 1 1 eth 1-2 untag
Configure ONT ethernet port multicast-forward, total: 2, success: 2
OLT(config- gpon-0/1 )#
```

5.5.12. ont port multicast-vlan

Command Syntax	<code>ont port multicast-vlan port-id ont-id eth eth-list (multicast-vlan-id untagethd) [ip ipaddr batch-ip start-ip end-ip]</code> <code>no ont port multicast-vlan port - id ont - id eth eth -list (multicast-vlan - id untagethd) [ip ipaddr batch-ip start-ip end-ip]</code>
Applicable View	GPON view
Function Description	The ont port multicast-vlan command is used to add a multicast entry rule to a specified ONT Ethernet port. The no ont port multicast-vlan command clears the multicast entry rules of the Ethernet port of the specified ONT device.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
<i>eth -list</i>	Ethernet port list (eg:1,3-5,8) , the port value range is 1 - 24 , used to batch set the multicast table rules of Ethernet ports.
<i>multicast-vlan -id</i>	Multicast VLAN ID, the value range is 1-4094.
untagethd	The multicast VLAN is set to untagethd mode, indicating that no multicast VLAN is added.
<i>ipaddr</i>	Multicast program IP, the value range is multicast IP address.
<i>start-ip</i>	The starting IP of the multicast program. The value range is the multicast IP address.
<i>end-ip</i>	The termination IP of the multicast program. The value range is the multicast IP address.

【Configuration Case】

Case 1: Add a multicast entry for Ethernet port 1-2 of pon 1 onu 1 device with the multicast VLAN mode as untagethd and the multicast program IP as 224.1.1.1-224.1.1.10.

```
OLT(config- gpon-0/1 )# ont port multicast-vlan 1 1 eth 1-2 untagethd batch-ip 224.1.1.1
224.1.1.10
Configure ONT ethernet port multicast-vlan, total: 2, success: 2
OLT(config- gpon-0/1 )#
```

Case 2: Add a multicast entry with multicast VLAN 10 and multicast program IP 224.1.1.10 to Ethernet port 3-4 of pon 1 onu 1 device.

```
OLT(config- gpon-0/1 )# ont port multicast-vlan 1 1 eth 3-4 10 ip 224.1.1.1
Configure ONT ethernet port multicast-vlan, total: 2, success: 2
OLT(config- gpon-0/1 )#
```

5.5.13. ont port native-vlan

Command Syntax	ont port native-vlan <i>port-id ont-id eth eth-port-id {vlan vlan-id priority priority}</i> no ont port native-vlan <i>port-id ont-id eth eth-port-id</i>
Applicable View	GPON view
Function Description	The ont port native-vlan command is used to discretely configure the default VLAN of a specified ONT port. The port corresponding to the default VLAN is the untagethd port. If neither vlan-id nor priority is assigned a value in the command, this command does not need to perform any operation. no ont port native-vlan command is used to cancel the default VLAN configuration of a specified ONT port.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
<i>eth- port-id</i>	Ethernet port index value. The Ethernet port value range is 1 - 24.
<i>vlan - id</i>	Default VLAN is used to specify the default VLAN of the Ethernet port. A physical port can only have one default VLAN.
<i>priority</i>	Default VLAN priority, used to specify the priority of the default VLAN.

【Configuration Case】

Case 1: Configure the default VLAN of Ethernet port 1 of pon 1 onu 1 to 1.

```
OLT(config-gpon-0/1)#ont port native-vlan 1 1 eth 1 vlan 1
OLT(config-gpon-0/1)#
```

5.5.14. ont port vlan

Command Syntax	ont port vlan <i>port-id ont-id (eth eth-list user-vlan-list iphost iphost-list user-vlan-id) [priority priority user-cos]</i> ont port vlan <i>port-id ont-id (eth eth-list iphost iphost-list) (transparent translation service-vlan-id (priority user-cos (user-vlan-id user-vlan user-vlan-id priority) [service-priority] user-vlan user-vlan-id [priority])) q-in-q service-vlan-id [service-priority priority user-cos] user-vlan user-vlan-id [priority])</i> no ont port vlan <i>port-id ont-id (eth eth-list iphost iphost-list) user-vlan-list [priority]</i>
Applicable View	GPON view

Function Description	The ont port vlan command is used to discretely configure the VLAN of the UNI (User Network Interface) port of a specified ONT device. This command is used when you need to assign an ONT port to a specified VLAN or process VLAN tags on data packets entering and leaving the port. The no ont port vlan command is used to delete the port VLAN on the user side of a specified ONT device. This command is used when user packets with this VLAN are no longer required to pass through the UNI port and the uplink port needs to be deleted from the VLAN. The port vlan command is followed by a port list and a user-side VLAN, which means that the VLANs and port priorities that the ONT port can pass are directly configured. - in - q after the port vlan command indicates that the ONT port VLAN is configured in QinQ mode. You can add a layer of VLAN QinQ configuration on the ONT port. translation after the port vlan command indicates that the ONT port VLAN is configured in switching mode. You can configure the mapping relationship between the user-side VLAN and the service-side VLAN of the ONT port. Adding transparent after the port vlan command indicates that the ONT port VLAN is configured in transparent transmission mode. In this case, there is no need to specify a specific VLAN ID. The user-side VLAN of the ONT port is directly transmitted to the service-side VLAN.
<i>port - id</i>	the ONT is located.
<i>ont - id</i>	ONT ID, the value range is 1-256.
<i>eth-list</i>	port list (eg:1,3-5,8) , the port value range is 1-24 , which can be used to batch configure the VLAN of Ethernet ports.
<i>iphost -list</i>	iphost port list (eg: 1, 1-2) , the port value range is 1 - 2 , which can be used to batch set the VLAN of the iphost port. The IPHOST port is a virtual port, through which the configuration on the OLT is sent to the POTS port of the ONT, and is often used to open the management channel between the OLT and the ONT.
<i>user-vlan- list</i>	User-side VLAN (VLAN ID before switching) list, port value range 1 - 2 4 , used to batch set user-side VLAN.
<i>user- vlan-id</i>	User-side VLAN (VLAN ID before switching) index, port value range 1 - 2 4 , used to identify the unique user-side VLAN.
<i>priority</i>	User-side priority, the priority set before VLAN switching.
user-cos	The service side VLAN message priority policy is to copy from the 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 service side VLAN message is directly copied from the user side VLAN.
<i>service-vlan-id</i>	Service-side VLAN (VLAN ID after switching) index.
<i>service-priority</i>	Service-side priority, the priority reset after VLAN switching. When the OLT needs to re-plan the VLAN priority or does not trust the original priority, it will re-assign the priority after VLAN switching.
<i>q-in-q</i>	QinQ VLAN. VLAN messages with QinQ attributes contain the inner VLAN from the user's private network and the outer VLAN assigned by the device, which can form a Layer 2 VPN tunnel between the user's private network and realize transparent transmission of services between private networks.
<i>translation</i>	Set the VLAN configuration type to switching mode. According to the VLAN service planning in the actual network, switch the VLAN tag of the message. Do not distinguish between uplink and downlink. For example, when uplinking, switch the user-side VLAN to the configured VLAN.
<i>transparent</i>	Set the packet transparent transmission mode of the specified port to TAG transparent transmission mode, do not process the packet in any way, and keep the VLAN tag unchanged.

【Configuration Case】

Case 1: Add Ethernet port 1 and port 2 of PON 1 ONU 1 device to VLAN 10-12 , 15 , and perform batch setting of port VLAN.

```
OLT(config-gpon-0/1)# ont port vlan 1 1 eth 1-2 1 0 -1 2 ,15 7
```

```
Configure ONT port(s) VLAN, total: 2, success: 2
```

```
Configure ONT port(s) VLAN, total: 2, success: 2
```

```
Configure ONT port(s) VLAN, total: 2, success: 2
```

```
Configure ONT port(s) VLAN, total: 2, success: 2
```

```
OLT(config-gpon-0/1)# show ont info 1 1
```

```
-----
Profile-ID : --
-----
```

```
Port-type    Port-number  Max-adaptive-number
-----
```

```
ETH          4          -
POTS         adaptive  2
CATV         adaptive  1
IPHOST       2          -
-----
```

```
MAC aging time(s):      : 300
```

```
MAC learning switch:    : Enable
```

```
Ring check switch      : Disable
```

```
Ring port auto-shutdown : Enable
```

```
Ring check detect frequency(pps): 8
```

Ring resume interval(s)	: 300									
VEIP mode	: Trunk									
Native VLAN option:	: Concern									

Port type	Port ID	Service-type	Index	S-VLAN	S-PRI	C-VLAN	C-PRI	ENCAP	S-PRI	
POLICY										
ETH	1	Translation	1	10	7	10	-	-	-	
ETH	1	Translation	2	11	7	11	-	-	-	
ETH	1	Translation	3	12	7	12	-	-	-	
ETH	1	Translation	4	15	7	15	-	-	-	
ETH	2	Translation	1	10	7	10	-	-	-	
ETH	2	Translation	2	11	7	11	-	-	-	
ETH	2	Translation	3	12	7	12	-	-	-	
ETH	2	Translation	4	15	7	15	-	-	-	
ETH	3	Transparent	-	-	-	-	-	-	-	
ETH	4	Transparent	-	-	-	-	-	-	-	
IPHOST	1	Transparent	-	-	-	-	-	-	-	
IPHOST	2	Transparent	-	-	-	-	-	-	-	

Port-type	Port-ID	Max-MAC-Count		Max-Frame-Size	N-VLAN	N-PRI	IGMP-PRF			
ETH	1	unlimited		1522	1	0	-			
ETH	2	unlimited		1522	1	0	-			

5.5.15. ont veip

Command Syntax	ont veip <i>port-id ont-id</i> (transparent trunk)
Applicable View	GPON view
Function Description	This command is used to discretely configure the veip mode of a specified ont.
<i>port - id</i>	number of the ONU to be configured.
<i>ont - id</i>	The ONT ID to be configured. The value range is 1-256.
transparent	Configure the VEIP of the ONT to transparent transmission mode.
trunk	Configure the veip of ONT to trunk mode.

【Configuration Case】

Case 1: Set the veip of PON 1 ONT 1 to trunk mode

```
OLT(config-gpon-0/1)# ont veip 1 1 trunk
OLT(config-gpon-0/1)#
```

5.5.16. ont ipconfig

Command Syntax	ont ipconfig <i>port-id</i> <i>ONT-id</i> ip-index <i>IP-host-index</i> dhcp vlan <i>VLAN-ID</i> priority <i>VLAN-priority</i> ont ipconfig <i>port-id</i> <i>ONT-id</i> ip-index <i>IP-host-index</i> static {ip-address <i>ONT-IP</i> mask <i>ONT-subnet-mask</i> gateway <i>ONT gateway</i> pri-dns <i>ONT-primary-DNS</i> slave-dns <i>ONT-slave-DNS</i> vlan <i>VLAN-ID</i> priority <i>VLAN-tag-priority</i>} ont ipconfig <i>port-id</i> <i>ONT-id</i> ip-index <i>IP-host-index</i> pppoe ([service-name <i>NAME</i>] username <i>NAME</i> password <i>PWD</i> null) vlan <i>vlan</i> priority <i>priority</i> no ont ipconfig <i>port-id</i> <i>ONT-id</i> [ip-index <i>IP-host-index</i>]
Applicable View	gpon interface view
Function Description	The ont ipconfig command is used to configure the iphost function of the ONT, including the management IP address, subnet mask, gateway, management VLAN, priority, etc. no ont ipconfig command is used to delete the iphost function of the ONT.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	ONT - id: ONT id of the ONT to be configured, the value is 1-256
ip-index <i>IP - host - index</i>	Configure the IP Host interface index, value range: 0-1
dhcp	Configure the ONT to obtain its IP address dynamically through DHCP.
vlan <i>VLAN-ID</i>	Configure the management VLAN of the ONT. The value range is 1-4094.
priority <i>VLAN - priority</i>	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 <i>ONT-IP</i>	Configure a static management IP address in the format of XXXX
mask <i>ONT - subnet - mask</i>	Configure the address mask of the static IP address in the format of XXXX
gateway <i>ONT gateway</i>	Configure the IP address of the gateway of the ONT management network. It must be in the same network segment as the configured static IP address and the format is XXXX

pri-dns <i>ONT - primary - DNS</i>	Configure the primary DNS server IP address. 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 <i>ONT - slave - DNS</i>	Configure the secondary DNS server IP address in the format of XXXX
username password	Enable PPPoE on WAN and set username and password
null	Setting the PPPoE username and password of the WAN to blank does not mean disabling PPPoE.

【Configuration Case】

Case 1: Configure the static management IP of PON1 port ONT 1 to 192.168.101.1, the subnet mask to 255.255.255.0, the gateway IP to 192.168.101.254, the management VLAN to 101, and the priority to 0

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

Case 2: Configure the management IP address of PON1 port ONT 2 to DHCP mode

```
OLT(config-interface- gpon-0/1 )# ont ipconfig 1 1 ip-index 0 dhcp vlan 101 priority 0

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

Case 3: Deleting the management IP address of ONT 1 on PON1 port

```
OLT(config-interface- gpon-0/1 )# no ont ipconfig 1 1

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

Case 4: Configure the associated IP management IP address of PON1 port ONT2 to PPPoE mode

```
OLT(config-interface- gpon-0/1 )# ont ipconfig 1 1 ip-index 0 pppoe username test password test vlan 101 priority 0

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

5.5.17. ont ipconfig(extend)

Command Syntax	ont ipconfig <i>port-id ONT-id ip-index IP-host-index</i> (connection-type (bridge route) nat (enable disable) multicast-forward <i>mvlan</i> binding { eth ETH-LIST wlan WLAN-LIST }) no ont ipconfig <i>port-id ONT-id ip-index IP-host-index</i> (multicast-forward binding)
Applicable View	gpon interface view

Function Description	The ont ipconfig command is used to configure the ONT's iphost extension functions, including connection mode, nat switch, multicast vlan, and port binding. This function requires the standard iphost to be configured first. no ont ipconfig ip-index command is used to delete the extended function of the ONT iphost.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	ONT - id: ONT id of the ONT to be configured, the value is 1-256
<i>ip-index IP - host - index</i>	Configure the IP Host interface index, value range: 0-1
bridge route	Bridge: Change the connection type of WAN to bridge WAN Route: Change the connection type of wan to routing wan
enable disable	Enable: Enable NAT for the specified WAN. Disable: Disable the NAT function of the specified WAN.
<i>mvlan</i>	Configure the multicast vlan of wan
ETH-LIST	Ethernet port list. Specify the eth port to which the wan of ONU is bound.
WLAN-LIST	WLAN port list. Specify the WAN binding WLAN port of ONU.

【Configuration Case】

Case 1: Configure the iphost index 0 of PON1 port ONT 1 to bridge connection mode.

```
OLT(config-interface- gpon-0/1 )# ont ipconfig 1 1 ip-index 0 connection-type bridge
OLT(config-interface- gpon-0/1 )#
```

Case 2: Enable the NAT switch of iphost index 0 of ONT 1 on PON1 port.

```
OLT(config-interface- gpon-0/1 )# ont ipconfig 1 1 ip-index 0 nat enable
OLT(config-interface- gpon-0/1 )#
```

Case 3: Configure the multicast VLAN of iphost index 0 of PON1 port ONT 1 to 101.

```
OLT(config-interface- gpon-0/1 )# ont ipconfig 1 1 ip-index 0 multicast-forward 101
OLT(config-interface- gpon-0/1 )#
```

Case 4: Configure PON1 port ONT 1 's eth port 1-4 and wlan port 1-4 to bind to iphost index 0.

```
OLT(config-interface- gpon-0/1 )# ont ipconfig 1 1 ip-index 0 binding eth 1-4 wlan 1-4
OLT(config-interface- gpon-0/1 )#
```

Case 5: Delete the port binding of iphost index 0 of PON1 port ONT 1.

```
OLT(config-interface- gpon-0/1 )# no ont ipconfig 1 1 ip-index 0 binding
OLT(config-interface- gpon-0/1 )#
```

5.5.18. ont port car

Command Syntax	ont port car <i>port-id</i> <i>ONT-id</i> eth <i>eth-port-id</i> (inbound <i>traffic-profile-ID</i> outbound <i>traffic-profile-ID</i> outbound <i>traffic-profile-ID</i>) no ont port car <i>port-id</i> <i>ONT-id</i> eth <i>eth-port-id</i> (inbound outbound all)
Applicable View	gpon interface view
Function Description	the upstream and downstream bandwidth rate limit function of the ONT port.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>eth-port-id</i>	The ID of the Ethernet port of the ONT. The value range is 1-8
inbound	Configure the upstream (inbound) rate limit function of the ONT port
outbound	Configure the downstream (egress) rate limit function of the ONT port
<i>traffic - profile - ID</i>	The traffic profile ID that needs to be bound to the ONT port speed limit. The bandwidth value of the ONT port speed limit configuration is bound to the traffic profile. You can use the OLT(config)# show traffic-profile all command to view which traffic profiles are on the OLT.

【Configuration Case】

Case 1: Configure the upstream and downstream port rates of the first Ethernet port of PON1 ONT 1 to 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-0/1)# ont port car 1 1 eth 1 inbound 6 outbound 6
OLT(config-interface-gpon-0/1)#
```

5.5.19. ont port attribute

Command Syntax	ont port attribute <i>port-id</i> <i>ont-id</i> eth (<i>eth-port-id</i> <i>eth-list</i>) dhcp-ip (from-onu from-internet) no ont port attribute <i>port-id</i> <i>ont-id</i> eth (<i>eth-port-id</i> <i>eth-list</i>) dhcp-ip
Applicable View	GPON view
Function Description	The ont port attribute dhcp-ip command is used to configure the L2/L3 mode of a specified Ethernet port.

	no ont port attribute dhcp-ip command is used to cancel the L2/L3 mode of a specified Ethernet port.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont-id</i>	Specifies the ont to be configured , the value range is 1-256
<i>eth -port-id</i>	Ethernet port index value. The Ethernet port value range is 1 - 24.
<i>eth-list</i>	Ethernet port list (eg: 1,3-5,8) , port value range 1 - 24 , can be used to batch set Ethernet port L2/L3 mode
from-onu/from-internet	from-ONU: The port is set to HGU mode from-internet: The port is set to SFU mode

【Configuration Case】

Case 1: Configure the mode of the first Ethernet port of onu1 under pon1 to HGU.

```
OLT( config-interface- gpon-0/1 )# ont port attribute 1 1 eth 1 dhcp-ip from-ONU
OLT( config-interface- gpon-0/1 )#
```

5.6 Virtual Port Configuration

5.6.1. service-port

Command Syntax	service-port (<i>service-port-index</i> autoindex) vlan <i>vlan-id</i> gpon <i>F/S</i> port <i>port-list</i> ont <i>ont-list</i> gemport <i>gemport-id</i> [tag-action (default add-double <i>inner-vlan inner-vlan-id inner-priori inner-priori</i>) multi-service (user-vlan (<i>user-vlan-list</i> tag-action translate <i>user-vlan-id</i> [ethertype (<i>ipv4oe</i> <i>ipv6oe</i> <i>pppoe</i>)] [tag-action (default translate transparent translate-and-add <i>inner-vlan inner-vlan-id inner-priori inner-priori</i>)]) user-8021p <i>priority</i> user-vlan <i>user-vlan-id</i> [tag-action (default translate transparent translate-and-add <i>inner-vlan inner-vlan-id inner-priori inner-priori</i>)] [ethertype (<i>ipv4oe</i> <i>ipv6oe</i> <i>pppoe</i>) tag-action default)] [inbound index <i>traffic-profile-index</i> [outbound index <i>traffic-profile-index</i>] outbound index <i>traffic-profile-index</i>] service-port (<i>service-port-index</i> autoindex) vlan <i>vlan-id</i> gpon <i>F/S</i> port <i>port-list</i> ont <i>ont-list</i> gemport <i>gemport-id</i> multi-service other-all [tag-action (default add-double <i>inner-vlan inner-vlan-id inner-priori inner-priori</i>)] [inbound index <i>traffic-profile-index</i> [outbound index <i>traffic-profile-index</i>] outbound index <i>traffic-profile-index</i>] service-port (<i>service-port-index</i> autoindex) vlan transparent gpon <i>F/S</i> port <i>port-list</i> ont <i>ont-list</i> gemport <i>gemport-id</i> [outbound index <i>traffic-profile-index</i> inbound index <i>traffic-profile-index</i>]
-----------------------	--

	no service-port (<i>srvport-list</i> [<i>traffic-profile</i> (<i>inbound</i> [<i>outbound</i>]) <i>outbound</i>]) gpon F/S port port-list [<i>ont</i> (<i>ont-list</i> <i>ont-id</i> <i>gempport gempport-id</i> [<i>user-vlan user-vlan-id</i>])]) vlan (<i>vlan-id</i> gpon F/S port port-list [<i>ont</i> (<i>ont-id</i> <i>gempport gempport-id</i> <i>ont-list</i>)] <i>vlan-list</i>) all)
Applicable View	config view
Function Description	service-port The command is used to create a service virtual port. The service virtual port is used for the access of user equipment. The service flow is formed by connecting the user equipment to the service virtual port, so that the user can access various service flows. After successful execution, the service is carried on this virtual port. Service virtual ports are divided into single-service virtual port type and multi - service virtual port type. Single-service virtual port service means that a user port only passes one service type, or does not distinguish between service types. Multi-service virtual port service means that a user port needs to carry multiple services and the service types must be distinguished. The service-port has two modes: flow creation and full transparent transmission. The full transparent transmission mode can only configure a single service virtual port and can be configured in batches. It supports ingress rate limiting but does not support egress rate limiting. no service-port command is used to delete a service virtual port. When this virtual port is no longer needed to carry services, use this command to delete the service virtual port. After successful execution, the service virtual port does not exist.
<i>service-port-index</i>	Service virtual port index value, the value range is 0-8100. This parameter is used when you need to set the Service virtual port according to the index value.
<i>srvport-list</i>	Service virtual port list (eg: 1,11-27,100) , with a value range of 0-8100 , is used to specify a single or multiple Service virtual ports.
autoindex	The service virtual port automatically allocates index values, ranging from 0 to 8100. When this parameter is used, the system automatically allocates idle index values.
<i>vlan-id</i>	Service VLAN, ranging from 1 to 4094 , is used to uniquely identify an S-VLAN.
vlan transparent	Full transparent transmission of VLAN on the service side.
<i>vlan-list</i>	Service VLAN list (eg: 100 , 107 - 120 , 200) , with a value range of 1-4094 , is used to batch delete the service virtual ports corresponding to the VLANs in the list.
<i>F/S</i>	Used to identify the chassis number or slot number , for example, 0/0.

<i>port-list</i>	OLT device PON port list (eg: 1, 3-5, 8) , the value range is 1-16.
<i>ont-id</i>	ONT device index value , ranging from 1 to 256.
<i>ont-list</i>	ONT list (eg: 1,3-5,8) , the value range is 1-256.
<i>gem port-id</i>	gem Port number, ranging from 1 to 30.
default	In the default mode, the C-VLAN carried by the user side remains unchanged, and an S-VLAN is added. If you set VLANs on the new 16Port/8Port GPON OLT to distinguish different services, but do not want to change the VLAN tag of the user-side message, use this mode.
add-double	Add two layers of tags. Add two layers of tags to the user-side message: S-VLAN + C-VLAN. Applies to: S-VLAN is QinQ VLAN, Common VLAN, or Stacking VLAN, and is a single service or service flow classified by user-encapuser-encap flow classification. The S-VLAN is a QinQ VLAN, Common VLAN, or Stacking VLAN, and the service flow is untagged.
translate-and-add	Switch VLAN and add a layer of VLAN tag. Switch the C-VLAN carried by the user side to C-VLAN, and then add a layer of S-VLAN to form S+C two-layer VLAN uplink. This mode is used when two layers of VLAN tags are needed to identify user services (for example, one layer identifies services and one layer identifies users), and the VLAN of the user-side message is different from the user-side VLAN planned on the new 16Port/8Port GPON OLT.
translate	The C-VLAN carried by the user side is converted into S-VLAN by one-layer VLAN switching. This mode is used when only one-layer VLAN tag is needed to identify the user service and the service VLAN configured on the new 16Port/8Port GPON OLT is different from the VLAN in the user-side message.
transparent	Transparent transmission mode, without any VLAN change. Directly use the C-VLAN carried by the user side as the S-VLAN for uplink. If the VLANs used to identify different services on the new 16Port/8Port GPON OLT are consistent with the VLANs of the user side messages, this mode can be used.
<i>inner-vlan-id</i>	The inner VLAN after switching , the value range is 1-4094. When the processing mode is add-double or translate-and-double, the inner VLAN can be specified.
<i>inner-priority</i>	The inner VLAN priority after switching, ranging from 0 to 7.
<i>user-vlan-list</i>	User-side VLAN list (eg: 1, 3-5, 8) , the value range is 1-4094. This parameter is used when you need to set port VLANs in batches.

<i>user-vlan-id</i>	User-side VLAN ID, the value range is 1-4094. This parameter is used when users need to be distinguished by user-side VLAN.
<i>priority</i>	User-side VLAN priority , ranging from 0 to 7.
<i>ethertype</i>	User-side service Ethernet type. This parameter is used when users need to be distinguished by the user-side service encapsulation type. Acceptable parameters: pppoe, ipv6oe, ipv4oe When the user-side packets are PPPoE packets (that is, packets with Ethernet type 0x8863 and 0x8864), use "pppoe". When the user-side message is an IPv6 message (that is, a message with Ethernet type 0x86dd), use "ipv6oe". When the user-side message is other than "pppoe" and "ipv6oe" messages (that is, the Ethernet type is not 0x8863, 0x8864, or 0x86dd), "ipv4oe" is used.
<i>other-all</i>	This parameter is used when there is no need to distinguish user-side services (including VLAN ID , VLAN priority , and service encapsulation type).
<i>inbound</i>	Inbound port direction , used to specify the traffic template for the inbound port direction.
<i>outbound</i>	Egress port direction: used to specify the traffic template for the egress port direction.
<i>traffic-profile-index</i>	Traffic profile index, ranging from 1 to 256.
<i>all</i>	All Service virtual ports.

【Configuration Case】

Case 1: Create a single-service virtual port 2 , with the service VLAN as 100, the VLAN tag conversion mode as the default mode, and bind the traffic template with index 1 to the inbound port direction.

```
OLT(config)# service-port 2 vlan 100 gpon 0/1 port 1 ont 1 gem port 1 tag-action
default inbound index 1
Config service-port succeed!
```

Case 2: Create a multi-service virtual port, automatically assign virtual port index values, set the service VLAN to 200, the user VLAN to 200, set the VLAN tag conversion mode to transparent mode, and bind the traffic template with index 1 to the inbound port direction.

```
OLT(config)# service-port autoindex vlan 100 gpon 0/1 port 1 ont 6 gem port 1 mu
lti-service user-vlan 100 tag-action transparent inbound index 1 outbound index 1
Config service-port succeed!
OLT(config)#
```

Case 3: Configure a service virtual port in full transparent transmission mode.

```
OLT(config)# service-port 1 vlan transparent gpon 0/1 port 1 ont 1 gem port 1
OLT(config)# service-port autoindex vlan transparent gpon 0/1 port 1 ont 2 gem port 1
```

```
OLT(config)# service-port autoindex vlan transparent gpon 0/1 port 1 ont 3 gem port 1
inbound index 1
```

Case 4: Delete the service virtual ports with index values 4 and 5.

```
OLT(config)# no service-port 4-5
OLT(config)#
```

Case 5: Delete all service virtual ports with ONT device index 1-2 under PON1 port.

```
OLT(config)# no service-port gpon 0/1 port 1 ont 1-2
OLT(config)# show service-port all
```

Case 6: Delete all service virtual ports with service VLANs 100 and 200.

```
OLT(config)# no service-port vlan 100,200
OLT(config)#
```

5.6.2. service-port desc

Command Syntax	service-port desc <i>service-port-index description</i> no service-port desc <i>service-port-index</i>
Applicable View	config view
Function Description	This command is used to configure the service virtual port creation mode for the PON port.
<i>service-port-index</i>	Service virtual port index value, ranging from 0 to 8100. This parameter is used when you need to set the Service virtual port according to the index value.
<i>description</i>	Service virtual port description information, character range: 1-16.

【Configuration Case】

Case 1: Set the description information of service virtual port 3 to test.

```
OLT(config)# service-port desc 3 test
OLT(config)#
```

Case 2: Delete the description information of Service virtual port 3.

```
OLT(config)# no service-port desc 3
OLT(config)#
```

5.6.3. service-port srvport-list adminstatus

Command Syntax	service-port srvport-list adminstatus (disable enable)
Applicable View	config view
Function Description	This command is used to set the management status of a single or multiple service virtual ports.

<i>srvport-list</i>	Service virtual port list (eg: 1,11-27,100) , with a value range of 0-8100 , is used to specify a single or multiple Service virtual ports.
disable	Close the service virtual port.
enable	Enable the service virtual port.

【Configuration Case】

Case 1: Close Service virtual port 2.

```
OLT(config)# service-port 2 adminstatus disable
OLT(config)#
```

Case 2: Enable Service virtual ports 2 - 4.

```
OLT(config)# service-port 2-4 adminstatus enable
OLT(config)#
```

5.6.4. service-port srvport-list tag-action

Command Syntax	service-port <i>srvport-list</i> tag-action (default translate transparent add-double inner-vlan <i>inner-vlan-id</i> inner-priori <i>inner-priority</i> translate-and-add inner-vlan <i>inner-vlan-id</i> inner-priori <i>inner-priority</i>)
Applicable View	config view
Function Description	This command is used to quickly modify the VLAN tag switching mode of the service virtual port. After adding a service virtual port using the service-port command, for a certain user service, only the VLAN tag switching mode needs to be changed (for example, the operator needs to add or delete the number of VLAN tag layers in the user message according to the VLAN usage planning), and other parameters have not changed, there is no need to re-create the service virtual port. Use this command to modify the VLAN tag switching mode of the service virtual port.
<i>srvport-list</i>	Service virtual port list (eg: 1,11-27,100) , with a value range of 0-8100 , is used to specify a single or multiple Service virtual ports.
default	In the default mode, the C-VLAN carried by the user side remains unchanged, and an S-VLAN is added. If you set VLANs on the new 16Port/8Port GPON OLT to distinguish different services, but do not want to change the VLAN tag of the user-side message, use this mode.
translate	The C-VLAN carried by the user side is converted into S-VLAN by one-layer VLAN switching. This mode is used when only one-layer VLAN tag is needed to identify the user service and the service VLAN configured on the new 16Port/8Port GPON OLT is different from the VLAN in the user-side message.
transparent	Transparent transmission mode, without any VLAN change. Directly use the C-VLAN carried by the user side as the S-VLAN for uplink. If the

	VLANs used to identify different services on the new 16Port/8Port GPON OLT are consistent with the VLANs of the user side messages, this mode can be used.
add - double	Add two layers of tags. Add two layers of tags to the user-side message: S-VLAN + C-VLAN. Applies to: S-VLAN is QinQ VLAN, Common VLAN, or Stacking VLAN, and is a single service or service flow classified by user-encapuser-encap flow classification. The S-VLAN is a QinQ VLAN, Common VLAN, or Stacking VLAN, and the service flow is untagged.
translate-and-add inner-vlan	Switch VLAN and add a layer of VLAN tag. Switch the C-VLAN carried by the user side to C-VLAN, and then add a layer of S-VLAN to form S+C two-layer VLAN uplink. This mode is used when two layers of VLAN tags are needed to identify user services (for example, one layer identifies services and one layer identifies users), and the VLAN of the user-side message is different from the user-side VLAN planned on the new 16Port/8Port GPON OLT.
inner-vlan-id	The inner VLAN after switching, the value range is 1 to 4094. When the processing mode is add-double or translate-and-double, the inner VLAN can be specified.
inner-priority	The inner VLAN priority after switching , ranging from 0 to 7.

【Configuration Case】

Case 1: Change the VLAN conversion mode of Service virtual port 2 to default.

```
OLT(config)# service-port 2 tag-action default
Modify service-port tag-action succeed!
OLT(config)#
```

Case 2: Change the VLAN conversion mode of service virtual port 3-4 to default.

```
OLT(config)# service-port 3-4 tag-action default
Modify service-port tag-action succeed!
OLT(config)#
```

5.6.5. service-port srvport-list traffic-profile

Command Syntax	service-port srvport-list traffic-profile (inbound index traffic-profile-index [outbound index traffic-profile-index] outbound index traffic-profile-index)
Applicable View	config view
Function Description	This command is used to quickly modify the traffic template referenced by the service virtual port. After adding a service virtual port using the service-port command, if you only need to change the parameter

	content carried by the traffic template for a certain user service and other parameters remain unchanged, you do not need to recreate the service virtual port. You can use this command to change the referenced traffic template.
<i>srvport-list</i>	Service virtual port list (eg: 1,11-27,100) , with a value range of 0-8100 , is used to specify a single or multiple Service virtual ports.
inbound	Inbound port direction.
outbound	Egress port direction.
<i>traffic-profile-index</i>	Traffic profile index, ranging from 1 to 256.

【Configuration Case】

Case 1: Modify the traffic binding of Service virtual port 2 to the traffic template with binding index 2.

```
OLT(config)# service-port 2 traffic-profile inbound index 2 outbound index 2
Modify service-port traffic profile succeed!
OLT(config)#
```

Case 2: Modify the traffic binding of Service virtual port 3-4 to the traffic template with binding index 2.

```
OLT(config)# service-port 3-4 traffic-profile inbound index 2 outbound index 2
Modify service-port traffic profile succeed!
OLT(config)#
```

5.6.6. service-port statistics

Command Syntax	service-port statistics (<i>srvport-list</i> all <i>gpon F/S port port-id</i>) (clear disable enable)
Applicable View	config view
Function Description	This command is used to configure the performance statistics function of the service virtual port.
<i>srvport-list</i>	Service virtual port list (eg: 1,11-27,100) , with a value range of 0-8100 , is used to specify a single or multiple Service virtual ports.
all	All Service virtual ports.
<i>F/S</i>	Used to identify the chassis number or slot number.
<i>port-id</i>	OLT device PON port index value , ranging from 1 to 16.
clear	Clears the performance statistics of the service virtual port.
disable	Disable the service virtual port performance statistics function.
enable	Enable the service virtual port performance statistics function.

【Configuration Case】

Case 1: Enable the performance statistics function of service virtual port 3-4.

```
OLT(config)# service-port statistic 3-4 enable
OLT(config)#
```

Case 2: Clear the performance statistics of service virtual port 3-4.

```
OLT(config)# service-port statistics 3-4 clear
OLT(config)#
```

5.6.7. show service-port

Command Syntax	show service-port (<i>service-port-index</i> <i>service-port-list</i> <i>gpon F/S port port-id</i> [<i>ethertype</i> (<i>ipv4oe</i> <i>ipv6oe</i> <i>pppoe</i>) <i>ont ont-id</i> [<i>gemport gemport-id</i> [<i>user-vlan user-vlan-id</i>]] <i>user-8021p priority</i> [<i>user-vlan user-vlan-id</i>] <i>vlan</i> (<i>vlan-id</i> [<i>gpon F/S port port-id</i> [<i>ont ont-id</i>]] <i>transparent gpon F/S port port-id</i> [<i>ont ont-id</i>]) <i>all</i>)
Applicable View	config view
Function Description	This command is used to view the service virtual port configuration information based on different conditions.
<i>service-port-index</i>	The service virtual port index value ranges from 0 to 8100 , indicating that detailed information of the corresponding virtual port is queried through the index value.
<i>service-port-list</i>	Service virtual port list (eg: 1,11-27,100) , the value range is 0-8100 , which means querying the corresponding virtual port information through the index value list.
<i>F/S</i>	Used to identify the chassis number or slot number.
<i>port-id</i>	OLT device PON port index value , ranging from 1 to 16.
ethertype	User-side service Ethernet type. This parameter is used when users need to be distinguished by the user-side service encapsulation type. Acceptable parameters: pppoe, ipv6oe, ipv4oe When the user-side packets are PPPoE packets (that is, packets with Ethernet type 0x8863 and 0x8864), use "pppoe". When the user-side message is an IPv6 message (that is, a message with Ethernet type 0x86dd), use "ipv6oe". When the user-side message is other than "pppoe" and "ipv6oe" messages (that is, the Ethernet type is not 0x8863, 0x8864, or 0x86dd), "ipv4oe" is used.
<i>ont-id</i>	ONT device index value, the value range is 1-256.
<i>gem port-id</i>	gem Port number, ranging from 1 to 30.

<i>user-vlan -id</i>	User-side VLAN ID, the value range is 1-4094. This parameter is used when users need to be distinguished by user-side VLAN.
<i>priority</i>	User-side VLAN priority, ranging from 0 to 7.
transparent	Full transparent transmission of VLAN on the service side.
all	All Service virtual ports.

【Configuration Case】

Case 1: View the detailed information of service virtual port 1.

```
OLT(config)# show service-port 1
```

```
-----
Index: 1
Vlan Id      : 100
Port Id      : 0/0/2
ONT Id       : 3
gemport      : 1
Flow type    : -
Flow param   : -
Inbound Id   : 1
Outbound Id  : 1
Admin status : enable
Status       : up
Tag action    : default
Description   : -
Statistics    : disable
Create method : manual
Config status : success
-----
OLT(config)#
```

Case 2: Check the information of Service virtual ports 2-4.

```
OLT(config)# show service-port 2-3
```

```
-----
INDEX VLAN PORT ONT gem FLOW FLOW TAG INNER INNER RX TX STATUS METHOD
CONFIG
STATUS ID ID ID PORT TYPE PARAM ACTION VLAN PRIO
-----
2 100 0/0/1 1 1 - - default - - 1 1 down manual success
3 100 0/0/2 4 1 - - default - - 1 1 down manual success
-----
Total service-port config entry: 2 (up/down: 0 /2)
Total inbound ethtype/prio entry: 512 (using/unused: 0 /512)
```

Total outbound speedlimit entry: 128 (using/unused: 4 /124)

Case 3: Check all service virtual ports under the PON1 port of the OLT device.

```
OLT(config)# show service-port gpon 0/1 port 1
```

```
-----
```

INDEX	VLAN	PORT	ONT	gem	FLOW	FLOW	TAG	INNER	INNER	RX	TX	STATUS
METHOD	CONFIG											
STATUS	ID	ID	ID	PORT	TYPE	PARAM	ACTION	VLAN	PRIO			

2 100 0/0/1 1 1 - - default - - 1 1 down manual success												

Total service-port config entry: 1 (up/down: 0 /1)												
Total inbound ethtype/prio entry: 512 (using/unused: 0 /512)												
Total outbound speedlimit entry: 128 (using/unused: 4 /124)												

Case 4: Check the service virtual port of VLAN 200 on the user side.

```
OLT(config)# show service-port vlan 200
```

```
-----
```

INDEX	VLAN	PORT	ONT	gem	FLOW	FLOW	TAG	INNER	INNER	RX	TX	STATUS
METHOD	CONFIG											
STATUS	ID	ID	ID	PORT	TYPE	PARAM	ACTION	VLAN	PRIO			

4	200	0/0/1	2	2	-	-	default	-	-	2	2	down manual success
5	200	0/0/1	3	2	-	-	default	-	-	2	2	down manual success

Total service-port config entry: 2 (up/down: 0 /2)												
Total inbound ethtype/prio entry: 512 (using/unused: 0 /512)												
Total outbound speedlimit entry: 128 (using/unused: 6/122)												

Case 5: View all Service virtual ports.

```
OLT(config)# show service-port all
```

```
-----
```

INDEX	VLAN	PORT	ONT	gem	FLOW	FLOW	TAG	INNER	INNER	RX	TX	STATUS
METHOD	CONFIG											
STATUS	ID	ID	ID	PORT	TYPE	PARAM	ACTION	VLAN	PRIO			

0	100	0/0/2	2	1	-	-	default	-	-	1	1	down manual success
1	100	0/0/2	3	1	-	-	default	-	-	1	1	down manual success

2	100	0/0/1	1	1	-	-	default	-	-	1	1	down	manual	success
3	100	0/0/2	4	1	-	-	default	-	-	1	1	down	manual	success
4	200	0/0/1	2	2	-	-	default	-	-	2	2	down	manual	success
5	200	0/0/1	3	2	-	-	default	-	-	2	2	down	manual	success

Total service-port config entry : 6 (up/down : 0 /6)														
Total inbound ethtype/prio entry: 512 (using/unused: 0 /512)														

5.6.8. show service-port statistics

Command Syntax	show service-port statistics (gpon F/S port port-id all)
Applicable View	config view
Function Description	This command is used to view the performance statistics function status of the service virtual port.
<i>F/S</i>	Used to identify the chassis number or slot number.
<i>port-id</i>	OLT device PON port index value , ranging from 1 to 16.
all	All Service virtual ports.

【Configuration Case】

Case 1: Check the performance statistics function status of the service virtual port under the PON1 port of the OLT device.

```
OLT(config)# show service-port statistics gpon 0/1 port 1
```

```
INDEX VLAN PORT ONT gem FLOW FLOW SWITCH
  ID ID ID PORT TYPE PARA
```

```
2 100 0/0/1 1 1 -- disable
4 200 0/0/1 2 2 -- disable
5 200 0/0/1 3 2 -- disable
```

```
Total: 3
```

Case 2: Check the performance statistics function status of all Service virtual ports.

OLT(config)# show service-port statistics all														

INDEX VLAN PORT ONT gem FLOW FLOW SWITCH														
ID ID ID PORT TYPE PARA														

0	100	0/0/2	2	1	-	-	disable							
1	100	0/0/2	3	1	-	-	disable							
2	100	0/0/1	1	1	-	-	disable							
3	100	0/0/2	4	1	-	-	disable							

```
4 200 0/0/1 2 2 -- disable
5 200 0/0/1 3 2 -- disable
```

Total: 6

5.6.9. show statistic service-port

Command Syntax	<code>show statistic service-port service-port-index</code>
Applicable View	config view
Function Description	This command is used to view the performance statistics of the specified service virtual port.
<i>service-port-index</i>	virtual port index value, the value range is 1-8000 , indicating that the detailed information of the corresponding virtual port is queried through the index value.

【Configuration Case】

Case 1: View the performance statistics of the service virtual port with index 1.

```
OLT(config)# show statistic service-port 1
Number of upstream packets: 0
Number of upstream bytes: 0
Number of downstream packets: 1209
Number of downstream bytes: 113646
OLT(config)#
```

5.6.10. show service-port status

Command Syntax	<code>show service-port status</code>
Applicable View	config view
Function Description	This command is used to view the resource usage of various functions of the virtual port.

【Configuration Case】

Case 1: Check the resource statistics of the virtual port.

```
GPON/XGSPON OLT(config)# show service-port status
Service-port resource status:
-----
Type   Free-Count Use-Count Total-Count
-----
Service-port Number      7999      1      8000
Single Number            7800      0      7800
Include Ethtype/8021.p    1536      0      1536
```

Ingress Policy	3000	0	3000
Egress Policy	500	0	500
Multi-service Shutdown	3000	0	3000
Multi-service Statistic	3000	0	3000

Pppoe uses two resources.			

5.7 TR069 Template Configuration

5.7.1. acs

Command Syntax	acs-url <i>acs-url</i> [acs-username <i>acs-username</i> acs-password <i>acs-password</i> auth-realm <i>REALM</i>]
Applicable View	TR069 template view
Function Description	This command is used to configure the TR069 ACS server function in the TR069 template.
<i>acs-url</i>	Configure the URL address of the ACS server. The default value of acs-url is empty and the character length is 1-63.
<i>acs-username</i>	Configure the ACS server account. The default value of acs-username is empty and the character length is 1-50.
<i>acs-password</i>	Configure the password of the ACS server. The default value of acs-password is empty and the character length is 1-25.
<i>REALM</i>	Configure the CPE server's identity authentication. The default value is empty and the character length is 1-24.

【Configuration Case】

Case 1: Configure the ACS server information of TR069 template 1.

OLT(config-tr069-profile_1)# acs-url http://10.10.10:9090/acs acs-username 123 acs-password 123
OLT(config-tr069-profile_1)#

5.7.2. commit

Command Syntax	commit
Applicable View	TR069 template configuration view

Function Description	This command is used to submit the current TR069 template configuration. Only after this command is successfully submitted, all TR069 parameter configurations will take effect.
-----------------------------	--

【Configuration Case】

Case 1: Submit the current TR069 template configuration.

```
OLT(config-tr069-profile_1)# commit
OLT(config-tr069-profile_1)#
```

5.7.3. cpe

Command Syntax	cpe-username <i>cpe-username</i> cpe-password <i>cpe-password</i> [cpe-port <i>cpe-port</i>]
Applicable View	TR069 template view
Function Description	This command is used to configure the TR069 CPE server function in the TR069 template.
<i>cpe-username</i>	Configure the CPE server account. The default value is empty and the character length is 1-50.
<i>cpe-password</i>	Configure the password of the CPE server. The default value is empty and the character length is 1-25.
<i>cpe-port</i>	Configure the port of the CPE server. The default value is 0 and the value range is 0-65535.

【Configuration Case】

Case 1: Configuring CPE server information for TR069 template 1.

```
OLT(config-tr069-profile_1)# cpe-username 123 cpe-password 123 cpe-port 1222
OLT(config-tr069-profile_1)#
```

5.7.4. inform

Command Syntax	inform (disable enable) [<i>interval</i> <i>interval</i>]
Applicable View	TR069 template view
Function Description	This command is used to configure the TR069 service notification information in the TR069 template.
(disable enable)	Configure the TR069 service notification switch in the TR069 template. The default value is enable.
<i>interval</i>	Configure the TR069 service notification interval in the TR069 template. The default value is 30 and the value range is 1-4294967295.

【Configuration Case】

Case 1: Configure the service notification switch of TR069 template 1 to be on, and the interval is 300s.

```
OLT(config-tr069-profile_1)# inform enable interval 300
```

```
OLT(config-tr069-profile_1)#
```

5.7.5. ip-index

Command Syntax	tr069-management ip-index <i>index</i> tr069-management ip-index unbind
Applicable View	TR069 template view
Function Description	This command is used to configure the iphost bound to tr069 in the TR069 template.
<i>index</i>	Configure the iphost bound to the TR069 template. The default value is 0 and the value range is 0-1.
unbind	Configure the iphost to unbind the TR069 template. Not bound by default

【Configuration Case】

Case 1: Configure the ONU binding iphost of TR069 template 1 to 1.

```
OLT(config-tr069-profile_1)# tr069-management ip-index 1
OLT(config-tr069-profile_1)#
```

5.7.6. ont-tr069-profile

Command Syntax	ont-tr069-profile gpon {<i>profile-id profile-id</i> <i>profile-name profile-name</i>} no ont-tr069-profile (<i>profile-id profile-id</i> <i>profile-name profile-name</i>)
Applicable View	config view
Function Description	The TR069 template defines the TR069 configuration management method. For the same ONT, it only needs to be configured once, saving configuration workload. The ont-tr069-profile gpon command is used to add a new tr069 profile or enter an existing tr069 profile. The ont-tr069-profile gpon command without any parameters automatically creates a new tr069 profile. tr069 profile 0 is the system default profile, and the automatically online ONT automatically matches tr069 profile 0. The no ont-tr069-profile command is used to delete an unnecessary tr069 profile. The default tr069 profile of the system cannot be deleted. If the tr069 template has been bound to an ONT, it cannot be deleted.
<i>profile-id</i>	tr069 template number, used to identify a tr069 template, the value range is 1-32. If not specified, the system automatically assigns the smallest idle template number. tr069 template 0 is the system default template, and the automatically online ONT automatically matches tr069 template 0

<i>profile-name</i>	tr069 profile name, the name length supports 1-64 characters. The default profile name is tr069 - profile_x, where "x" is replaced by the actual profile number.
---------------------	--

【Configuration Case】

Case 1: Automatically create a new tr069 template and enter the tr069 template configuration view.

```
OLT(config)# ont-tr069-profile gpon
OLT(config-tr069-profile_2)#
```

Case 2: Delete a tr069 template based on profile-id.

```
OLT(config)# no ont-tr069-profile profile-id 2
OLT(config)#
```

5.7.7. tr069-management

Command Syntax	tr069-management (disable enable unconcern)
Applicable View	TR069 template view
Function Description	This command is used to configure the TR069 management state in the TR069 template.
(disable enable unconcern)	Configure the TR069 management status in the TR069 template. The default value is unconcern.

【Configuration Case】

Case 1: Enable the TR069 function of TR069 template 1.

```
OLT(config-tr069-profile_1)# tr069-management enable
OLT(config-tr069-profile_1)#
```

5.7.8. acs-port

Command Syntax	acs-port acs-port
Applicable View	TR069 template view
Function Description	This command is used to configure the port of the TR069 ACS server in the TR069 template.
<i>acs-port</i>	Configure the port of the TR069 ACS server of ONU. The value range is 0-65535

【Configuration Case】

Case 1: Configure the port of the acs server of TR069 template 1 to 1.

```
OLT(config-tr069-profile_1)# acs-port 1
OLT(config-tr069-profile_1)#
```

5.7.9. show ont-tr069-profile current

Command Syntax	<code>show ont-tr069-profile current</code>
Applicable View	TR069 template view
Function Description	This command is used to display the current configuration of the TR069 template.

【Configuration Case】

Case 1:Open the TR069 function of TR069 template 1.

```
OLT(config-tr069-profile_1)# show ont-tr069-profile current
```

```

-----
Profile-ID      : 1
Profile-name    : tr069-profile_1
Binding times   : 0
-----

TR069 management : Enable

Acs url         : http://10.10.10.10:9090/acs

Acs user name   : 123

Acs user password : 123

Auth realm      : 0


Inform          : enalbe

Inform interval : 300

Cpe user name   : 123

Cpe user password : 123

Cpe port        : 1222

TR069 IP index  : 1
-----
OLT(config-tr069-profile_1)#

```

5.8 TR069 Discrete Configuration

5.8.1. tr069 acs

Command Syntax	ont tr069 <i>portid ontid acs-url acs-url</i> [acs-username acs-username acs-password acs-password auth-realm REALM]
Applicable View	GPON view
Function Description	This command is used to configure the TR069 ACS server function of the ONT.
<i>portid</i>	Specify the PON port number. The value range is 1-16
<i>ontid</i>	ONT ID to be configured. The value range is 1- 1 28
<i>acs-url</i>	Configure the URL address of the ACS server. The default value of acs-url is empty and the character length is 1-63.
<i>acs-username</i>	Configure the ACS server account. The default value of acs-username is empty and the character length is 1-50.
<i>acs-password</i>	Configure the password of the ACS server. The default value of acs-password is empty and the character length is 1-25.
<i>REALM</i>	Configure the CPE server authentication. The default value is empty and the character length is 1-24.

【Configuration Case】

Case 1: Configure the information of the ACS server connected to the ONU with ID 1 on port 1.

```
OLT(config- gpon-0/1 )# ont tr069 1 1 acs-url http://10.11.12.13/acs acs-username
acs acs-password 123
```

```
OLT(config- gpon-0/1 )#
```

5.8.2. tr069 cpe

Command Syntax	ont tr069 <i>portid ontid cpe-username cpe-username cpe-password cpe-password</i> [cpe-port cpe-port]
Applicable View	GPON view
Function Description	This command is used to configure the TR069 CPE server function of the ONT.
<i>portid</i>	Specify the PON port number. The value range is 1-16
<i>ontid</i>	ONT ID to be configured. The value range is 1- 1 28
<i>cpe-username</i>	Configure the CPE server account. The default value is empty and the character length is 1-50.

<i>cpe-password</i>	Configure the password of the CPE server. The default value is empty and the character length is 1-25.
<i>cpe-port</i>	Configure the port of the CPE server. The default value is 0 and the value range is 0-65535.

【Configuration Case】

Case 1: Configure the CPE server information of ONU with ID 1 under port 1.

```
OLT(config- gpon-0/1 )# ont tr069 1 1 cpe-username 124 cpe-password 123 cpe-port 1222
```

```
OLT(config- gpon-0/1 )#
```

5.8.3. tr069 inform

Command Syntax	ont tr069 portid ontid inform (disable enable) [interval interval]
Applicable View	GPON view
Function Description	This command is used to configure the tr069 service notification information of the ONT.
<i>portid</i>	Specify the PON port number. The value range is 1-16
<i>ontid</i>	ONT ID to be configured. The value range is 1- 1 28
(disable enable)	Configure the TR069 service notification switch of the ONT. The default value is enable.
<i>interval</i>	Configure the tr069 service notification interval of the ONT. The default value is 30 and the value range is 1-4294967295.

【Configuration Case】

Case 1: Configure the ONU service notification switch with ID 1 on port 1 to be on, with an interval of 300s.

```
OLT(config- gpon-0/1 )# ont tr069 5 1 inform enable interval 300
```

```
OLT(config- gpon-0/1 )#
```

5.8.4. tr069 ip-index

Command Syntax	ont tr069 portid ontid ip-index index ont tr069 portid ontid ip-index unbind
Applicable View	GPON view
Function Description	the iphost bound to tr069 of ONT.
<i>portid</i>	Specify the PON port number. The value range is 1-16
<i>ontid</i>	ONT ID to be configured. The value range is 1- 1 28

<i>index</i>	Configure the iphost bound to tr069 of ONT. The default value is 0 and the value range is 0-1.
unbind	Configure tr069 to unbind iphost, which is not bound by default

【Configuration Case】

Case 1: Configure the ONU with id 1 under port 1 to bind iphost 1.

```
OLT(config- gpon-0/1 )# ont tr069 1 1 ip-index 1
OLT(config- gpon-0/1 )#
```

5.8.5. tr069-management

Command Syntax	ont tr069 <i>portid</i> <i>ontid</i> tr069-management (disable enable unconcern)
Applicable View	GPON view
Function Description	This command is used to configure the tr069 management state of the ONT.
<i>portid</i>	Specify the PON port number. The value range is 1-16
<i>ontid</i>	ONT ID to be configured. The value range is 1- 1 28
(disable enable unconcern)	Configure the tr069 management state of the ONT. The default value is unconcern.

【Configuration Case】

Case 1: Enable the TR069 function of ONU with ID 1 on port 1.

```
OLT(config- gpon-0/1 )# ont tr069 1 1 tr069-management enable
OLT(config- gpon-0/1 )#
```

5.8.6. tr069 acs-port

Command Syntax	ont tr069 <i>port-id</i> <i>ont-id</i> acs-port <i>acs-port</i>
Applicable View	GPON view
Function Description	This command is used to configure the port of the TR069 ACS server of ONU.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont-id</i>	Specifies the ont to be configured , the value range is 1-256
<i>acs-port</i>	Configure the port of the TR069 ACS server of ONU. The value range is 0-65535

【Configuration Case】

Case 1: Configure the port of the tr069 acs server of onu1 under pon1 to 1.

```
OLT( config-interface- gpon-0/1 )# ont tr069 1 1 acs-port 1
OLT( config-interface- gpon-0/1 )#
```

5.9 Traffic Template Configuration

5.9.1. show traffic-profile

Command Syntax	show traffic-profile (all profile-id <i>Profile-ID</i> profile-name <i>Profile-name</i>)
Applicable View	GPON view
Function Description	This command is used to display the traffic profile of the ONT.
<i>Profile-ID</i>	Traffic template id , the value range is 1-256
<i>Profile-name</i>	Traffic profile name, length supports 1-16 characters
all	Display all traffic template configurations

【Configuration Case】

Case 1: Display all traffic template configurations.

```
OLT(config)# show traffic-profile all
-----
ID Profile-name CIR(kbps) PIR(kbps) CBS(bytes) PBS(bytes) Bind
-----
1 traffic-profile_1 1024 2048 34768 67536 0
-----
Total: 1
OLT(config)#
```

5.9.2. traffic-profile

Command Syntax	traffic-profile (profile-id <i>Profile-ID</i> profile-name <i>Profile-name</i>) {cir <i>committed-rate-value</i> pir <i>peek-rate-rate</i> cbs <i>committed-burst-size</i> pbs <i>peek-burst-size</i>}
Applicable View	GPON view
Function Description	This command is used to configure the traffic template of the ONT.
<i>Profile-ID</i>	Traffic template id , the value range is 1-256
<i>Profile-name</i>	Traffic profile name, length supports 1-16 characters
<i>committed-rate-value</i>	Configure guaranteed bandwidth. The value range is 64-1024000 , in kbps.

<i>peek-rate-rate</i>	Configure the best-effort bandwidth. The value range is 64-102400 , in kbps.
<i>committed-burst-size</i>	Configure the committed burst size. The value range is 2000-10240000 , in bytes.
<i>peek-burst-size</i>	Configure the peak burst size. The value range is 2000-10240000 , in bytes.

【Configuration Case】

Case 1: Create a traffic profile 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)#
```

5.10 Multi-Service Template Configuration

5.10.1. commit

Command Syntax	commit
Applicable View	mult-srv-profile view
Function Description	This command is used to submit the current multi-service template configuration. Only after this command is successfully submitted, all parameter configurations for the multi-service template will take effect.

【Configuration Case】

Case 1: Submit the current multi-service template configuration.

```
OLT(config-mult-srv-profile_1)# commit
OLT(config-mult-srv-profile_1)#
```

5.10.2. ont mult-srv-profile

Command Syntax	ont mult-srv-profile gpon {profile-id <0-2300 > profile-name <i>profile-name</i> } no ont mult-srv-profile gpon (profile-id <0-2300> profile-name <i>profile-name</i>)
Applicable View	config view
Function Description	The ont mult-srv-profile command is used to create an ONT multi-service profile. The no ont mult-srv-profile command is used to delete an ONT multi-service profile.
<0-2300 >	ONT multi-service template ranges from 0 to 2300. 0 is the default template created.

<i>profile-name</i>	ONT multi-service template name, supports 1-64 characters
---------------------	---

【Configuration Case】

Case 1: Create a multi-service template with ID 1.

```
OLT(config)# ont mult-srv-profile profile-id 1
OLT(config-mult-srv-profile_1)#
```

5.10.3. ont-line-profile

Command Syntax	ont-line-profile (profile-id <i>profile-id</i> profile-name <i>profile-name</i>)
Applicable View	mult-srv-profile view
Function Description	This command is used to reference a line template in an ONT multi-service template.
<i>profile-id</i>	ONT line template number, used to identify a line template, the value range is 0-2300. If not specified, the system automatically assigns the smallest idle template number. Line template 0 is the system default template, and the automatically online ONT automatically matches line template 0.
<i>profile-name</i>	ONT line profile name, the name length supports 1-16 characters. The default profile name is lineprofile_x, where "x" is replaced by the actual profile number.

【Configuration Case】

Case 1: The multi-service profile with configuration ID 1 references line profile 6.

```
OLT(config-mult-srv-profile_1)#ont-line-profile profile-id 6
OLT(config-mult-srv-profile_1)#
```

5.10.4. ont-srv-profile

Command Syntax	ont-srv-profile (profile-id <i>profile-id</i> profile-name <i>profile-name</i>)
Applicable View	mult-srv-profile view
Function Description	This command is used to reference a service template in an ONT multi-service template.
<i>profile-id</i>	ONT service template number, used to identify a service template, ranges from 0 to 2300. If not specified, the system automatically assigns the smallest idle template number. Service template 0 is the system default template, and the automatically online ONT automatically matches service template 0.

<i>profile-name</i>	ONT service profile name, which can contain 1 to 16 characters. The default profile name is srvprofile_x, where "x" is replaced by the actual profile number.
---------------------	---

【Configuration Case】

Case 1: The multi-service template with configuration ID 1 references service template 0.

```
OLT(config-mult-srv-profile_1)# ont-srv-profile profile-id 0
OLT(config-mult-srv-profile_1)#
```

5.10.5. ont-tr069-profile

Command Syntax	ont-tr069-profile (profile-id <i>profile-id</i> profile-name <i>profile-name</i>)
Applicable View	mult-srv-profile view
Function Description	This command is used to reference the tr069 template in the ONT multi-service template.
<i>profile-id</i>	ONT tr069 template number, used to identify a tr069 template, with a value range of 1-32.
<i>profile-name</i>	ONT tr069 template name

【Configuration Case】

Case 1: The multi-service template with configuration ID 1 references tr069 template 2.

```
OLT(config-mult-srv-profile_1)#ont- tr069 -profile profile-id 2
OLT(config-mult-srv-profile_1)#
```

5.10.6. ont-wan-profile

Command Syntax	ont-wan-profile (profile-id <i>profile-id</i> profile-name <i>profile-name</i>)
Applicable View	mult-srv-profile view
Function Description	This command is used to reference the wan template in the ONT multi-service template.
<i>profile-id</i>	ONT wan template number, used to identify a wan template, with a value range of 1-256
<i>profile-name</i>	ONT wan template name.

【Configuration Case】

Case 1: Configure the multi-service template with ID 1 to reference wan template 2.

```
OLT(config-mult-srv-profile_1)#ont- wan -profile profile-id 2
OLT(config-mult-srv-profile_1)#
```

5.10.7. show mult-srv-profile

Command Syntax	<code>show ont mult-srv-profile gpon (all profile-id <0-2300 > profile-name <i>profile-name</i>)</code> <code>show mult-srv-profile current</code>
Applicable View	config view, mult-srv-profile view
Function Description	Used to view ONT multi-service template configurations.
all	All current ONU service templates.
<0-2300>	ONT multi-service template ranges from 0 to 2300.
<i>profile-name</i>	ONT multi-service template name, supports 1-64 characters

【Configuration Case】

Case 1: Check the current configuration of multi-service template 1.

```
OLT(config-mult-srv-profile_1)# show mult-srv-profile current
-----
Profile-ID: 1
Profile-name: mult-srv-profile_1
Ont-line-profile: 6
Ont-srv-profile: 0
Ont- tr069 -profile: 6
Ont- wan -profile: 6

Binding-times: 0
-----
OLT(config-mult-srv-profile_1)#
```

5.11 Ipconfig Template

5.11.1. commit

Command Syntax	commit
Applicable View	Ipconfig template view
Function Description	This command is used to submit the current ipconfig template configuration. Only after this command is successfully submitted, all parameter configurations of the ipconfig template will take effect.

【Configuration Case】

Case 1: Submit the current ipconfig template configuration.

```
OLT(config-ipconfig-profile-1)# commit
OLT(config-ipconfig-profile-1)#
```

5.11.2. ipconfig-profile

Command Syntax	ipconfig-profile gpon { profile-id <0-128> profile-name PRFNAME}
Applicable View	Config view
Function Description	This command is used to configure the connection type for wan.
<0-128>	Template range 0-128
PRFNAME	Template name, length 1-64

【Configuration Case】

Case 1: Create ipconfig template 10.

```
OLT (config)# ipconfig-profile gpon profile-id 10
OLT (config- ipconfig -profile-0)#
```

5.11.3. connection-type

Command Syntax	connection-type (bridge route)
Applicable View	Ipconfig template view
Function Description	This command is used to configure the connection type for wan.
connection-type	Modify the connection type of wan, which is not sent by default

【Configuration Case】

Case 1: Change the connection type bound to ipconfig template 0 to bridge.

```
OLT (config- ipconfig -profile-0)# connection-type bridge
OLT (config- ipconfig -profile-0)#
```

5.11.4. nat

Command Syntax	nat (enable disable)
Applicable View	Ipconfig template view
Function Description	This command is used to configure NAT switch for WAN.
nat	Modify the NAT switch of WAN, which is not sent by default

【Configuration Case】

Case 1: Enable the NAT switch bound to the ipconfig template.

```
OLT ( config-ipconfig-profile-0 )# nat enable
OLT ( config-ipconfig-profile-0 )#
```

5.11.5. Service internet

Command Syntax	service internet no service internet
Applicable View	Ipconfig template view
Function Description	This command is used to configure the internet service type for WAN.

【Configuration Case】

Case 1: Add internet type to the binding ipconfig template.

```
OLT ( config-ipconfig-profile-0 )# service internet
OLT ( config-ipconfig-profile-0 )#
```

5.11.6. binding

Command Syntax	binding {eth ETH-LIST wlan WLAN-LIST}* no binding
Applicable View	Ipconfig template view
Function Description	This command is used to configure port binding for wan.
eth ETH-LIST	Ethernet port list. Specify the eth port to which the wan of ONU is bound.
wlan WLAN-LIST	WLAN port list. Specify the WAN binding WLAN port of ONU.

【Configuration Case】

Case 1: Bind eth2-3 and wlan1-3 to iphost 1 of the ONT bound to ipconfig.

```
OLT ( config-ipconfig-profile-0 )# binding eth 2-3 wlan 1-3
OLT ( config-ipconfig-profile-0 )#
```

5.11.7. multicast-forward

Command Syntax	multicast-forward mvlan no multicast-forward
-----------------------	---

Applicable View	Ipconfig template view
Function Description	This command is used to configure multicast vlan for wan.
<i>mvlan</i>	Configure the multicast vlan of wan

【Configuration Case】

Case 1: For ONT bound to ipconfig The multicast VLAN of iphost1 is set to 20.

```
OLT( config-ipconfig-profile-0 )# multicast-forward 20
OLT( config-ipconfig-profile-0 )#
```

5.11.8. show ipconfig-profile

Command Syntax	show ipconfig-profile gpon (all profile-id <0-128 > profile-name profile-name) show ipconfig-profile current
Applicable View	config view, Ipconfig template view
Function Description	Used to view ipconfig template configuration.
all	All current ipconfig templates.
<0-128 >	Ipconfig template, the value range is 0-128.
profile-name	ipconfig template, supports 1-64 characters

【Configuration Case】

Case 1: Check the current configuration of multi-service template 1.

```
OLT(config-ipconfig-profile-0)# show ipconfig-profile current
-----
Profile-ID: 0
Profile-name: ipconfig-profile_0
Binding times: 0
-----
Service: internet
Connection-type: --
nat:enable
mvlan: --
eth: --
wlan: --
-----
```

6 Diagnostic Management

6.1 Mirror Function

6.1.1. mirror

Command Syntax	<code>mirror group group-id src-port src-port-id dst-port eth portid (all egress ingress)</code> <code>no mirror group group-id</code>
Applicable View	eth view, GPON view
Function Description	This command is used to configure the mirroring function of the port. This command is used when you need to copy the traffic of a port in the system to other ports for traffic observation, network fault diagnosis, and data analysis. When the mirroring function of the Ethernet port is successfully set, the messages in the specified direction of the mirroring source port will be completely copied to the mirroring destination port.
<i>group-id</i>	Mirror group ID, ranging from 1 to 4.
<i>src-port-id</i>	The port number of the mirror source port. A source port can only exist in a group
eth	eth: Uplink port
<i>portid</i>	The port number of the mirror destination port. The value range of eth is 0/0/1 - 0/0/8
all egress ingress	all: Mirror the bidirectional messages sent and received by the source port. Completely copy the messages received and sent by the source port and output them to the destination port. egress: Mirror the packets sent by the source port. Completely copy the packets sent by the source port and output them to the destination port. ingress: The received message of the mirror source port. The message received by the mirror source port is completely copied and output to the mirror destination port.

【Configuration Case】

Case 1: Mirror the outbound and inbound messages of port eth3 to port eth1.

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

Case 2: Mirror the outgoing messages of PON1 port to eth 2 port.

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

Case 3: Delete the mirror configuration in mirror group 1.

```
OLT(config-eth-0/0)# no mirror group 1
```

6.1.2. show mirror

Command Syntax	<code>show mirror</code>
Applicable View	enable view, config view, eth view, GPON view
Function Description	This command is used to view the configuration information of the mirroring function of the Ethernet port.

【Configuration Case】

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

OLT(config- gpon-0/1)# show mirror	

Group ID: 1	
Destnation port: eth 0/0/1	
Source-port Ingress Egress	
gpon 0/1/3 Yes Yes	

Group ID: 2	
Destnation port: eth 0/0/2	
Source-port Ingress Egress	
gpon 0/1/1 Yes Yes	

Group ID: 3	
Destnation port: NONE	

Group ID: 4	
Destnation port: NONE	

6.2 Rogue ONU Detection

6.2.1. anti-rogueont auto-check

Command Syntax	<code>anti-rogueont auto-check (port-ID all) (enable disable) [interval interval-value]</code>
Applicable View	GPON view
Function Description	This command is used to enable or disable the automatic detection of ONU long light function of the P ON port. When enabled, when an ONU long light situation occurs, the OLT will generate an alarm message. The default is to enable the automatic detection of ONU long light function of the P ON port (enable).
<i>port-ID</i>	The port number to be configured
<i>all</i>	Refers to all port numbers

enable disable	enable: Enable the P ON port to automatically detect the ONU long light function disable: Disable the P ON port automatic detection of ONU long light function
interval-value	The automatic detection interval ranges from 1 to 100 in minutes. The default value is 15. If this parameter is not configured, the default value is used.

【Configuration Case】

Case 1: Enable the automatic detection of ONU long light function on the PON1 port.

```
OLT( config-gpon-0/1 )# anti-rogueont auto- check 1 enable

OLT( config-gpon-0/1 )#
```

6.2.2. anti-rogueont auto-isolate

Command Syntax	anti-rogueont auto-isolate (port-ID all) (enable disable)
Applicable View	GPON view
Function Description	Configure the automatic isolation function under the PON port, the default is disable
port-ID	The port number to be configured
enable disable	enable: Enable ONU automatic isolation disable: Disable ONU automatic isolation

【Configuration Case】

Case 1: Enable the automatic isolation function of PON1.

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

OLT( config-gpon-0/1 )#
```

6.2.3. anti-rogueont manual-check

Command Syntax	anti-rogueont manual- check (port-ID all)
Applicable View	GPON view
Function Description	This command is used to manually configure the PON port's ONU detection long light function. After executing this command, the PON port will perform the ONU detection long light function.
port-ID	The port number to be configured

【Configuration Case】

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

```
OLT( config-gpon-0/1 )# anti-rogueont manual- check 1
```

```
OLT( config-gpon-0/1 )#
```

6.2.4. anti-rogueont manual-detect

Command Syntax	anti-rogueont manual-detect (<i>port-ID</i> all)
Applicable View	GPON view
Function Description	This command is used to manually configure the PON port's ONU detection function. After executing this command, the PON port will perform the ONU detection function and try to find out which rogue ONU is.
<i>port-ID</i>	The port number to be configured

【Configuration Case】

Case 1: Manually configure the PON1 port to detect the ONU long light function and detect which rogue ONU is.

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

6.2.5. ont re-enable

Command Syntax	ont re-enable <i>port-ID</i> sn <i>SN-VALUE</i>
Applicable View	gpon interface view
Function Description	This command is used to remove an ONU from the rogue ONU automatic isolation table.
<i>port-ID</i>	Specified port number
<i>SN-VALUE</i>	Specifies the SN number of the ONT. The length is 12, 13, or 16.

【Configuration Case】

Case 1: Remove the ONU with sn serial number RTKG11111111 on port 1 from the isolation table.

```
OLT(config- gpon-0/1 )# ont re-enable 1 sn RTKG11111111
OLT(config- gpon-0/1 )#
```

6.2.6. show anti-rogueont

Command Syntax	show anti-rogueont (<i>PORTID</i> all)
Applicable View	GPON view
Function Description	Check the rogue ONU information of the PON port
<i>PORTID</i>	Specified port number

all	ONU information of all PON ports
-----	----------------------------------

【Configuration Case】

Case 1: View the information of all rogue ONUs on the PON port.

```
OLT( config-gpon-0/1 )# show anti-rogueont all
```

```
-----
index Port  ONT-ID SN
-----
```

```
1 gpon 0/1/1 1 RTKG00000819
-----
```

```
OLT( config-gpon-0/1 )#
```

6.2.7. show anti-rogueont config

Command Syntax	show anti-rogueont (auto-detect auto-isolate)config
Applicable View	GPON view
Function Description	Check the PON port long light detection and rogue ONU isolation enable configuration

【Configuration Case】

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

```
OLT(config-gpon-0/1)# show anti-rogueont auto-isolate config
```

```
-----
Port      Status
-----
```

```
gpon 0/1/1  enable
```

```
gpon 0/1/2  disable
```

```
gpon 0/1/3  disable
```

```
gpon 0/1/4  disable
```

```
gpon 0/1/5  disable
```

```
gpon 0/1/6  disable
```

```
gpon 0/1 /7 disable
```

```
gpon 0/1 /8 disable
-----
```

```
OLT(config- gpon-0/1 )#
```

Case 2: Check the status of the automatic isolation function of the PON port.

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

```
-----
Port Status Interval(min)
-----
```

```
gpon 0/1 /1 enable 15
```

```
gpon 0/1/2  enable   15
```

```
gpon 0/1/3  enable   15
```

```
gpon 0/1/4  enable   15
```

gpon 0/1/5	enable	15
gpon 0/1/6	enable	15
gpon 0/1/7	enable	15
gpon 0/1/8	enable	15

OLT(config-gpon-0/1)#		

6.3 Loop Detection

6.3.1. loopback-detection

Command Syntax	loopback-detection [<i>portlist</i>] (enable disable)
Applicable View	config view, eth view, GPON view
Function Description	This command is used to enable or disable the loop detection function. The loop detection function is enabled by default (enable).
<i>portlist</i>	List of ports to be configured, in the format of 1-2,3:2,4:1. This parameter is not available in config view.
enable	Enable the loop detection function.
disable	Disable the loop detection function.

【 Configuration Case 】

Case 1: Globally enable the loop control monitoring function.

OLT(config)# loopback-detection enable
OLT(config)#

Case 2: Enable the loop control monitoring function of the ETH1 port.

OLT(config-eth-0/0)# loopback-detection 1 enable
OLT(config-eth-0/0)#

6.3.2. loopback-detection action

Command Syntax	loopback-detection <i>portlist</i> action (block shutdown trap) no loopback-detection <i>portlist</i> action
Applicable View	eth view, GPON view
Function Description	This command is used to configure the loop detection control state of the specified port.
<i>portlist</i>	List of ports to be configured, in the format of 1-2,3:2,4:1.
block shutdown trap	block: When a loop is detected, a trap alarm is sent to the network management system and the interface is blocked, allowing only BPDU packets to pass. shutdown: When a loop is detected, a trap alarm is sent to the network management system and the interface is shut down.

	trap: When a loop is detected, only a trap alarm is sent to the network management system and a log is recorded.
--	--

【Configuration Case】

Case 1: Configure the loop detection controlled state of ETH1 port to block.

```
OLT(config-eth-0/0)# loopback-detection 1 action block
OLT(config-eth-0/0)#
```

Case 2: Cancel the loop detection controlled state of the ETH1 port.

```
OLT(config-eth-0/0)# no loopback-detection 1 action
OLT(config-eth-0/0)#
```

6.3.3. loopback-detection interval-time

Command Syntax	loopback-detection interval-time <i>time</i> no loopback-detection interval-time
Applicable View	config view
Function Description	This command is used to configure or restore the loop detection interval of the OLT system. By default, the loop detection interval is 30s.
<i>time</i>	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 10s.

```
OLT(config)# loopback-detection interval-time 10
OLT(config)#
```

Case 2: Restore the loop detection interval of the OLT system to the default value.

```
OLT(config)# no loopback-detection interval-time
OLT(config)#
```

6.3.4. loopback-detection packet vlan

Command Syntax	loopback-detection <i>portlist</i> packet vlan <i>vlanlist</i> no loopback-detection <i>portlist</i> packet vlan <i>vlanlist</i>
Applicable View	eth view, GPON view
Function Description	This command is used to monitor the specified VLAN on the trunk and hybrid ports, and is invalid for the access port. When this function is disabled, the system only monitors the default VLAN of the port.
<i>portlist</i>	List of ports to be configured, in the format of 1-2,3:2,4:1.

<i>vlanlist</i>	The VLAN list to be monitored is in the format of 8, 25-27.
-----------------	---

【Configuration Case】

Case 1: Perform loop control monitoring function on vlan100 of ETH1 port.

```
OLT(config- eth-0/0 )# loopback-detection 1 packet vlan 100
OLT(config- eth-0/0 )#
```

Case 2: Cancel the loop control monitoring function of vlan100 of ETH1 port.

```
OLT(config- eth-0/0 )# no loopback-detection 1 packet vlan 100
OLT(config- eth-0/0 )#
```

6.3.5. loopback-detection recovery-time

Command Syntax	loopback-detection portlist recovery - time time no loopback-detection portlist recovery - time
Applicable View	eth view, GPON view
Function Description	This command is used to configure the loop detection and recovery interval of a specified port.
<i>portlist</i>	List of ports to be configured, in the format of 1-2,3:2,4:1.
<i>time</i>	Loop detection recovery interval, in seconds , ranging from 5 to 1000, with a default value of 90

【Configuration Case】

Case 1: Configure the loop detection recovery interval of port G1 to 300 seconds.

```
OLT(config- eth-0/0 )# loopback-detection 1 recovery - time 300
OLT(config- eth-0/0 )#
```

Case 2: Restore the loop detection recovery time interval of the ETH1 port.

```
OLT(config- eth-0/0 )# no loopback-detection 1 recovery - time
OLT(config- eth-0/0 )#
```

6.3.6. show loopback-detection

Command Syntax	show loopback-detection [port (eth gpon) 0/x/x]
Applicable View	config view, eth view, GPON view
Function Description	This command is used to view the loop detection status of the OLT system.
eth gpon	eth: Check the uplink port loop detection status gpon: Check the PON port loop detection status
<i>portlist</i>	List of ports to be configured, in the format of 0/x/x.

【Configuration Case】

Case 1: Check the loop detection status of the OLT system.

```
OLT(config)# show loopback-detection

System loopback-detection is running
Loopback-detect sending-packet interval: 5

-----
Port      RecoverTime Action   Status
-----
gpon 0/1/1 15      block   NORMAL
eth 0/0/1  15      block   NORMAL
-----
```

Case 2: Check the loop detection status of the OLT ETH1 port.

```
OLT(config)# show loopback-detection port gpon 0/1 /1

-----
Port: gpon 0/1 /1
Detect VLAN: Untag
Looped VLAN:
Action: block
Status: NORMAL
Recover Time : 15
-----
```

6.4 Optical Module Alarm

6.4.1. bias-current

Command Syntax	bias-current alarm-lower alarm-upper warning-lower warning-upper) threshold no bias-current (alarm-lower alarm-upper warning-lower warning-upper)
Applicable View	Optical module alarm template view
Function Description	This command is used to modify or delete the value of the bias-current parameter in the optical module alarm template. The value must satisfy the following conditions: alarm-lower < warning-lower < warning-upper < alarm-upper.
alarm-lower alarm-upper warning-lower warning-upper	alarm-lower: lower alarm limit. The default value is 2. alarm-upper: Alarm upper limit. The default value is 70. warning-lower: Warning lower limit. The default value is 7. warning-upper: Warning upper limit. The default value is 30.
threshold	Alarm threshold, the value range is 0-10000 , the unit is mA.

【Configuration Case】

Case 1: Configure the optical module alarm template bias-current alarm lower limit to 5mA.

```
OLT(config-optical-alarm-profile-10)# bias-current alarm-lower 5
```

Case 2: Delete the bias-current alarm lower limit of the optical module alarm template.

```
OLT(config-optical-alarm-profile-10)# no bias-current alarm- lower
```

6.4.2. show optical-alarm-profile

Command Syntax	show optical-alarm-profile (all profile-id <i>profile-id</i> profile-name <i>profile-name</i> current)
Applicable View	config view, optical module alarm template view
Function Description	the optical module alarm template that has been created in the system.
all profile-id profile-name current	all: View the alarm template information of all optical modules on the OLT profile-id: Displays the alarm profile information of the optical module with the specified profile ID on the OLT. profile-name: Displays the alarm profile information of the optical module with the specified profile name on the OLT. current: View the optical module alarm template information under the current template. This parameter only exists under the optical module alarm template view
<i>profile-id</i>	alarm template information of the optical module with a specified ID. The value range is 1-256.
<i>profile-name</i>	Check the information about the optical module alarm template with a specified name.

【Configuration Case】

Case 1: Check the optical module alarm template information with template ID 1.

```
OLT(config)# show optical-alarm-profile profile-id 1
Profile-ID: 1
Profile-name: optical_alarm_profile_1
Binding times: 0

-----
Tx optical power warning upper threshold (dBm): 6.00
Tx optical power warning lower threshold (dBm): 0.00
Tx optical power alarm upper threshold (dBm): 7.00
Tx optical power alarm lower threshold (dBm)      : -1.00
Rx optical power warning upper threshold (dBm)     : -1.00
Rx optical power warning lower threshold (dBm)     : -30.00
Rx optical power alarm upper threshold (dBm)       : 1.00
Rx optical power alarm lower threshold (dBm)       : -35.00
Bias current warning upper threshold(mA)           : 30.00
Bias current warning lower threshold(mA)           : 7.00
```

```

Bias current alarm upper threshold(mA)      : 70.00
Bias current alarm lower threshold(mA)      : 2.00
Supply voltage warning upper threshold (V)   : 3.47
Supply voltage warning lower threshold (V)   : 3.14
Supply voltage alarm upper threshold (V)     : 3.63
Supply voltage alarm lower threshold (V)     : 2.97
Temperature warning upper threshold (C)      : 70.00
Temperature warning lower threshold (C)      : 0.00
Temperature alarm upper threshold (C)        : 100.00
Temperature alarm lower threshold (C)        : -10.00
ONT CATV rx optical power alarm upper threshold (dBm) : 2.50
ONT CATV rx optical power alarm lower threshold (dBm) : -9.50
ONT CATV tx voltage alarm upper threshold (dBm) : 7.00
ONT CATV tx volt age alarm lower threshold (dBm): -1.00
ONT CATV volt age alarm upper threshold (dBm): 3.63
ONT CATV volt age alarm lower threshold (dBm): 2.97
ONT CATV temperature alarm upper threshold (dBm): 100.00
ONT CATV temperature alarm lower threshold (dBm): -10.00
-----
    
```

Case 2: Check the current optical module alarm template information.

```

OLT(config-optical-alarm-profile-1)# show optical-alarm-profile current
Profile-ID      : 1
Profile-name    : optical_alarm_profile_1
Binding times   : 0
-----
Tx optical power warning upper threshold (dBm) : 46.00
Tx optical power warning lower threshold (dBm) : -78.00
Tx optical power alarm upper threshold (dBm)   : 7.00
Tx optical power alarm lower threshold (dBm)   : -1.00
Rx optical power warning upper threshold (dBm) : -1.00
Rx optical power warning lower threshold (dBm) : -30.00
Rx optical power alarm upper threshold (dBm)   : 1.00
Rx optical power alarm lower threshold (dBm)   : -35.00
Bias current warning upper threshold(mA)       : 30.00
Bias current warning lower threshold(mA)       : 7.00
Bias current alarm upper threshold(mA)        : 1000.00
Bias current alarm lower threshold(mA)        : 100.00
Supply voltage warning upper threshold (V)     : 3.47
Supply voltage warning lower threshold (V)     : 3.14
Supply voltage alarm upper threshold (V)       : 3.63
Supply voltage alarm lower threshold (V)       : 2.97
Temperature warning upper threshold (C)        : 70.00
Temperature warning lower threshold (C)        : 0.00
Temperature alarm upper threshold (C)          : 100.00
Temperature alarm lower threshold (C)          : -10.00
    
```

```

ONT CATV rx optical power alarm upper threshold (dBm) : 2.50
ONT CATV rx optical power alarm lower threshold (dBm) : -9.50
ONT CATV tx voltage alarm upper threshold (dBm)      : 7.00
ONT CATV tx voltage alarm lower threshold (dBm)      : -1.00
ONT CATV voltage alarm upper threshold (dBm)         : 3.63
ONT CATV voltage alarm lower threshold (dBm)         : 2.97
ONT CATV temperature alarm upper threshold (dBm): 100.00
ONT CATV temperature alarm lower threshold (dBm): -10.00
-----

```

6.4.3. ont-catv

Command Syntax	ont-catv (rx tx voltage temp) (alarm-lower alarm-upper) threshold
Applicable View	Optical module alarm template view
Function Description	This command is used to modify the value of the ont-catv parameter in the optical module alarm template. The parameter must satisfy alarm-lower < alarm-upper.
rx tx voltage temp	rx: CATV receiving optical power alarm threshold. The default alarm lower limit is -9.5, and the default alarm upper limit is 2.5. tx: CATV transmission voltage alarm threshold. The default lower alarm limit is -1 and the default upper alarm limit is 7. voltage: CATV voltage alarm threshold. The default lower alarm limit is 2.97, and the default upper alarm limit is 3.63. temp: CATV temperature alarm threshold. The default lower alarm limit is -10 and the default upper alarm limit is 100.
alarm-lower alarm-upper	alarm-lower: alarm lower limit alarm-upper: alarm upper limit
threshold	Alarm threshold

【Configuration Case】

Case 1: Configure the optical module alarm template ont-catv to set the lower alarm limit of the receiving optical power to -10 dBm.

```
OLT(config-optical-alarm-profile-10)# ont-catv rx alarm-lower -10
```

6.4.4. optical-alarm-profile

Command Syntax	optical-alarm-profile {profile-id <1-256> profile-name profile-name }
Applicable View	config view
Function Description	This command is used to create and enter the optical module alarm template mode or enter the created optical module alarm template mode. The optical module alarm template describes the alarm upper and

	lower limits of power-tx , power -rx , timerature, voltage, bias-current, and ont-catv. After the command is successfully executed, the corresponding optical module alarm template configuration mode is entered, and the related properties of the optical module alarm template can be set.
<1-256>	optical module alarm template number is used to identify an optical module alarm template, and the value range is 1 - 256. If not specified, the system automatically assigns the smallest free template number. Optical module alarm template 0 is the system default template. The automatically online ONT and PON port automatically match optical module alarm template 0. Optical module alarm template 0 cannot be modified or deleted.
profile-name	Optical module alarm profile name, the name length supports 1 to 32 characters. The default profile name is optical_alarm_profile_x, where "x" is replaced by the actual profile number.

【Configuration Case】

Case 1: Create and enter the optical module alarm template 10.

```
OLT(config)# optical-alarm-profile profile-id 10
OLT(config-optical-alarm-profile-10)#
```

6.4.5. power-rx

Command Syntax	power-rx (alarm-lower alarm-upper warning-lower warning-upper) threshold
Applicable View	Optical module alarm template view
Function Description	This command is used to modify or delete the value of the power-rx parameter in the optical module alarm template. The value must satisfy alarm-lower < warning-lower < warning-upper < alarm-upper.
alarm-lower alarm-upper warning-lower warning-upper	alarm-lower: lower alarm limit. The default value is -35. alarm-upper: Alarm upper limit. The default value is 1. warning-lower: Warning lower limit. The default value is -30. warning-upper: Warning upper limit. The default value is -10.
threshold	Alarm threshold, the value range is -99.00-100.00 , the unit is dBm.

【Configuration Case】

Case 1: Configure the optical module alarm template power-rx warning lower limit to -25dbm.

```
OLT(config-optical-alarm-profile-10)# power-rx warning -lower -25
```

Case 2: Delete the lower limit value of the optical module alarm template power-rx.

```
OLT(config-optical-alarm-profile-10)# no power-rx warning -lowe r
```

6.4.6. power-tx

Command Syntax	power-tx (alarm-lower alarm-upper warning-lower warning-upper) threshold
Applicable View	Optical module alarm template view
Function Description	This command is used to modify or delete the value of the power-tx parameter in the optical module alarm template. The value must satisfy alarm-lower < warning-lower < warning-upper < alarm-upper.
alarm-lower alarm-upper warning-lower warning-upper	alarm-lower: lower alarm limit. The default value is -1. alarm-upper: Alarm upper limit. The default value is 7. warning-lower: Warning lower limit. The default value is 0. warning-upper: Warning upper limit. The default value is 6.
threshold	Alarm threshold, the value range is -99.00-100.00 , the unit is dBm.

【Configuration Case】

Case 1: Configure the optical module alarm template power-rx warning upper limit value to 5dbm.

```
OLT(config-optical-alarm-profile-10)# power- t x warning -lower 5
```

Case 2: Delete the warning upper limit value of the optical module alarm template power-rx.

```
OLT(config-optical-alarm-profile-10)# no power-tx warning -lowe r
```

6.4.7. temperature

Command Syntax	temperature (alarm-lower alarm-upper warning-lower warning-upper) threshold
Applicable View	Optical module alarm template view
Function Description	This command is used to modify or delete the value of the temperature parameter in the optical module alarm template. The value must satisfy alarm-lower < warning-lower < warning-upper < alarm-upper.
alarm-lower alarm-upper warning-lower warning-upper	alarm-lower: lower alarm limit. The default value is -10. alarm-upper: Alarm upper limit. The default value is 100. warning-lower: Warning lower limit. The default value is 0. warning-upper: Warning upper limit. The default value is 70.
threshold	Alarm threshold, the value range is -99.00-300.00 , the unit is C.

【Configuration Case】

Case 1: Configure the temperature alarm upper limit of the optical module alarm template to 70°C.

```
OLT(config-optical-alarm-profile-10)# temperature alarm-upper 70
```

Case 2: Delete the temperature alarm upper limit value of the optical module alarm template.

```
OLT(config-optical-alarm-profile-10)# no temperature alarm-upper
```

6.4.8. volt age

Command Syntax	voltage (alarm-lower alarm-upper warning-lower warning-upper) threshold
Applicable View	Optical module alarm template view
Function Description	This command is used to modify or delete the value of the voltage parameter in the optical module alarm template. The value must satisfy alarm-lower < warning-lower < warning-upper < alarm-upper.
alarm-lower alarm-upper warning-lower warning-upper	alarm-lower: lower alarm limit. The default value is 2.97. alarm-upper: Alarm upper limit. The default value is 3.63. warning-lower: Warning lower limit. The default value is 3.14. warning-upper: Warning upper limit. The default value is 3.47.
threshold	Alarm threshold, the value range is 0.00-100.00 , the unit is V.

【Configuration Case】

Case 1: Configure the volt age alarm upper limit of the optical module alarm template to 3V.

```
OLT(config-optical-alarm-profile-10)# volt age alarm-upper 3
```

Case 2: Delete the volt age alarm upper limit value of the optical module alarm template.

```
OLT(config-optical-alarm-profile-10)# no voltage alarm-upper
```

6.5 Performance Statistics

6.5.1. reset statistics ethernet

Command Syntax	reset statistics ethernet port F/S portid
Applicable View	GPON view
Function Description	This command is used to clear the performance statistics of the Ethernet port.
F/S	The port number to be configured. The format is 0/0
port id	The port number to be configured.

【Configuration Case】

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

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

6.5.2. reset statistics gem

Command Syntax	reset statistics gem port F/S portid ontid
Applicable View	GPON view

Function Description	This command is used to clear the performance statistics of the gem PORT under the PON port.
<i>F/S</i>	The port number to be configured. The format is 0/0
<i>port id</i>	The port number to be configured.
<i>ontid</i>	ONT ID to be configured.

【Configuration Case】

Case 1: Clear the performance statistics of the ONU with ONT ID 1 under the PON1 port.

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

6.5.3. reset statistics pon

Command Syntax	reset statisticspon pon port <i>F/S portid</i>
Applicable View	GPON view
Function Description	This command is used to clear the performance statistics of a port.
<i>F/S</i>	The port number to be configured. The format is 0/0
<i>port id</i>	The port number to be configured.

【Configuration Case】

Case 1: Clear the performance statistics of the PON1 port.

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

6.5.4. reset statistics port

Command Syntax	reset statistics port <i>portid</i>
Applicable View	eth view,GPON view
Function Description	This command is used to clear the performance statistics of a port.
<i>port id</i>	The port number to be configured.

【Configuration Case】

Case 1: Clear the performance statistics of the GPON1 port.

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

6.5.5. reset statistics ont-line-quality

Command Syntax	reset statistics ont-line-quality <i>PORTID ont-id</i>
-----------------------	---

Applicable View	GPON view
Function Description	This command is used to clear the statistics of the optical line diagnostic information of the ONU.
<i>FPORTID</i>	Query the port number of the ONU.
<i>ont-id</i>	Query the ONU ID.

【Configuration Case】

Case 1: Clear the optical line diagnostic information statistics of ONU with ONU ID 1 on port gpon 0/1/5.

```
AX1700-MB140 (config-gpon-0/ 1 )# reset statistics ont-line-quality 5 1
AX1700-MB140 (config-gpon-0/ 1 )#
```

6.5.6. reset statistics qos port

Command Syntax	reset statistics qos port <i>portid</i>
Applicable View	GE view,GPON view
Function Description	This command is used to clear the performance statistics of the port qos queue.
<i>port id</i>	The port number to be configured.

【Configuration Case】

Case 1: Clear the performance statistics of the GPON1 port qos queue.

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

6.5.7. bandwidth-alarm threshold

Command Syntax	bandwidth-alarm threshold PORT-LIST (rx tx) enable XX.XX bandwidth-alarm threshold PORT-LIST (rx tx) disable
Applicable View	GPON,ETH view
Function Description	This command is used to enable the bandwidth threshold alarm function.
PORT-LIST	Port ID
(rx tx)	Port bandwidth direction to be monitored
XX.XX	Bandwidth Utilization

【Configuration Case】

Case 1: Enable the inbound bandwidth threshold alarm for gpon 0/1/1, with the threshold set to 80%.

```
OLT(config-gpon-0/ 1 )# bandwidth-alarm threshold 1 rx enable 80.0
OLT(config-gpon-0/ 1 )#
```

6.5.8. show statistics current | history

Command Syntax	show statistics (current history) port portid [interval (15min 1hour other)
Applicable View	eth view, GPON view
Function Description	This command is used to view performance statistics for the current or historical time interval.
current history	current: Displays the performance statistics of the port in the current time interval. Only when this parameter is selected can interval and the interval parameters following it be selected. history: Displays the performance statistics of the port within a historical time interval. Only when this parameter is selected can the interval and the interval parameters following it be selected.
15min 1hour other	15min: Display current or historical performance statistics within the current 15 minutes 1hour: Other: current-15minutes: Displays the onu Ethernet performance statistics within the current 15 minutes historic-15minutes: Displays the historical ONU Ethernet performance statistics within 15 minutes This parameter is optional only when ont-eth-performance is selected. It is not optional in other cases.
port id	The port number to be configured.

【Configuration Case】

Case 1: View the performance statistics of eth2 port for the current 15 minutes.

```
OLT(config- eth-0/0 )# show statistics current port 2 interval 15min
```

```
-----  
Port: eth 0/0/2 Record Time: 2000-3-9 14:15:0  
-----
```

```
RX TX  
-----
```

```
Octets      : 13968729    55139  
Packets     : 52737      312  
BroadcastPackets : 11562      0  
MulticastPackets : 40884      8  
OversizePackets : 0        0  
Discards    : 0          0  
Errors      : 0          0  
frames 64 octets : 9548      163  
frames 65 to 127 octets : 16333      68  
frames 128 to 255 octets : 7657      44  
frames 256 to 511 octets : 15272      7
```

frames 512 to 1023 octets	: 2151	14
frames 1024 to 1518 octets	: 1776	16
Rate bps	: 124160	488
Rate pps: 58 0		
Utilization	: 0.1 0.0	

6.5.9. show statistics ethernet

Command Syntax	<code>show statistics ethernet port <i>F/S portid</i></code>
Applicable View	GPON view
Function Description	This command is used to view the performance statistics of the Ethernet port.
<i>F/S</i>	The port number to be configured. The format is 0/0
<i>port id</i>	The port number to be configured.

【Configuration Case】

Case 1: View the performance statistics of the PON chip Ethernet.

OLT(config-gpon-0/1)# show statistics ethernet port 0/0 1		

Port ID: 1		

	RX	TX
good frames	: 6	0
control frames	: 0	0
pause frames	: 0	0
pfc frames	: 0	0
jabber frames	: 0	0
vlan frames	: 6	0
double vlan frames	: 0	0
fragmented frames	: 0	0
truncated frames	: 0	-
undersize frames	: 0	-
mtu_check errors	: 0	-
promiscuous frames	: 0	-
unsupported opcode	: 0	-
unsupported da	: 0	-
alignment errors	: 0	-
length out of range	: 0	-
code errors	: 0	-
oversize frames	: -	0
error frames	: -	0
runt frames	: -	0

underrun frames	: -	0

Port ID: 1	enet_stat	

	RX	TX
bytes	: 516	0
data bytes	: 516	0
frames	: 6	0
frames 64	: 0	0
frames 65 to 127	: 6	0
frames 128 to 255	: 0	0
frames 256 to 511	: 0	0
frames 512 to 1023	: 0	0
frames 1024 to 1518	: 0	0
frames 1519 to 2047	: 0	0
frames 2048 to 4095	: 0	0
frames 4096 to 9216	: 0	0
frames 9217 to 16383	: 0	0
broadcast frames	: 0	0
multicast frames	: 6	0
unicast frames	: 0	0
abort frames	: 0	0
fcs error	: 0	0
oversize_error	: 0	-
runt_error	: 0	-

6.5.10. show statistics gem

Command Syntax	show statistics gem port <i>F/S portid ont-id gem-id</i>
Applicable View	GPON view
Function Description	This command is used to view the performance statistics of the gem PORT under the PON port.
<i>F/S</i>	The port number to be configured. The format is 0/0
<i>port id</i>	number to be configured.
<i>ont-id</i>	The ONT ID to be configured. The value range is 1- 256
<i>gem-id</i>	The gem ID to be configured

【Configuration Case】

Case 1: Check the performance statistics of gem PORT under PON port.

```
OLT(config- gpon-0/1 )# show statistics gem port 0/0 1 1 1
```

Port ID: 1		

	RX	TX
packets	: 0	0
bytes	: 0	0

6.5.11. show statistics ont-eth-performance

Command Syntax	show statistics ont-eth-performance <i>F/S portid ont-id ont-port-id</i> (<i>current-15minutes</i> <i>historic-15minutes</i>)
Applicable View	GPON view
Function Description	This command is used to view ONT Ethernet performance statistics.
<i>F/S</i>	The port number to be configured. The format is 0/0
<i>port id</i>	number to be configured.
<i>ont-id</i>	The ONT ID to be configured. The value range is 1- 256
<i>gem-id</i>	The gem ID to be configured
<i>ont-port-id</i>	ONT PORT ID to be configured
current-15minutes historic-15minutes	current-15minutes: Displays the onu Ethernet performance statistics within the current 15 minutes historic-15minutes: Displays the historical ONU Ethernet performance statistics within 15 minutes This parameter is available only when ont-eth-performance is selected. It is not available in other cases.

【Configuration Case】

Case 1: View the current 15-minute Ethernet performance statistics of the ONT.

OLT(config- gpon-0/1) # show statistics ont-eth-performance 0/0 1 1 historic-15minutes		

Port ID: 1		

	RX	TX
Interval end time	: 0	0
packets	: 0	0
bytes	: 0	0
Discarded Frames	: 0	0

Broadcast Frames	: 0	0
Multicast Frames	: 0	0
Crc Errored Frames	: 0	0
Undersize Frames	: 0	0
Oversize Frames	: 0	0
Frames 64	: 0	0
Frames 65 to 127	: 0	0
Frames 128 to 255	: 0	0
Frames 256 to 511	: 0	0
Frames 512 to 1023	: 0	0
Frames 1024 to 1518	: 0	0

6.5.12. show statistics port

Command Syntax	<code>show statistics port <i>portid</i></code>
Applicable View	eth view, GPON view
Function Description	This command is used to view the performance statistics of a port.
<i>portid</i>	The port number to be configured.

【Configuration Case】

Case 1: Check the performance statistics of eth2 port.

OLT(config- eth-0/0)# show statistics port 2		

Port: eth 0/0/2	Rx rate(kbps):44	Tx rate(kbps):0

	RX	TX

Octets	: 35174387	1426418
Packets	: 119042	6163
UnicastPackets	: 6763	6117
BroadcastPackets	: 24252	6
MulticastPackets	: 88027	40
OversizePackets	: 0	0
Discards	: 178	0
Errors	: 0	0
frames 64 octets	: 21295	2774
frames 65 to 127 octets	: 35878	1741
frames 128 to 255 octets	: 17778	578
frames 256 to 511 octets	: 31534	178
frames 512 to 1023 octets	: 5440	383
frames 1024 to 1518 octets	: 7117	509
Rate pps	: 30	0

Utilization: 0.0 0.0

6.5.13. show statistics ont-line-quality

Command Syntax	<code>show statistics ont-line-quality <i>PORTID ont-id</i></code>
Applicable View	GPON view
Function Description	This command is used to display the optical line diagnostic information of the ONU.
<i>PORTID</i>	Query the port number of the ONU.
<i>ont-id</i>	Query the ONU ID.

【Configuration Case】

Case 1: Query the optical line diagnostic information of ONU with ONU ID 1 under gpon 0/1/5 port.

```
AX1700-MB140 (config-gpon-0/ 1 )# show statistics ont-line-quality 5 1
```

```
-----
Line quality statistic ONTID: 1
LOFi alarm count: 0
Upstream frame delimiter error count: 1
Upstream frame BIP error count: 0
Upstream frame FEC corrected blocks: 0
Upstream frame FEC uncorrected blocks: 0
Upstream frame HEC error count: -
Upstream FCS error count: -
-----
```

```
AX1700-MB140 (config- gpon-0/1 )#
```

6.5.14. show statistics qos port

Command Syntax	<code>show statistics qos port <i>portid</i></code>
Applicable View	eth view,GPON view
Function Description	This command is used to view the performance statistics of the port qos queue.
<i>portid</i>	The port number to be configured.

【Configuration Case】

Case 1: Check the performance statistics of the eth2 port.

```
OLT(config- eth -0/0)# show statistics port 2
```

```
-----
Port: eth 0/0/2
Queue Qctets Packets DroppedBytes DroppedPkts Bps
```

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

6.5.15. Statistics history

Command Syntax	<code>statistics history port <i>portid</i> interval (15min 1hour <i>time</i>)</code>
Applicable View	eth view, GPON view
Function Description	This command is used to configure the interval for collecting historical performance statistics on a port.
<i>port id</i>	The port number to be configured.
<code>15min 1hour <i>time</i></code>	15min: Set the historical statistics interval of the uplink port to 15 minutes 1hour: Set the historical statistics interval of the uplink port to 1 hour time: configure the historical statistics interval of the uplink port to any time, the value range is 30-3600

【Configuration Case】

Case 1: Configure the historical performance statistics interval of ETH1 port to 1 hour.

```
OLT(config-eth-0/0)# statistics history port 1 interval 1hour
OLT(config-eth-0/0)#
```

6.6 SNMP Management

6.6.1. show snmp-agent sys-info

Command Syntax	<code>show snmp-agent (sys-info config)</code>
Applicable View	config view
Function Description	This command is used to view basic SNMP information.

【Configuration Case】

Case 1: Viewing basic SNMP information

```
OLT(config)# show snmp-agent sys-info
contact : Ascent Communication Tech. Co., Ltd.
```

```
location :   Shanghai China
description: Copyright (C), 2025, Ascent Communication Tech. Co., Ltd.
sysname :    SDCP1000

OLT(config)#
```

6.6.2. snmp-agent community

Command Syntax	snmp-agent community (read write) NAME no snmp-agent community (read write) NAME
Applicable View	config view
Function Description	This command is used to set the SNMP community string.
read write	read: snmp read-only community word write: snmp read and write community word
NAME	Community string to be configured

【Configuration Case】

Case 1: Configure the SNMP read-only community string to be aaaaa.

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

6.6.3. snmp-agent sys-info

Command Syntax	snmp-agent sys-info (contact location description sysname) info no snmp-agent sys-info (contact location description sysname)
Applicable View	config view
Function Description	snmp-agent sys-info command is used to set basic SNMP information. no snmp-agent sys-info command is used to delete the configured basic SNMP information.
contact location description sysname	contact: Contact information location: location information description: description information sysname: Name information
info	The information character to be configured

【Configuration Case】

Case 1: The configuration name is aaaaa.

```
OLT(config)# snmp-agent sys-info sysname aaaaa
OLT(config)#
```

6.6.4. snmp-agent trap

Command Syntax	<code>snmp-agent trap((<i>host-name</i> <i>ABCD</i> <1-65535> version (1 2c 3)) (source interface loopback <1-1023>))</code> <code>no snmp-agent trap <i>ABCD</i></code>
Applicable View	config view
Function Description	snmp-agent trap command is used to set SNMP TRAP. no snmp-agent trap command is used to delete the configured SNMP TRAP.
<i>host-name</i>	Name Configuration
<i>ABCD</i>	IP address
<1-65535>	Port number configuration
version	SNMP protocol version

【 Configuration Case 】

Case 1: Configure an SNMP TRAP with the name aaaaa, the IP address 192.168.90.90, the port number 161, and the SNMP protocol version 2c.

```
OLT(config)# snmp-agent trap aaaaa 192.168.90.90 161 version 2c
OLT(config)#
```

Case 2:Delete an SNMP TRAP with IP 192.168.90.90.

```
OLT(config)# no snmp-agent trap 192.168.90.90
OLT(config)#
```

6.7 SNMPv3 Management

6.7.1. snmp-agent group v3 authentication

Command Syntax	<code>snmp-agent group v3 <group-name> authentication</code> <code>{[notify-view <none all>]][read-view <none all>]}[write-view <none all>]}</code>
Applicable View	config view
Function Description	This command is used to configure the snmp agent with authentication based on the security mode group.
<group-name>	Group name, supports 1-32 characters.
notify-view	view corresponding to the group name.
read-view	view corresponding to the group name.
write-view	view corresponding to the group name.

n one all	none: does not match view. all: matches all views.
--------------------	---

【Configuration Case】

Case 1: Configure SNMP agents with authenticated security mode based groups, named 'test', corresponding to all notification views.

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

6.7.2. snmp-agent group v3 noauth

Command Syntax	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 SNMP agent to be a security-based group without authentication.
<group-name>	Group name, supports 1-32 characters.
notify-view	view corresponding to the group name.
read-view	view corresponding to the group name.
write-view	view corresponding to the group name.
n one all	none: does not match view. all: matches all views.

【Configuration Case】

Case 1: Configure a secure mode based group with SNMP agent without authentication, named 'test', corresponding to all notification views.

```
OLT(config)# snmp-agent group v3 test no authnotify-view all
```

6.7.3. snmp-agent group v3 privacy

Command Syntax	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 the snmp agent with hidden authentication based on the security mode group.
<group-name>	Group name, supports 1-32 characters.
notify-view	view corresponding to the group name.
read-view	view corresponding to the group name.

write-view	view corresponding to the group name.
none all	none: does not match view. all: matches all views.

【Configuration Case】

Case 1: Configure the snmp agent with hidden authentication based on the security mode group, the group name is test , corresponding to all notification views picture.

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

6.7.4. snmp-agent usm-user v3

Command Syntax	snmp-agent usm-user v3 <user-name> <group-name> authentication-mode md5 <md5-password> privacy-mode des56 <des56-password>
Applicable View	config view
Function Description	This command is used to map the SNMP agent entity access user to the security group and set the authentication Authentication mode and password. Authentication mode is an optional parameter. To create a snmp-agent first Security model-based groups.
<user-name>	Entity access user name.
<group-name>	Group name, supports 1-32 characters.
<md5-password>	User authentication password, the password length is 8-64 characters
<des56-password>	56- bit DES encryption password, password length is 8-64 characters

【Configuration Case】

Case 1: Configure the snmp agent entity access group as test1, map the security mode based group test, authenticate mode as md5 with password 12345678, and authenticate mode as des56 with password 11111111.

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

6.7.5. show snmp-agent usm-user

Command Syntax	show snmp-agent usm-user <user>
Applicable View	config view
Function Description	This command is used to view the SNMP agent entity access user information.
<user>	Entity access user name, supports 1-64 characters. This parameter is optional and will not be used.

	This parameter indicates to view all entity access user information. Adding this parameter indicates to view The specified entity has access to user information.
notify-view	view corresponding to the group name.
read-view	view corresponding to the group name.
write-view	view corresponding to the group name.
n one all	none: does not match view. all: matches all views.

【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
```

7 OLT Protection Management

7.1 Link Aggregation Function

7.1.1. lacp system priority

Command Syntax	lacp system priority <i>priority - value</i>
Applicable View	config view
Function Description	This command is used to set the priority of the aggregation group system.
<i>priority - value</i>	The priority parameter range is 0-65535 , and the default value is 32768

【Configuration Case】

Case 1: Configure the OLT aggregation group system priority to 3000.

```
OLT( config )# lacp system priority 3000

OLT(config)#
```

7.1.2. lacp timeout

Command Syntax	lacp timeout (fast slow)
Applicable View	link-aggregation view
Function Description	This command is used to set the LACP aggregation group timeout value.
fast slow	The lacp message sending mode is fast for fast and slow for slow. The default is slow.

【Configuration Case】

Case 1: Configure the LACP message sending mode of aggregation group 1 to fast.

```
OLT(config-link-aggregation-1)# lacp timeout fast

OLT(config-link-aggregation-1)#
```

7.1.3. link-aggregation group

Command Syntax	link-aggregation group <i>lagid</i> [workmode (lacp-static manual)] no link-aggregation group <i>lagid</i>
Applicable View	Config view
Function Description	The link-aggregation group <1-8> command is used to join an aggregation group. link-aggregation group <1-8> The workmode { lacp-static manual} command is used to create an aggregation group.

	no link-aggregation group <1-8> commands are used to delete an aggregation group.
<i>lagid</i>	Aggregation group ID , supports up to 8 aggregation groups
(lacp-static manual)	lacp-static sets the aggregation group to LACP mode, and manual sets the aggregation group to manual mode

【Configuration Case】

Case 1: Create a new LACP aggregation group 1.

```
OLT(config)# link-aggregation group 1 workmode lacp-static
OLT(config-link-aggregation-1)#
```

Case 2: Create a new manual aggregation group 4.

```
OLT(config)# link-aggregation group 4 workmode manual
OLT(config-link-aggregation-4)#
```

Case 3: Entering aggregation group 4 view.

```
OLT(config)# link-aggregation group 4
OLT(config-link-aggregation- 4 )#
```

Case 4: Deleting aggregation group 4.

```
OLT(config)# no link-aggregation group 4
This command will delete the lag group. Are you sure to execute this command? (
y/n):y
OLT(config)#
```

7.1.4. load-balance

Command Syntax	load-balance (dest-mac source-mac source-dest-mac dest-ip source-ip source-dest-ip)
Applicable View	link-aggregation view
Function Description	This command is used to set the sharing mode of known unicast data in the aggregation group.
(dest-mac source-mac source-dest-mac dest-ip source-ip source-dest-ip)	dest-ip: unicast load sharing based on destination ip dest-mac: load sharing by destination mac source-dest-ip: load sharing by source ip or destination ip source-dest-mac: Load sharing by source MAC or destination MAC source-ip: load sharing by source ip source-mac: Load sharing by source mac (system default mode)

【Configuration Case】

Case 1: Configure the known unicast sharing mode of aggregation group 1 to share the load based on the destination IP address.

```
OLT(config-link-aggregation-1)# load-balance dest-ip
```

```
OLT(config-link-aggregation-1)#
```

7.1.5. member add | delete

Command Syntax	member (add delete) eth F/S port-list
Applicable View	link-aggregation view
Function Description	The device supports a total of 8 aggregation groups. The member add command adds member ports under the aggregation group, and the member delete command deletes member ports under the corresponding aggregation group.
add delete	add: add an aggregation group member delete: delete an aggregation group member
eth	Aggregation group member port mode
F/S	Board number (e.g. 0/0)
port-list	Port number , in the format of 1,3-4,6

【 Configuration Case 】

Case 1: Add uplink port eth 3 to aggregation group 1.

```
OLT(config-link-aggregation-1)# member add eth 0/0 3
OLT(config-link-aggregation-1)#
```

Case 2: Remove uplink port eth 2 from aggregation group 1.

```
OLT(config-link-aggregation-1)# member delete eth 0/0 2
OLT(config-link-aggregation-1)#
```

7.1.6. port-priority

Command Syntax	port-priority eth F/S/P priority
Applicable View	link-aggregation view
Function Description	This command is used to set the priority of the aggregation group port.
eth	Aggregation group member port mode
F/S/P	Aggregation group port number
priority	The priority parameter range is <0-65535> , and the default value is 32768

【 Configuration Case 】

Case 1: Configure the priority of uplink port ETH1 to 6000.

```
OLT(config-link-aggregation-1)# port-priority eth 0/0/1 6000
```

```
OLT(config-link-aggregation-1)#
```

7.1.7. show link-aggregation all

Command Syntax	<code>show link-aggregation all</code>
Applicable View	config view
Function Description	This command is used to view information about all aggregation groups.

【Configuration Case】

Case 1: Check the status of all aggregation groups.

```
OLT(config)# show link-aggregation all
-----
System priority: 3000
-----
Lag Master Lag Load Link Port MaxSpeed RealSpeed
ID Port Mode Balance Status Num /Mbps /Mbps
-----
1 eth 0/0/1 STATIC dest-ip down 1 1000 1000
2 - MANUAL source-mac down 0 0 0
4 - MANUAL source-mac down 0 0 0
-----
OLT(config)#
```

7.1.8. show link-aggregation group

Command Syntax	<code>show link-aggregation group <i>lagid</i> [<i>verbose</i>]</code>
Applicable View	config view
Function Description	This command is used to view the information of the aggregation group.
<i>lagid</i>	Aggregation group ID, up to 8
[verbose]	Viewing detailed information about an aggregation group

【Configuration Case】

Case 1: View the information of aggregation group 1.

```
OLT(config)# show link-aggregation group 1
Link aggregation ID: 1
Lag Mode: STATIC
Master port: eth 0/0/1
Load balance mode: dest-ip
Link status: down
Lacp timeout mode: fast
```

```
Lacp system priority value: 3000
```

```
-----
Member-port  Priority  Selected/unselected  PortLink
-----
eth 0/0/1    100    selected           up
-----
```

```
OLT(config)#
```

Case 2: View detailed information of aggregation group 1.

```
OLT(config)# show link-aggregation group 1 verbose
```

```
Link aggregation ID: 1
```

```
Lag Mode: STATIC
```

```
Master port: eth 0/0/1
```

```
Load balance mode: dest-ip
```

```
Link status: down
```

```
Lacp timeout mode: fast
```

```
Lacp system priority value: 3000
```

```
-----
Member-port Priority Selected/unselected PortLink
-----
```

```
eth 0/0/1 100 selected up
-----
```

```
MaxSpeed(/Mbps): 1000 RealSpeed(/Mbps): 1000
-----
```

```
Vlan mode: Access Native-Vlan: 100
-----
```

```
Tag eth d-Vlan:
-----
```

```
untagethd-Vlan:
```

```
100
-----
```

```
OLT(config)#
```

8 Device Management

8.1 Device Configuration

8.1.1. end

Command Syntax	end
Applicable View	Other views except enable view
Function Description	exit directly to the enable view from any view except the enable view.

【Configuration Case】

Case 1: Exit from config view to view view.

OLT(config)# end
OLT #

8.1.2. exec-timeout

Command Syntax	exec-timeout <i>time</i> no exec-timeout
Applicable View	enable view ,config view
Function Description	The exec-timeout command is used to configure the user login timeout. If the user does not perform any operation on the device within the set time, the user will be automatically logged out. The default value is 300 seconds. no exec-timeout command is used to set the user login timeout to the default value.
<i>time</i>	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)#

8.1.3. ip address

Command Syntax	ip address <i>ip-address</i> (<i>ip-address-mask</i> <i>length of mask</i>) no ip address
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. no ip address command is used to cancel the IP address and subnet mask configured for the out-of-band management interface.
<i>ip-address</i>	IP address. IP addresses are divided into five categories. Users can choose the appropriate IP subnet according to actual conditions. When the host address part is all 0 or all 1, it has a special function and cannot be used as a general IP address.
<i>ip-address-mask</i>	Subnet mask. The format is XXXX
<i>length of mask</i>	Subnet mask length, value range is 0-32

【Configuration Case】

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

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

Case 2: Unconfigure the IP address of the OLT's out-of-band management interface.

```
OLT(config-interface-mgmt)# no ip address
OLT(config-interface-mgmt)#
```

8.1.4. logout

Command Syntax	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:
```

8.1.5. reboot

Command Syntax	reboot
Applicable View	view view , enable view , config view
Function Description	This command is used to restart the current system.

【Configuration Case】

Case 1: Restart the current system.

```
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):
```

8.1.6. show device

Command Syntax	show device
Applicable View	enable view ,config view
Function Description	This command is used to query the OLT model, MAC address, SN, and manufacturer name.

【Configuration Case】

Case 1: Check the device information of OLT.

```
OLT(config)# show device
Device name: TENDA
Device MAC address: E0:67:B3:21:10:09
Device serial-number: AF2101-160150001
Device vendor name: TES7008
Device csm: 0X000

admin's Device status:
Slot Type Status OnlineTime OfflineTime
-----
0 V1.0.0.1 Normal 2018-10-28 01:02:18 --

OLT(config)#
```

8.1.7. show exec-timeout

Command Syntax	show exec-timeout
Applicable View	enable view ,config view

Function Description	This command is used to view the user execution timeout.
-----------------------------	--

【Configuration Case】

Case 1: Check the user execution timeout.

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

OLT#
```

8.1.8. sysname

Command Syntax	sysname <i>name</i>
Applicable View	config view
Function Description	This command is used to configure the OLT name displayed in the OLT command line.
<i>name</i>	OLT network name, supports 1-16 characters.

【Configuration Case】

Case 1: Configure the OLT network name as test.

```
OLT(config)# sysname test

test(config)#
```

8.1.9. user login terminal-type

Command Syntax	user login terminal-type (<i>console telnet ssh</i>) authentication-method (<i>local aaa local-aaa</i>)
Applicable View	config view
Function Description	This command is used to configure terminal authentication mode control. The default authentication mode is local and aaa (local-aaa).
<i>console</i> <i>telnet</i> <i>ssh</i>	Console: Serial port connection authentication. Telnet: Telnet connection authentication. Ssh: ssh connection authentication
<i>local</i> <i>aaa</i> <i>local-aaa</i>	local: only supports local user authentication aaa: only supports aaa user authentication local-aaa: supports local user and aaa user authentication

【Configuration Case】

Case 1: Telnet connection only supports aaa user authentication login.

```
OLT(config)# user login terminal-type telnet authentication-method aaa
```

Case 2: SSH connection only supports local user authentication login.

```
OLT(config)# user login terminal-type ssh authentication-method local
```

8.2 Status Detection

8.2.1. fan speed mode

Command Syntax	fan speed mode (auto manual (level1 level2 level3 level4))
Applicable View	config view
Function Description	This command is used to configure the working mode of the OLT cooling fan.
auto manual	auto: Automatic mode manual: Manually configure the fan operation level
level1 level2 level3 level4	level1: speed level 1 level2: speed level 2 level3: speed level 3 level4: speed level 4

【Configuration Case】

Case 1: Configure the OLT cooling fan to operate in manual mode and set the speed level to level 2.

```
OLT (config) # fan speed mode manual level2
```

```
OLT (config) #
```

8.2.2. ntp-service

Command Syntax	ntp-service (server client)(enable disable)
Applicable View	Config view
Function Description	NTP client or server enable
(server client)	Client or server, client and server cannot be enabled at the same time
enable disable	Configure ntp client/server to enable or disable

【Configuration Case】

Case 1: Configure the client to start

```
OLT(config)#ntp-service client enable
```

```
OLT(config)#
```

8.2.3. ntp-service refclock-master

Command Syntax	<code>ntp-service refclock-master (server server-bak) A.B.C.D</code>
Applicable View	Config view
Function Description	The server IP configuration that the NTP client follows.
<code>(server server-bak)</code>	Ntp client follows server
<code>ABCD</code>	Ntp client follows the server's IP address

【Configuration Case】

Case 1: Configure the client to follow the server's IP address.

```
OLT(config)#ntp-service refclock-master server-bak 120.25.108.11
OLT(config)#ntp-service refclock-master server 182.92.12.11
OLT(config)#
```

8.2.4. ntp-service sync-interval

Command Syntax	<code>ntp-service sync-interval <180-600></code>
Applicable View	Config view
Function Description	Ntp client follows the server cycle configuration.
<code><180-600></code>	NTP client follows server period (default: 180).

【Configuration Case】

Case 1: Configure the NTP client to follow the server period of 300 seconds.

```
OLT(config)#ntp-service sync-interval 300
OLT(config)#
```

8.2.5. show cpu

Command Syntax	<code>show cpu [history (5sec 1min 5min)]</code>
Applicable View	config view
Function Description	This command is used to view the OLT CPU usage.

【Configuration Case】

Case 1: Checking the OLT CPU usage.

```
OLT(config)# show cpu
-----
```

```
Load Average age (5sec): 18.07%
Load Average age (1min): 17.93%
Load Average ( 5min): 17.99%
Load average age (15min): 17.87%
-----
OLT(config)#
```

Case 2: View OLT CPU usage in the past minute.

```
OLT(config)# show cpu history 1min
Load Average age 1min history:
-----
17.96% 17.85% 18.08% 17.83% 18.04% 17.96% 18.03% 17.55% 17.72% 17.77%
17.88% 17.76% 17.95% 17.74% 17.91% 18.01% 18.06% 17.92% 17.82% 17.75%
17.71% 18.01% 18.07% 17.88% 17.99% 17.95% 18.25% 17.57% 17.93% now
-----
OLT(config)#
```

8.2.6. show fan

Command Syntax	show fan
Applicable View	enable view ,config view
Function Description	This command is used to view the working status of the OLT cooling fan.

【Configuration Case】

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

```
OLT(config)# show fan
-----
Fan speed mode: auto
Fan speed level: 1
-----
FAN[1] status: Normal (7500RPM)
FAN[2] status: Normal (7380RPM)
-----
Fan speed level2:40.00(C)
Fan speed level3:50.00(C)
Fan speed level4:65.00(C)
-----
OLT(config)#
```

8.2.7. show flash

Command Syntax	show flash
-----------------------	-------------------

Applicable View	Config view
Function Description	View flash usage

【Configuration Case】

Case 1: Check flash usage.

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

```
-----
```

```
User Total memory: 832MB
```

```
User Free memory: 807MB
```

```
Utilization: 2.98%
```

```
-----
```

```
OLT(config)#
```

8.2.8. show memory

Command Syntax	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#
```

8.2.9. show ntp-service status

Command Syntax	show ntp-service status
Applicable View	Config view
Function Description	Ntp client follows ntp server

【Configuration Case】

Case 1: Check the client's status of following the ntp server.

```
OLT(config)# show ntp-service status
```

```
service server status: disable
```

```
service client status: disable
main server ip-address: 127.127.1.0
backup server ip-address: 127.127.1.1
clock status: unsynchronized
OLT(config)#
```

8.2.10. show temperature threshold

Command Syntax	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: Check the OLT system temperature threshold.

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

OLT(config)#
```

8.2.11. show time

Command Syntax	show time
Applicable View	enable view ,config view
Function Description	This command is used to view the OLT time.

【Configuration Case】

Case 1: Check the OLT time.

```
OLT(config)# show time
2018-10-28 18:49:01 +0800 GMT
OLT(config)#
```

8.2.12. show timezone

Command Syntax	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: Check the current time zone of the OLT system.

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

8.2.13. show uptime

Command Syntax	<code>show uptime</code>
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 time of the OLT.

```
OLT# show uptime
System up time: 0 day 17 hours 29 minutes 47 seconds
System boot time: Thu Sep 7 17:20:33 2017

OLT#
```

8.2.14. temperature threshold-high

Command Syntax	<code>temperature threshold-high value</code>
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 value is 80°C.
<i>value</i>	The temperature threshold of the OLT system ranges from 40 to 105 degrees Celsius.

【Configuration Case】

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

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

8.2.15. time

Command Syntax	<code>time time</code>
Applicable View	config view
Function Description	This command is used to configure the OLT time.

<i>time</i>	Time, format: YYYY/MM/DD-HH:MM:SS
-------------	-----------------------------------

【Configuration Case】

Case 1: Configure the OLT time.

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

8.2.16. time dst

Command Syntax	<i>time dst start <1-12> (1st 2nd 3rd 4th last) (sun mon tues wed thurs fri sat) HH:MM:SS end <1-12> (1st 2nd 3rd 4th last) (sun mon tues wed thurs fri sat) HH:MM:SS</i> <i>adjust HH:MM</i> <i>no time dst</i>
Applicable View	Config view
Function Description	Daylight Saving Time Configuration
<i><1-12></i>	Month when daylight saving time starts or ends
<i>(1st 2nd 3rd 4th last)</i>	Week of the month when daylight saving time starts or ends
<i>(sun mon tues wed thurs fri sat)</i>	The day of the week when daylight saving time starts or ends
<i>HH:MM:SS</i>	The time of day when daylight saving time starts or ends (default: <02:00:00>)
<i>adjust HH:MM</i>	Adjust time < 00:01-03:00 > (default: < 01:00 >)

【Configuration Case】

Case 1: Configure the start and end of daylight saving time and the adjustment time.

OLT(config)# time dst start 1 2nd wed 02:11:11 end 3 4th tues 01:22:22 adjust 00:34
OLT(config)#

8.2.17. time zone

Command Syntax	<i>timezone gmst+/gmst- timezone</i>
Applicable View	config view
Function Description	Set the system time zone to Eastern Time Zone or Western Time Zone. "GMT+" indicates Eastern Time Zone, that is, the local time is faster than

	Greenwich Mean Time, and "GMT-" indicates Western Time Zone, that is, the local time is slower than Greenwich Mean Time.
<i>timezone</i>	Time zone time, the format is hh:mm, the maximum value of the Eastern Time Zone is 18:00, and the maximum value of the Western Time Zone is 18:00.

【Configuration Case】

Case 1: Configuring the OLT system time zone.

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

OLT(config)#
```

8.3 Configuration Management

8.3.1. auto-backup configuration interval-time

Command Syntax	auto-backup configuration interval-time (enable <i>interval</i> disable)
Applicable View	config view
Function Description	This command is used to enable or disable automatic configuration upload to the server at periodic intervals.
<i>interval</i>	<1-14400> The interval is from 1 minute to 10 days. The unit is minutes

【Configuration Case】

Case 1: Turn on the time interval automatic configuration upload server switch and set the time interval to 1 minute.

```
OLT(config)# auto-backup configuration interval-time enable 1

OLT(config)#
```

8.3.2. auto-backup configuration absolute-time

Command Syntax	auto-backup configuration absolute-time (enable <HH:MM> disable)
Applicable View	config view
Function Description	This command is used to automatically configure the upload server switch at absolute time.
<HH:MM>	Set the backup time in the format of <hours:minutes>

【Configuration Case】

Case 1: Turn on the absolute time automatic configuration upload server switch and set the time to 08:09.

```
OLT(config)# auto-backup configuration absolute-time enable 08: 09

OLT(config)#
```

8.3.3. auto-backup configuration ftp

Command Syntax	auto-backup configuration ftp <i>ftp-server-ip-address user-name user-password file-name</i>
Applicable View	config view
Function Description	This command is used to automatically configure the upload server ftp mode settings.
<i>ftp-server-ip-address</i>	The IP address of the FTP server.
<i>user-name</i>	ftp login username.
<i>user-password</i>	FTP login password.
<i>file-name</i>	Configure the file name for saving

【Configuration Case】

Case 1: Automatically upload the configuration to the ftp server. The ftp server IP address is: 192.168.1.223, the user name is admin, the password is admin, and the file name is logback.

```
OLT(config)# auto-backup configuration ftp 192.168.1.223 admin admin logback
OLT(config)#
```

8.3.4. auto-backup configuration tftp

Command Syntax	auto-backup configuration tftp <i>tftp-server-ip-address file-name</i>
Applicable View	config view
Function Description	This command is used to automatically configure the upload server ftp mode settings.
<i>tftp-server-ip-address</i>	The IP address of the ftp server.
<i>file-name</i>	Configure the file name for saving

【Configuration Case】

Case 1: Automatically configure and upload to the tftp server. The ftp server IP address is: 192.168.1.223, and the file name is logback.

```
OLT(config)# auto-backup configuration tftp 192.168.1.223 logback
OLT(config)#
```

8.3.5. auto-save configuration absolute-time

Command Syntax	auto-save configuration absolute-time (enable <HH:MM> disable)
Applicable View	config view

Function Description	This command is used to switch automatic saving at an absolute time.
<HH:MM>	Set the backup time in the format of <hours:minutes>

【Configuration Case】

Case 1: Turn on the absolute time automatic save switch and set the time to 08:09.

```
OLT(config)# auto- save absolute-time enable 08: 09
OLT(config)#
```

8.3.6. auto-save configuration interval-time

Command Syntax	auto-save configuration interval-time (enable <i>interval</i> disable)
Applicable View	config view
Function Description	This command is used to switch the automatic save function at periodic intervals.
<i>interval</i>	<1-14400> The interval is from 1 minute to 10 days. The unit is minutes

【Configuration Case】

Case 1: Turn on the time interval automatic save switch and set the time interval to 1 minute.

```
OLT(config)# auto- save interval-time enable 1
OLT(config)#
```

8.3.7. backup save-config format ftp

Command Syntax	backup save-config format (gz txt) ftp <i>server-ip-address</i> <i>user-name</i> <i>user-password</i> <i>filename</i>
Applicable View	enable view ,config view
Function Description	This command is used to back up the OLT configuration to the FTP server.
Format (gz txt)	Backup configuration file formats: gz and txt
<i>server-ip-address</i>	FTP server IP address
<i>user-name</i>	FTP Username
<i>user-password</i>	ftp user password
<i>filename</i>	The name of the backup configuration file. You can set the name yourself. No file format name is required.

【Configuration Case】

Case 1: Back up the device configuration file. 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 admin, and the password is admin.

```
OLT(config)# backup save-config format gz ftp 192.168.1.16 admin admin config
```

```
Start backup configuration files
The backup is successful

OLT(config)#
```

8.3.8. backup save-config format tftp

Command Syntax	backup save-config format (gz txt) tftp server-ip-address filename
Applicable View	enable view ,config view
Function Description	This command is used to back up the OLT configuration to the tftp server.
<i>server-ip-address</i>	TFTP server IP address
<i>filename</i>	The name of the backup configuration file. You can set the name yourself. No file format name is required.
Format (gz txt)	Backup configuration file formats: gz and txt

【Configuration Case】

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

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

OLT#
```

8.3.9. erase saved-config

Command Syntax	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 be restored to factory settings.

【Configuration Case】

Case 1: Delete configuration save file.

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

Successfully restored factory configuration!

8.3.10. load saved-config ftp

Command Syntax	load saved-config (gz txt) ftp server-ip-address user-name user-password filename
Applicable View	enable view ,config view
Function Description	This command is used to download the OLT configuration file from the FTP server.
gz txt	gz: File compressed using gzip txt: text file
server-ip-address	FTP server IP address
user-name	FTP Username
user-password	ftp user password
filename	The name of the backup configuration file. You can set the name yourself. No file format name is required.

【Configuration Case】

Case 1: Download the device configuration file from the server. 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 admin, and the password is admin.

```
OLT(config)# load saved-config ftp 192.168.1.16 admin admin config
OLT(config)#
```

8.3.11. load saved-config tftp

Command Syntax	load saved-config tftp server-ip-address filename
Applicable View	enable view ,config view
Function Description	This command is used to download the OLT configuration file from the tftp server.
server-ip-address	TFTP server IP address
filename	The name of the backup configuration file. You can set the name yourself. No file format name is required.

【Configuration Case】

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

```
OLT# load saved-config tftp 192.168.5.202 config
OLT#
```

8.3.12. save

Command Syntax	<code>save</code>
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 OLT.

```
OLT(config)#save
Backup old configuration succeed.
Current configuration saved.
OLT(config)#
```

8.3.13. show auto-save configuration config

Command Syntax	<code>show auto-save configuration config</code>
Applicable View	config view
Function Description	This command is used to view the auto-save configuration.

【Configuration Case】

Case 1: Check the auto-save configuration.

```
OLT(config)# show auto-save configuration config
System autosave interval switch: off
Autosave interval: 86400 minutes
System autosave time switch: off
Autosave time: 00:00
OLT(config)#
```

8.3.14. show auto-backup configuration config

Command Syntax	<code>show auto-backup configuration config</code>
Applicable View	config view
Function Description	This command is used to view the automatic upload configuration.

【Configuration Case】

Case 1: Check the automatic upload configuration settings.

```
OLT(config)# show auto-backup configuration config
auto-backup log ProtocolType: tftp
auto-backup log ip Server: 0:0:0:0
```

```
auto-backup log filename:
auto-backup log interval switch: off
auto-backup log interval: 86400 minutes
auto-backup log absolute time switch: off
auto-backup log absolute time: 00:00
OLT(config)#
```

8.3.15. show current-config

Command Syntax	<code>show current-config [(include exclude) CMDSTR]</code>
Applicable View	enable view ,config view
Function Description	show current-config is used to view the real-time configuration file. When the user completes a set of configurations and needs to verify whether the configurations are correct, and needs to query the currently effective configuration commands, use this command. show current-config (include exclude) CMDSTR is used to filter the real-time configuration file using keywords and display it. This command is used when the user needs to use keywords to query a certain configuration.
(include exclude)	include means include, exclude means exclude
CMDSTR	Filter keywords

【Configuration Case】

Case 1: View the current real-time configuration file of 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 eth 0|0
spanning-tree edged -port 1 enable
spanning-tree priority 1 16
spanning-tree cost 1 1600
spanning-tree mcheck 1 enable
exit
```

Case 2:View the real-time configuration of GPON in the current command line of OLT.

```
OLT# show current-config include gpon
ont-line-profile gpon profile-id 0 profile-name line-profile_0
ont-line-profile gpon profile-id 1 profile-name line-profile_1
ont-line-profile gpon profile-id 128 profile-name line-profile_128
ont-srv-profile gpon profile-id 0 profile-name srv-profile_0
ont-type-profile gpon profile-id 1 profile-name 1ETH_2IP
ont-type-profile gpon profile-id 2 profile-name 4ETH_2IP
ont-type-profile gpon profile-id 3 profile-name 4ETH_1TV_2IP
ont-type-profile gpon profile-id 4 profile-name 4ETH_1TV_2POTS_2IP
interface gpon 0/1
service-port 2 vlan 1000 gpon 0/1 port 4 ont 3 gemport 1 multi-service user-vlan 1000 tag-
action transparent
service-port autoconfig vlan 1 gpon 0/1 port 1 gemport 1 multi-service user-vlan 1 tag-
action transparent
service-port autoconfig vlan 1 gpon 0/1 port 2 gemport 1 multi-service user-vlan 1 tag-
action transparent
service-port autoconfig vlan 1 gpon 0/1 port 3 gemport 1 multi-service user-vlan 1 tag-
action transparent
service-port autoconfig vlan 1 gpon 0/1 port 4 gemport 1 multi-service user-vlan 1 tag-
action transparent
service-port autoconfig vlan 1 gpon 0/1 port 5 gemport 1 multi-service user-vlan 1 tag-
action transparent
service-port autoconfig vlan 1 gpon 0/1 port 6 gemport 1 multi-service user-vlan 1 tag-
action transparent
service-port autoconfig vlan 1 gpon 0/1 port 7 gemport 1 multi-service user-vlan 1 tag-
action transparent
service-port autoconfig vlan 1 gpon 0/1 port 8 gemport 1 multi-service user-vlan 1 tag-
action transparent
OLT#
```

8.3.16. show current-config section

Command Syntax	show current-config section (eth gpon) (F/S/P all) show current-config section ont F/S PORTID <1-128>
Applicable View	enable view,config view
Function Description	show current-config section (eth gpon) (F/S/P all)Used to view real-time configuration of ports. show current-config section ont F/S PORTID <1-128> is used to view the real-time configuration of a certain ONU.
(eth gpon)	Query port type
F/S/P	Port number (for example, 0/0/1)
all	Query all port configurations under the board

<i>F/S</i>	Board number (e.g. 0/0)
<i>PORTID</i>	Port ID
<i><1-128></i>	Board number (e.g. 0/0)

【Configuration Case】

Case 1: View the current real-time configuration of port 0/0/1 of OLT gpon.

```
OLT(config)# show current-config section gpon 0/1 /1
ont authmode 1 auto
ont policy-auth 1 match any sn-auth to mult-srv-profile profile-name default-mult-srv-
profile priority 0
OLT(config)#
```

Case 2: View the current real-time configuration of ONU with ID 5 on port 5 of gpon 0/1 on the OLT.

```
OLT(config)# show current-config section ont 0/0 5 5
ont add 5 5 sn-auth "RTKG1111111" mult-srv-profile profile-id 0
OLT(config)#
```

8.3.17. show saved-config

Command Syntax	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 OLT configuration save file.

```
OLT(config)# show saved-config
!
sysname OLT
!
!
!
!
dba-profile profile-id 0 profile-name dba-profile_0
type1 fix 256
commit
exit
dba-profile profile-id 1 profile-name dba-profile_1
type4 max 1024000
commit
exit
dba-profile profile-id 2 profile-name dba-profile_2
type2 ensure 2048
```

```

commit
exit
dba-profile profile-id 3 profile-name dba-profile_3
type2 assure 20480
commit
exit
dba-profile profile-id 4 profile-name dba-profile_4
Type3 ensure 30720 max 102400
--More ( Press 'Q' to quit )--

```

8.4 OLT Upgrade

8.4.1. firmware switch

Command Syntax	firmware switch
Applicable View	enable view ,config view
Function Description	This command is used to switch the system firmware.

【Configuration Case】

Case 1: Check the device version information.

```

OLT(config)# firmware switch
This command will switch the firmware
Please reboot the device to switch to the new firmware
Are you sure to continue? (y/n):
OLT(config)#

```

8.4.2. flash file cp

Command Syntax	flash file cp <i>OLD-FILE-NAME NEW-FILE-NAME</i>
Applicable View	config view
Function Description	This command is used to copy the OLT upgrade file uploaded to the OLT.
<i>OLD-FILE-NAME</i>	The original name of the copied OLT upgrade file, character length is 1-64
<i>NEW-FILE-NAME</i>	The new name of the copied OLT upgrade file, character length is 1-64

【Configuration Case】

Case 1: Copy the uploaded OLT upgrade file.

```

OLT(config)#flash file cp V1.0.5_190701.img test.img

```

8.4.3. flash file delete

Command Syntax	flash file delete [<i>FILE-NAME</i>]
Applicable View	config view
Function Description	This command is used to delete the OLT upgrade file uploaded to the OLT.
<i>FILE-NAME</i>	The name of the deleted OLT upgrade file, character length is 1-64

【Configuration Case】

Case 1: Deleting the uploaded OLT upgrade file.

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

8.4.4. flash file mv

Command Syntax	flash file mv <i>OLD-FILE-NAME NEW-FILE-NAME</i>
Applicable View	config view
Function Description	This command is used to move the OLT upgrade file uploaded to the OLT.
<i>OLD-FILE-NAME</i>	The original name of the mobile OLT upgrade file, character length is 1-64
<i>NEW-FILE-NAME</i>	The new name of the mobile OLT upgrade file, character length is 1-64

【Configuration Case】

Case 1: Deleting the uploaded OLT upgrade file.

```
OLT(config)# flash file mv V1.0.5_190701.img test.img
```

8.4.5. load file to flash

Command Syntax	load file [to flash] (ftp <i>ip-address FTP-user-name FTP-user-password FILE-NAME></i>) tftp <i>ip-address FILE-NAME</i>)
Applicable View	config view
Function Description	This command is used to transfer the upgrade file of OLT to OLT.
ftp	Use FTP protocol to transfer OLT upgrade files to OLT
<i>ip-address</i>	The IP address of the ftp or tftp server, in the format XXXX
<i>FTP - user - name</i>	FTP server access user name, the value range is 1-32 characters

<i>FTP - user - password</i>	FTP server access password, the value range is 1-32 characters
<i>FILE-NAME</i>	The upgrade file name of OLT. The value range is 1-64 characters. The extension of OLT upgrade file is required.
tftp	Use the tftp protocol to transfer the OLT upgrade file to the OLT

【Configuration Case】

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

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

8.4.6. load packetfile ftp

Command Syntax	load packetfile ftp <i>ftp-server-ip user-name user-password file-name</i>
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.
<i>ftp-server-ip</i>	The IP address of the FTP server
<i>user-name</i>	User name set on the FTP server
<i>user-password</i>	Password set on the FTP server
<i>file-name</i>	Name of the OLT software to be downloaded

【Configuration Case】

Case 1: Upgrade the OLT application program. 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 admin, and the password is admin. When 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
```

8.4.7. load packetfile tftp

Command Syntax	load packetfile tftp <i>tftp-server-ip file-name</i>
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.
<i>tftp-server-ip</i>	IP address of the TFTP server
<i>file-name</i>	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. When 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
```

8.4.8. show firmware info

Command Syntax	show firmware info
Applicable View	enable view ,config view
Function Description	This command is used to view OLT software information.

【Configuration Case】

Case 1: Check the device version information.

```
OLT(config)# show firmware info
firmware1 status : 0
firmware1 version : 2.1.1
firmware1 date : 22-05-12 15:26:15
firmware1 size : 34157988

firmware2 status : 0
firmware2 version : 2.0.4
firmware2 build date: 22-06-28 05:18:37
firmware2 size : 38856932

boot selection : firmware2
OLT(config)#
```

8.4.9. show flash file

Command Syntax	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

8.5 USB Function

8.5.1. show usb file

Command Syntax	show usb file <i>{file-name}</i>
Applicable View	config view
Function Description	This command is used to view the contents of the USB file.
<i>file-name</i>	The USB file name to view

【Configuration Case】

Case 1: This command line user views all file contents of the USB.

OLT(config)# show usb file

file list:
File Name Size(B) Creation Time Attribute

System Volume Information 16384 2023/09/20 18:08:37 drwx
log.tar.gz 62676 2000/01/01 03:07:43 -rwx
test.txt 152 2023/09/20 19:47:00 -rwx
config.txt 5504 2000/01/01 03:08:30 -rwx
AX1700_B1_Image_V3.0.0_231023_3048_X000.img 40460972 2000/01/01 01:46:24 -
rwx
config.tar.gz 1381 2000/01/01 03:11:06 -rwx

Files Total: 6

OLT(config)#

8.5.2. usb file delete

Command Syntax	usb file delete <i>{file-name}</i>
Applicable View	config view
Function Description	This command is used to delete the USB file content.
<i>file-name</i>	The name of the USB file to be deleted

【Configuration Case】

Case 1: This command line user deletes the usb config.txt file.

```
OLT(config)# usb file delete config.txt
```

```
-----
Delete config.txt successfully!
-----
```

```
OLT(config)#
```

8.5.3. load packetfile usb

Command Syntax	load packetfile usb <i>{file-name}</i>
Applicable View	config view
Function Description	This command uses the image in the USB file to upgrade.
<i>file-name</i>	Upgrade image file name

【Configuration Case】

Case 1: Upgrade the device using AX1700-B1_Image_V3.0.0-231023_3048_X000.img from the USB file.

```
OLT(config)# load packetfile usb AX1700_B1_Image_V3.0.0_231023_3048_X000.img
```

Load packetfile begins, please wait and notice the rate of progress

Any operation such as reboot or switchover will cause failure and unpredictable result

The loading starts

The upgrading starts

The percentage of file [AX1700_B1_Image_V3.0.0_231023_3048_X000.img] upgrade is:

Update Failed!

Reason: Unknown

```
OLT(config)#
```

8.5.4. load saved-config usb

Command Syntax	load saved-config (gz txt) usb {file-name}
Applicable View	config view
Function Description	This command is used to load the configuration file in the USB file.
gz txt	gz: File compressed using gzip txt: text file
<i>file-name</i>	The name of the configuration file to load

【Configuration Case】

Case 1: Load the device configuration file config.tar.gz in the USB file.

```
OLT(config)# load saved-config gz usb config.tar.gz
The loading is failed!
OLT(config)#
```

8.5.5. backup saved-config usb

Command Syntax	backup saved-config (gz txt) usb {file-name}
Applicable View	config view
Function Description	This command is used to upload the configuration file to USB.
gz txt	gz: File compressed using gzip txt: text file
<i>file-name</i>	Configuration file name

【Configuration Case】

Case 1: Used to upload the configuration file named config to USB, the format is txt.

```
OLT(config)# backup saved-config format txt usb config
Start backup configuration files
The backup is successful
OLT(config)#
```

8.5.6. backup log usb

Command Syntax	backup log usb {file-name}
Applicable View	config view
Function Description	This command is used to upload the log file to USB.

<i>file-name</i>	Log file name
------------------	---------------

【Configuration Case】

Case 1: Used to upload the log file name log to USB.

```
OLT(config)# backup log usb log
Start backup log files
The backup is successful
OLT(config)#
```

8.5.7. load file to flash usb

Command Syntax	load file to flash usb {file-name}
Applicable View	config view
Function Description	This command is used to transfer the USB file to the device flash.
<i>file-name</i>	The name of the file to transfer

【Configuration Case】

Case 1: Transfer config.txt from USB to device flash.

```
OLT(config)# load file to flash usb config.txt
The load is successful
OLT(config)# show flash file
-----
file list:
File Name Size(B) Creation Time Attribute
-----
config.txt 5416 2001/05/29 19:26:18 -rwx
img.tar 7884800 2001/04/01 18:42:37 -rw-
-----
Files Total: 2
-----
OLT(config)#
```

9 Multicast Configuration Management

9.1 OLT multicast configuration management

9.1.1. igmp fast-leave

Command Syntax	igmp fast-leave (enable disable)
Applicable View	config view
Function Description	igmp fast-leave disable: Disable the igmp-snooping fast leave function. After disabling the igmp-snooping fast leave function, after the ONT receives the user's multicast leave message, it needs to send a specific group query to confirm the user's online status. If the specific group query cycle times out and still does not receive the user's report message, it is considered that the user is offline and the local multicast table entry is updated. Use this parameter when the user does not need to switch channels at a faster speed. igmp fast-leave enable: Enable the igmp-snooping fast leave function. After the igmp-snooping fast leave function is enabled, the ONT will immediately update the local multicast table according to the multicast leave message after receiving it, without sending a specific group query message to confirm whether the user is actually offline. This parameter is used when the user needs to switch channels at a faster speed.
enable disable	disable: Disable the OLT's igmp fast leave function. enable: Enable the OLT's igmp fast leave function.

【Configuration Case】

Case 1: Enable the OLT's igmp fast leave function.

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

9.1.2. igmp general-query-interval

Command Syntax	igmp general -query-interval interval
Applicable View	configuration view
Function Description	This command is used to set the general group query interval. The system sends a general group query for all programs to confirm whether the user is watching a certain program. If the system does not receive the user's report message, it is considered that the user is not watching the program and will not send the program stream. This avoids wasting

	bandwidth when the user does not watch the program but still receives the multicast stream.
<i>interval</i>	Query interval, the value range is 2-3000, and the default value is 125.

【Configuration Case】

Case 1: Configuring the IGMP General Group Query Interval.

```
OLT(config)#igmp general -query-interval 200
OLT(config)#
```

9.1.3. igmp general -query-response

Command Syntax	igmp general -query-response <i>max-response</i>
Applicable View	configuration view
Function Description	This command is used to set the maximum response time for general group queries.
<i>max-response</i>	Maximum query response time. The value range is 1-25 and the default value is 10.

【Configuration Case】

Case 1: Configure the IGMP maximum response time to 20.

```
OLT(config)#igmp general -query-response 20
OLT(config)#
```

9.1.4. igmp mode

Command Syntax	igmp mode (proxy snooping disable)
Applicable View	config view
Function Description	This command is used to configure the IGMP mode.
<i>proxy snooping disable</i>	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 snooping IGMP messages communicated between users and multicast routers. The system does not process multicast messages belonging to this multicast VLAN and only transmits them transparently. proxy: Set the IGMP mode of the multicast VLAN to IGMP proxy. IGMP proxy is a multicast proxy. IGMP proxy intercepts IGMP messages between users and multicast routers, processes them, and then forwards them to the upper-layer multicast router. From the user's perspective,

	the system is equivalent to a multicast server; from the upper-layer device's perspective, the system is equivalent to a multicast user. IGMP proxy mode reduces the multicast protocol message traffic on the network side. disable: Set the IGMP mode of the multicast VLAN to IGMP disable.
--	---

【Configuration Case】

Case 1: Configure the IGMP mode in the ONT multicast profile to proxy.

```
OLT( config )#igmp mode proxy

OLT( config )#
```

9.1.5. igmp multicast-unknown

Command Syntax	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 service flows. If the service flow carries unknown multicast for a specific purpose, it is configured to be transparent. Unknown multicast without a special purpose will occupy bandwidth and is generally configured to be discarded.
discard transparent	discard: The system discards received unknown multicast service flows. transparent: The system transparently transmits the received unknown multicast service flows.

【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)#
```

9.1.6. igmp policy

Command Syntax	igmp policy (discard pass)
Applicable View	config view
Function Description	This command is used to configure the forwarding policy for multicast protocol packets.
discard pass	discard: discards multicast protocol packets. pass: Set the multicast protocol message to transparent transmission mode.

【Configuration Case】

Case 1: Set unknown multicast protocol packets to be discarded.

```
OLT(config)#igmp policy discard
```

```
OLT(config)#
```

9.1.7. igmp program add

Command Syntax	igmp program add program-index (<i>Program-index</i> autoindex) batch-ip <i>ip-addr ip-addr</i> igmp program add program-index <i>Program-index</i> ip <i>ip-addr</i>
Applicable View	multicast-vlan view
Function Description	This command is used to batch add static multicast programs in 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 only authorized users can watch or preview it. Specifies the program in the multicast VLAN.
<i>Program-index</i>	Multicast program index <1-2000>
autoindex	Automatically select program index
<i>ip-addr</i>	Respectively represent the starting and ending multicast IP addresses, forming a multicast range

【Configuration Case】

Case 1: Configure static multicast programs from 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)#
```

9.1.8. igmp program delete

Command Syntax	igmp program delete (all <i>PROGRAM-LIST</i>)
Applicable View	multicast-vlan view
Function Description	This command is used to delete a multicast program. When you no longer want multicast users to be able to watch a multicast program, use this command to delete the multicast program from the program library. After deleting it from the program library, users will no longer be able to watch the program on demand.
<i>PROGRAM-LIST</i>	Multicast program list
all	All multicast programs

【Configuration Case】

Case 1: Deleting static multicast program index 2.

```
OLT(config-multicast-vlan-100)#igmp program delete program-index 2

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

9.1.9. igmp querier

Command Syntax	igmp querier (enable disable)
Applicable View	config view
Function Description	Enable/disable igmp querier
enable/disable	disable: disables the igmp querier function. enable: Enables the igmp querier function.

【Configuration Case】

Case 1: Enable the igmp querier feature.

```
OLT(config)#igmp query enable
OLT (config) #
```

9.1.10. igmp robustness

Command Syntax	igmp robustness robustness
Applicable View	config view
Function Description	This 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 changes in the stability of the network. After setting, the system uses the robustness coefficient to confirm the aging time of multicast users. The robustness coefficient is a coefficient set to enhance the robustness of the system. It directly affects the aging time of multicast users and the number of times general group query messages are sent. If a subnet may lose packets, the robustness coefficient should be increased to ensure the stability of multicast users.
robustness	Robustness coefficient, the value range is 0-255 , the default value is 0.

【Configuration Case】

Case 1: Configure the IGMP robustness factor to 2.

```
OLT( config )# igmp robustness 2

OLT( config )#
```

9.1.11. igmp router-port

Command Syntax	igmp router-port (eth lag) F/S/P
Applicable View	multicast-vlan view
Function Description	This command is used to configure the igmp routing port.
eth lag	eth: Uplink port, the value range is 0/0/1-4 lag: aggregation group
F/S/P	Port number (for example, 0/0/1)

【Configuration Case】

Case 1: Configure ETH1 port as a routing port.

```
OLT(config-multicast-vlan-100)#igmp router-port eth 0/0/1
```

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

9.1.12. igmp source-ip

Command Syntax	igmp source-ip ip-addr
Applicable View	configuration view
Function Description	This command is used to set the source IP of IGMP messages.
ip-addr	IP address, the format is ABCD, the IP address must be a unicast address

【Configuration Case】

Case 1: Configure the IGMP message source IP to 192.168.24.59.

```
OLT(config)# igmp source-ip 192.168.24.59
```

```
OLT(config)#
```

9.1.13. igmp special-query-count

Command Syntax	igmp special-query-count max-count
Applicable View	configuration view
Function Description	This command is used to set a specific group query keyword.
max-count	Query keyword , the value range is 1-10 , the default value is 2.

【Configuration Case】

Case 1: Configure the IGMP maximum response time to 3.

```
OLT(config)#igmp special-query-count 3
```

```
OLT(config)#
```

9.1.14. igmp special-query-interval

Command Syntax	igmp special-query-interval <i>special -query-interval -value</i>
Applicable View	config view
Function Description	This command is used to set the interval for sending IGMP specific group query messages in the ONT multicast profile.
<i>special -query-interval -value</i>	The interval for sending query messages for a specific group. The value range is: 100-10000. The default value is 10 S.

【Configuration Case】

Case 1: Configure the interval for sending IGMP group-specific query messages in the ONT multicast template to 12.

```
OLT(config)#igmp special-query-interval 12
OLT(config)#
```

9.1.15. igmp special-query-response

Command Syntax	igmp special-query-response <i>max-response</i>
Applicable View	configuration view
Function Description	This command is used to set the maximum response time for a specific group query.
<i>max-response</i>	The maximum query response time ranges from 100 to 10000, and the default value is 10.

【Configuration Case】

Case 1: Configure the IGMP maximum response time to 20.

```
OLT(config)#igmp special-query-response 20
OLT(config)#
```

9.1.16. igmp static-group

Command Syntax	igmp static-group ip <i>IP-address vlan VLAN-ID port/(gpon eth) F/S port-list lag lag-id</i> no igmp static-group (ip <i>IP - address vlan VLAN - ID port (gpon eth) F/S port -list port lag lag-id)</i>
Applicable View	config view

Function Description	Configure igmp static table
<i>IP - address</i>	Static multicast IP address, format: ABCD
<i>VLAN - ID</i>	VLAN of the static entry, the value range is <1-4094>
gpon eth	gpon: PON port, the value range is 0/0/1-16 eth: Uplink port, the value range is 0/0/1-4
<i>F/S</i>	FrameID/SlotID , <0-0>/<0-0>
<i>port -list</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1.
<i>lag-id</i>	The aggregation group ID to be configured, the value range is 1-8

【Configuration Case】

Case 1: Configure igmp static group rules for port eth0/0/1.

```
OLT(config)# igmp static-group ip 224.1.1.1 vlan 100 port eth 0/0 1
OLT(config)#
```

9.1.17. multicast-vlan

Command Syntax	multicast-vlan <i>vlan-id</i>
Applicable View	config view
Function Description	This command is used to create a multicast VLAN and enter the multicast VLAN mode. The no command is used to delete it. Multicast VLAN is an application mode of VLAN. In the multicast VLAN mode, users can configure multicast-related parameters.
<i>vlan-id</i>	Multicast VLAN ID. The ID can be used to create a multicast VLAN only after the corresponding VLAN is created.

【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)#
```

9.1.18. reset igmp

Command Syntax	reset igmp group port lag (port (gpon eth) F/S port -list port lag lag-id)
Applicable View	config view

Function Description	Reset igmp static group
<i>lag-id</i>	The aggregation group ID to be configured, the value range is 1-8
gpon eth	gpon: PON port, the value range is 0/0/1-16 eth: Uplink port, the value range is 0/0/1-4
<i>F/S</i>	FrameID/SlotID , <0-0>/<0-0>
<i>port -list</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1.
<i>lag-id</i>	The aggregation group ID to be configured, the value range is 1-8

【Configuration Case】

Case 1: Reset the igmp static rules of aggregation group 1.

```
OLT(config)# reset igmp group port lag 1
OLT(config)#
```

9.1.19. show igmp group

Command Syntax	show igmp group (all ip IP - address vlan vlan -id)
Applicable View	config view
Function Description	This command is used to view the multicast table entries.
all	all: View all multicast entries
<i>IP-address</i>	IP-address: View the multicast table entry of the specified channel IP.
<i>vlan-id</i>	vlan-id: View the multicast table 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)#
```

9.1.20. show multicast-vlan

Command Syntax	show multicast-vlan (vlan-id all)
Applicable View	Config view
Function Description	This command is used to view information about multicast members, multicast programs, and unknown multicast processing policies.
<i>vlan-id</i>	vlan-id: multicast vlan id used for query.

all	all: all VLANs
-----	----------------

【Configuration Case】

Case 1: Check the information of multicast VLAN 100.

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

OLT(config)#
```

10 QOS Configuration Management

10.1 Traffic management based on ACL rules

10.1.1. packet-filter

Command Syntax	<code>packet-filter [clear-counters] (inbound outbound) (acl aclv6) <2000-5999> [rule-id rule-id] port eth F/S port-list [counting]</code> <code>no packet-filter (inbound outbound) (acl aclv6) <2000-5999> [rule-id rule-id] port eth F/S port-list</code>
Applicable View	config view
Function Description	The packet-filter command is used to configure ACL filtering rules for a specified port and make them effective. This command is used when you need to use ACL rules to filter port traffic. The no packet-filter command is used to cancel the ACL filtering rules of the specified port. Use this command when you need to delete the ACL filtering rules of the specified port.
inbound outbound	inbound: inbound traffic outbound: outbound traffic
<2000-5999>	ACL id , value range 2000-5999
rule-id	Rule ID in the ACL
clear-counters	Clear counter
acl aclv6	acl: Access Control List (IPv4) aclv6: access control list (ipv6)
F/S	Slot number to be configured
port-list	List of ports to be configured, in the format of 1-2, 3:2, 4:1.
counting	Used to increase traffic statistics function

【Configuration Case】

Case 1: Configure ACL filtering rule numbered 2000 for the inbound direction of port 1 of eth.

```
OLT(config)# packet-filter inbound acl 2000 port eth 0/0 1
```

```
OLT(config)#
```

10.1.2. show traffic

Command Syntax	<code>show (traffic traffic-remark traffic-limit traffic-mirror traffic-vlanmap traffic-redirect)(all port eth port-list)</code>
Applicable View	config view

Function Description	This command is used to view the QOS policy of the device port.
traffic traffic-remark traffic-limit traffic-mirror traffic-vlanmap traffic-redirect	Traffic: It is used in QoS configuration to distinguish different data flows. In the configuration, you can set different QoS parameters, such as traffic limit, priority, etc., to achieve the division and management of different data flows. traffic-rark: is an ACL-based operation used to re-mark the traffic passing through the interface. The re-marking operation can classify, prioritize or mark different service types of traffic as required. traffic-limit: is a configuration command for limiting traffic. In network devices, the traffic-limit command can be used to limit the traffic on the interface based on the ACL (Access Control List). With the traffic-limit command, you can set specific ACL matching rules and then limit the speed of the matching traffic. traffic-mirror: is used to configure traffic mirroring. traffic-vlanmap: is a function used to map one VLAN to another VLAN or multiple VLANs. You can use the traffic-vlanmap command to configure VLAN mapping on the switch. The traffic-vlanmap command only applies to inbound traffic and cannot implement VLAN mapping in the outbound direction. traffic-redirect: ACL for traffic redirection configuration.
<i>port-list</i>	The port list to be viewed is in the format of F/S/P.

【Configuration Case】

Case 1: View all QOS policies of the ETH1 port

<pre>OLT(config)# show traffic all ----- traffic-limit on gpon 0/1/1: Inbound: Matches: acl 2000 running Taretht rate: cir 1024(kbps) pir 1024(kbps) Burst size: cbs 10240(byte) pbs 10240(byte) Exceed(red): Drop packets ----- OLT(config)#</pre>

10.1.3. show packet-filter

Command Syntax	show packet-filter (all port eth port - list)
Applicable View	config view
Function Description	This command is used to view the policy applied to the device port.
all port	all: all filtering strategies port: a port filtering policy

<i>port-list</i>	List of ports to be configured, in the format of F/S/P.
------------------	---

【Configuration Case】

Case 1: View all filtering policies for device applications.

OLT(config)# show packet-filter all

inbound acl 2000 port eth 0/0 1 running

OLT(config)#

10.1.4. traffic-limit

Command Syntax	traffic-limit (inbound outbound) (acl aclv6) acl-id [rule-id rule-id] port eth F/S port-list cir rate-value pir rate-value exceed (yellow red) (drop remark-dscp) no traffic-limit (inbound outbound) (acl aclv6) acl-id [rule-id rule-id] port eth F/S port-list
Applicable View	config view
Function Description	The traffic-limit command is used to configure ACL for the specified port to limit traffic and make it effective. This command is used when you need to use ACL rules to limit the port speed. The no traffic-limit command is used to cancel the ACL traffic limit of the specified port. Use this command when you need to delete the ACL rate limit function of the specified port.
(inbound outbound)	inbound: inbound traffic outbound: outbound traffic
<i>acl-id</i>	ACL ID
<i>rule-id</i>	Rule ID in the ACL
F/S	Slot number to be configured
<i>port-list</i>	List of ports to be configured
cir	Configure guaranteed bandwidth. The value range is 64-1024000 , in kbps.
pir	Configure the best-effort bandwidth. The value range is 64-102400 , in kbps.
(yellow red)	yellow: Limit traffic that exceeds the specified best-effort bandwidth red: Limit the traffic that exceeds the specified guaranteed bandwidth

(drop remark-dscp)	drop: discard remark: The re-marked DSCP value
-------------------------------	---

【Configuration Case】

Case 1: For packets from IP address 10.10.10.2, for packets coming in 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)# traffic-limit inbound 2000 port eth 0/01 cir 1024 pir 102400 exceed red drop
OLT(config)#
```

10.1.5. traffic-mirror

Command Syntax	traffic-mirror inbound (acl aclv6) acl-id [rule-id rule-id] port eth F/S port-list to (cpu port eth port-list) no traffic-mirror inbound (acl aclv6) acl-id [rule-id rule-id] port eth F/S port-list
Applicable View	config view
Function Description	The traffic-mirror command is used to configure ACL for traffic mirroring on a specified port and make it effective. This command is used when you need to use ACL rules to mirror traffic on a port. The no traffic-mirror command is used to cancel ACL traffic mirroring on a specified port. Use this command when you need to delete the ACL traffic mirroring function on a specified port.
acl aclv6	acl: Access Control List (IPv4) aclv6: access control list (ipv6)
<i>acl-id</i>	ACL ID
<i>rule-id</i>	Rule ID in the ACL
<i>port-list</i>	List of ports to be configured

【Configuration Case】

Case 1: Mirror the packet from port 1 with IP address 10.10.10.2 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 eth 0/0 1 to eth 0/0 2
OLT(config)#
```

10.1.6. traffic-redirect

Command Syntax	traffic-redirect inbound (acl aclv6) acl-id [rule-id rule-id] port eth port-list to eth port-list no traffic-redirect inbound (acl aclv6) acl-id [rule-id rule-id] port eth port-list
Applicable View	config view
Function Description	The traffic-redirect command is used to configure ACL for the specified port to redirect traffic and make it effective. This command is used when you need to use ACL rules to redirect traffic on the port. The no traffic-redirect command is used to cancel ACL traffic redirection on a specified port. Use this command when you need to delete the ACL traffic mirroring function on a specified port. (Redirect the packets matching the ACL rules on the specified port or port list to other ports for forwarding. After the configuration is successful, the port no longer forwards the redirected packets, but forwards them to the redirection destination port instead. Pay attention to the port VLAN configuration.)
acl aclv6	acl: Access Control List (IPv4) aclv6: access control list (ipv6)
acl-id	ACL ID
rule-id	Rule ID in the ACL
port-list	List of ports to be configured

【Configuration Case】

Case 1: Redirect the packet from port 1 to port 2 with 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)# exit
OLT(config)# traffic-redirect inbound 2000 port eth 0/0 1 to eth 0/0 2

OLT(config)#
```

10.1.7. traffic-statistic

Command Syntax	traffic-statistic [clear-counters] (inbound outbound) (acl aclv6) acl-id [rule-id rule-id] port eth port-list no traffic-statistic [clear-counters] (inbound outbound) (acl aclv6) acl-id [rule-id rule-id] port eth port-list
----------------	---

Applicable View	config view
Function Description	The traffic-statistic command is used to clear the traffic that matches the ACL rules on the port.
<i>acl-id</i>	ACL ID
clear-counters	Clear counter
inbound outbound	inbound: Configure the upstream (inbound) rate limit function of the ONT port outbound: Configure the downstream (egress) rate limit function of the ONT port
acl aclv6	acl: Access Control List (IPv4) aclv6: access control list (ipv6)
<i>rule-id</i>	Rule ID in the ACL
<i>port-list</i>	List of ports to be configured

【Configuration Case】

Case 1: Delete the traffic matching acl 2000 rule from the statistics of eth 4 port.

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

10.1.8. traffic-remark

Command Syntax	traffic-remark inbound (acl aclv6) acl-id [rule-id rule-id] port eth F/S port-list (dot1p <1-7> dscp <0-63>) no traffic-remark inbound (acl aclv6) acl-id [rule-id rule-id] port eth F/S port-list
Applicable View	config view
Function Description	traffic- remark command is used to configure a port to re-mark the traffic matching an ACL rule to the specified dot1p or dscp.
<i>acl-id</i>	ACL ID
<i>user- acl-id</i>	User ACL id , value range 6000-6999
inbound	inbound: Configure the upstream (inbound) rate limit function of the ONT port
acl aclv6	acl: Access Control List (IPv4) aclv6: access control list (ipv6)
<i>rule-id</i>	Rule ID in the ACL

<i>port-list</i>	List of ports to be configured
<i><1-7></i>	Dot1p priority, ranging from 1 to 7.

【Configuration Case】

Case 1: Configure the dot1p re-marking of the traffic matching acl6000 in the inbound direction of eth0/0/1 to 4.

```
OLT(config)# traffic-remark inbound acl 6000 rule-id 10 port eth 0/0 1 dot1p 4
OLT(config)#
```

10.1.9. traffic-vlanmap

Command Syntax	traffic-vlanmap inbound (acl aclv6) acl-id [rule-id rule-id] port eth F/S port-list (outervlan translate) vlan vlan-id no traffic-vlanmap inbound (acl aclv6) acl-id [rule-id rule-id] port eth F/S port-list
Applicable View	config view
Function Description	traffic-vlanmap command is used to configure the port to add an outer VLAN to the traffic matching the ACL rule or to convert the outer VLAN to the specified VLAN.
<i>acl-id</i>	ACL ID
inbound	inbound: Configure the upstream (inbound) rate limit function of the ONT port
acl aclv6	acl: Access Control List (IPv4) aclv6: access control list (ipv6)
<i>rule-id</i>	Rule ID in the ACL
<i>port-list</i>	List of ports to be configured
(outervlan translate)	outervlan: add a specified outer vlan translate: Convert to the specified VLAN
<i>vlan-id</i>	Vlan-id, the value range is 1-4094.

【Configuration Case】

Case 1: Configure eth 0/0/1 to match the outer VLAN mapping of acl2000 traffic in the inbound direction to vlan20.

```
OLT(config)# traffic-vlanmap inbound acl 2000 port eth 0/0 1 outervlan vlan 20
OLT(config)#
```

11 DHCP Function Configuration

11.1 DHCP Client Function Configuration

11.1.1. dhcp-client

Command Syntax	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 the DHCP client function Disable: Disable the DHCP client function.

【Configuration Case】

Case 1: Enable the DHCP client function on interface vlanif100

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

11.1.2. dhcp-client option60

Command Syntax	dhcp-client option60 option60 no dhcp-client option60
Applicable View	vlanif view
Function Description	This command is used to configure the Option 60 information carried in the DHCP request message sent by the DHCP client. When the upstream device is configured to perform DHCP Layer 3 relay according to Option 60, this command can be used to configure the Option 60 information of this interface to match the configuration of the upstream device. The no command is used to cancel the Option 60 information configured by the user and restore it to the default value. no dhcp-client option60 command is used to delete the Option 60 information carried in the request message sent by the DHCP-Client.
option60	Configuration information of option 60.

【Configuration Case】

Case 1: Configure option 60 of dhcp-client of vlanif100 to "test".

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

11.1.3. dhcp-client release

Command Syntax	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 you need to delete the IP dynamically applied for by the interface, you can execute this command, which will actively trigger a release message to notify the DHCP Server to release the IP of the interface.

【Configuration Case】

Case 1: Release the IP address of interface vlanif100.

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

11.1.4. dhcp-client renew

Command Syntax	dhcp-client renew
Applicable View	vlanif view
Function Description	This command is used to enable the interface renewal switch in Layer 3 interface mode. When the interface needs to actively obtain an IP address, this command can be executed, which will trigger the sending of a request message to initiate a request to renew or re-apply for an IP address to the DHCP Server.

【Configuration Case】

Case 1: Enable the renewal switch of interface vlanif100.

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

11.2 DHCP Option82

11.2.1. dhcp option82

Command Syntax	dhcp option82 (enable disable)
Applicable View	config view
Function Description	This command is used to enable or disable the dhcp-snooping option82 function. When enabled, Option82 information is inserted into the DHCP request message received from the untrusted port; Option82 information is stripped from the DHCP response message received from the trusted port. The default is to disable the dhcp option82 function (disable).

enable disable	Enable: Enable the DHCP option82 function Disable: Disable the DHCP option82 function.
------------------------	---

【Configuration Case】

Case 1: Enable DHCP option 82.

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

11.2.2. dhcp option82 format

Command Syntax	dhcp option82 format (default common extend)
Applicable View	config view
Function Description	This command is used to configure the padding mode of the Option82 option.
default common extend	default: vlan+slot+ponid+onuid common: vlan+slot+ponid extend: hostname-chassis-slot-ponid-gemid-onuid

【Configuration Case】

Case 1: Configure the fill mode of option 82 to UNI+ONU MAC.

OLT(config)# dhcp option82 format common OLT(config)#
--

11.2.3. dhcp option82 format user-define

Command Syntax	dhcp option82 format user-define <i>format-name</i> [(hex ascii) (cid circuit-id rid remote-id)] no dhcp option82 format user-define <i>format-name</i>
Applicable View	config view
Function Description	Create a custom option82 format item, and fill the field data in ASCII format.
<i>format-name</i>	Custom format item name, length is 1-32
hex asci i	hex: option82 field data is filled in hex format ascii: option82 field data is filled in ascill format
<i>circuit-id/ remote-id</i>	A string consisting of defined keywords and slashes and/or single quotes as delimiters. Keywords: hostname, oltnmac, vlan, chassis, frame, slot, poind, gemid, onusn. Format: "vlan/slot/ponid/onuid/ ' 88rr4 ' " (double quotes are used for strings with spaces), vlan/slot2/ponid4/ounid4/ ' 88r4 ' /, length is 1-128

【Configuration Case】

Case 1: Add a user1 name, a custom format filled with field data in hexadecimal format, cid content is vlan+ponid+onuid, and rid content is oltnmac.

```
OLT(config)# dhcp option82 format user-define user1 hex cid vlan/ponid/onuid rid oltnmac
```

Case 2: Configure the fill format of option82 field to user-defined user1.

```
OLT(config)# dhcp option82 format add ascii name test01 rid vlan
```

Case 3: Delete the user-defined format user1.

```
OLT(config)# no dhcp option82 format user-define user1
```

11.2.4. dhcp option82 policy

Command Syntax	dhcp option82 policy (keep drop replace mereth)
Applicable View	config view
Function Description	This command is used to configure the forwarding policy of Option82 for request messages. The default is keep.
keep	Forward DHCP messages with Option 82 as is
drop	Directly discard DHCP messages with Option 82
replace	Replace Option 82 in the original DHCP message and then forward it
Mer eth	Merge and forward DHCP messages with Option 82

【Configuration Case】

Case 1: Configure the DHCP forwarding policy to forward packets according to the original forwarding policy.

```
OLT(config)#dhcp option82 policy keep
OLT(config)#
```

11.2.5. dhcp option82 vlan-policy

Command Syntax	dhcp option82 vlan-policy vlan-list (none keep replace strip drop)
Applicable View	config view
Function Description	This command is used to configure Option82 with vlan request message. forwarding strategy.
vlan-list	Vlan list, ranging from 1 to 4094
n one	Cancel option 82 vlan forwarding policy
keep	Forward DHCP messages with VLAN Option 82 as is

place	Replace Option 82 in DHCP messages with VLAN and then forward them
s trip	Strip DHCP messages with vlan Option82
drop	Directly discard DHCP messages with Option 82 of vlan

【Configuration Case】

Case 1: Configure the forwarding policy of DHCP-Snooping VLAN 10 to keep.

```
OLT(config)# dhcp option82 vlan-policy 10 keep
OLT(config)#
```

11.2.6. show dhcp option82 config

Command Syntax	show dhcp option82 config
Applicable View	config view
Function Description	This command is used to view the configuration of dhcp option82.

【Configuration Case】

Case 1:View the configuration of dhcp snooping.

```
OLT(config)# show dhcp option82 config
-----
DHCP option82 status: Disable
DHCP option82 policy: keep
DHCP option82 format: default
-----
Index: 1 Name: default type: hex
CircuitId: vlan(2 bytes)slot(1 byte)ponid(1 byte)onuid(1 byte)
RemotId: oltmac(6 bytes)
-----
Index: 2 Name: common type: hex
CircuitId: vlan(2 bytes)slot(1 byte)ponid(1 byte)
RemotId: oltmac(6 bytes)
-----
Index: 3 Name: extend type: ascill
CircuitId: hostname-chassis-slot-ponid- gem id-onuid
RemotId:
-----
```

11.3 DHCP relay

11.3.1. dhcp-relay

Command Syntax	dhcp-relay (enable disable)
Applicable View	config view

Function Description	This command is used to enable or disable the DHCP- relay function. DHCP- relay thread is disabled.
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
```

11.3.2. dhcp-relay server

Command Syntax	dhcp-relay server <1-32> i p A:B:C:D no dhcp-relay server <1-32>
Applicable View	config view, vlanif view
Function Description	This command is used to configure a server group.
<1-32>	Server group, group id range 1-32
A:B:C:D	Server network management IP

【Configuration Case】

Case 1: Configure server group 1, the server's network management IP is 10.1.1.1.

```
OLT(config)# dhcp-relay server 1 ip 10.1.1.1
```

11.3.3. show dhcp-relay config

Command Syntax	show dhcp-relay config
Applicable View	config view
Function Description	This command is used to view the configuration of dhcp-relay.

【Configuration Case】

Case 1: Check dhcp-relay configuration information.

```
OLT(config)# show dhcp-relay config
```

```
-----
Switch DHCP Relay status: Disable
-----
```

```
Server-group Group IP
1 10.10.10.10
-----
```

```
OLT(config)#
```

11.4 DHCP Snooping

11.4.1. dhcp-snooping

Command Syntax	dhcp-snooping (enable disable)
Applicable View	config view
Function Description	This command is used to enable or disable the dhcp-snooping function. DHCP- snooping thread is disabled.
enable disable	Enable: Enable the DHCP- snooping function. Disable: Disable the DHCP- snooping function.

【Configuration Case】

Case 1: Enable DHCP- snooping Function.

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

11.4.2. dhcp-snooping chaddr-check

Command Syntax	dhcp-snooping chaddr-check (enable disable)
Applicable View	config view
Function Description	The dhcp-snooping chaddr check command is used to enable or disable the dhcp-snooping chaddr check function. dhcp- snooping chaddr check thread is disabled.
enable disable	Enable: Enable the dhcp- snooping chaddr check function Disable: Disable the dhcp- snooping chaddr check function

【Configuration Case】

Case 1: Enable dhcp-snooping chaddr-check.

```
OLT(config)# dhcp-snooping chaddr-check enable
```

11.4.3. dhcp-snooping limit-rate

Command Syntax	dhcp-snooping limit-rate <1-2048> port (eth pon) F/S PORTLIST
Applicable View	config view
Function Description	This command is used to configure the dhcp-snooping limit rate settings.
<1-2048>	dhcp-snooping limit rate value, the value range is 1-2048
eth pon	eth: Uplink port pon: PON port

<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, the format is 1-2, 3:2, 4:1. Uplink optical port does not support auto-negotiation function. The default is enable.

【Configuration Case】

Case 1: Set the dhcp-snooping limit rate value of eth 0/0/1 port to 11.

```
OLT(config)#dhcp-snooping limit-rate 11 port eth 0/0 1
```

11.4.4. dhcp-snooping trust

Command Syntax	dhcp-snooping trust port (eth pon lag) <i>F/S PORTLIST</i> no dhcp-snooping trust port (eth pon lag) <i>F/S PORTLIST</i>
Applicable View	config view
Function Description	This command is used to configure the trusted port for DHCP snooping. no dhcp-snooping trust port command is used to delete a trusted port.
eth pon lag	eth: Uplink port pon:pon mouth lag: aggregation group
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, the format is 1-2, 3:2, 4:1. Uplink optical port does not support auto-negotiation function. The default is enable.

【Configuration Case】

Case 1: Set eth 0/0/1 port as a dhcp-snooping trusted port.

```
OLT(config)#dhcp-snooping trust port eth 0/0 1
```

11.4.5. show dhcp-snooping config

Command Syntax	show dhcp-snooping config
Applicable View	config view
Function Description	This command is used to view the configuration of dhcp-snooping.

【Configuration Case】

Case 1: View dhcp-snooping configuration information.

```
OLT(config)# show dhcp-snooping config
```

```
-----  
DHCP Snooping Configurations
```

```

Switch DHCP Snooping status: Enable
DHCP Snooping verification of hwaddr status: Disable

```

```

Port      Trusted  Rate-limit(pps)

```

```

gpon 0/1/1  Untrust  300
gpon 0/1/2  Untrust  300
gpon 0/1/3  Untrust  300
gpon 0/1/4  Untrust  300
gpon 0/1/5  Untrust  300
gpon 0/1/6  Untrust  300
gpon 0/1/7  Untrust  300
gpon 0/1/8  Untrust  300
eth 0/0/1   Trust    11
eth 0/0/2   Untrust  300
eth 0/0/3   Untrust  300
eth 0/0/4   Untrust  300

```

```

OLT(config)#

```

11.5 DHCP Security-Table

11.5.1. dhcp security-table clear

Command Syntax	dhcp security-table clear (all static dynamic ip-address vlan vlan-id)
Applicable View	config view
Function Description	This command is used to delete the bound listening table entries according to the type.
all	Delete all listening binding table entries:
static	Delete the static listening binding table entry
dynamic	Delete the entry of the dynamic listening binding table
ip-address	Delete the entry in the listening binding table of the specified IP
vlan	Delete the monitoring table entry in the specified vlanID
vlan-id	Specify VLAN ID

【Configuration Case】

Case 1: Delete all bound listening entries.

```

OLT(config)# dhcp security-table clear all
no dhcp security entry

```

```
OLT(config)#
```

11.5.2. dhcp security-table delete-time

Command Syntax	dhcp security-table delete-time <i>time</i>
Applicable View	config view
Function Description	This command is used to set the dynamic entry deletion time of the DHCP snooping binding table. When the lease time is reached, the dynamic entry will not be deleted immediately, but will be deleted after the set time. The default value is 300 seconds.
<i>time</i>	Dynamic entry deletion delay time, the value range is 1-86400, the unit is S.

【Configuration Case】

Case 1: The dynamic entry is deleted 100 seconds after the lease expires.

```
OLT(config)# dhcp security-table delete-time 100
```

```
OLT(config)#
```

11.5.3. dhcp security-table static

Command Syntax	dhcp security-table static <i>MAC - address IP - address</i>
Applicable View	config view
Function Description	This command is used to configure static binding of DHCP security entries.
<i>MAC - address</i>	The MAC address of the static binding table entry, in the format of: AA:BB:CC:DD:EE:FF
<i>IP - address</i>	The IP address of the static binding entry, in the format: ABCD

【Configuration Case】

Case 1: Add a static binding DHCP security entry with mac address 00:00:00:00:00:11 and ip address 10.10.10.10.

```
OLT(config)#dhcp security-table static 00:00:00:00:00:11 10.10.10.10
```

```
OLT(config)#
```

11.5.4. dhcp security-table vlan

Command Syntax	dhcp security-table vlan <i>VLAN LIST</i> no dhcp security-table vlanid <i>VLAN - ID</i>
Applicable View	config view
Function Description	dhcp security-table command is used to configure a binding policy based on request messages.

	The no dhcp security-table command is used to delete the request message-based binding policy configuration.
<i>VLAN LIST</i>	list of static binding entries , value range is 1-4094 , format is 1, 4-5, 7

【Configuration Case】

Case 1: Add a DHCP security entry and bind VLAN 100.

```
OLT(config)# dhcp-snooping binding 00:0f:1f:c5:10:08 192.168.1.101 100 port eth 0/0/2
OLT(config)#
```

11.5.5. show dhcp security-table

Command Syntax	show dhcp security-table [static dynamic ip-address vlan vlan-id config]
Applicable View	config view
Function Description	This command is used to display the entries in the DHCP snooping binding table by type.
static	Display the entries of the static listening binding table
dynamic	Displays the entries of the dynamic listening binding table
ip-address	Displays the entries in the listening binding table of the specified IP
vlan	Displays the monitoring table entries in the specified vlanID
vlan-id	The specified vlanID value range is <1-4094>
config	show dhcp security-table configuration

【Configuration Case】

Case 1: Display all DHCP security entries.

```
OLT(config)# show dhcp security-table
-----
database entries count: 1 database entries delete time: 100 (s)
-----
MacAddress   IpAddress  Vlan Port   Lease(s) Type   Status
-----
00:00:00:00:00:11  10.10.10.10  -  -    -      Static Valid
-----
```

Case 2: Display the configuration of DHCP security table entries.

```
OLT(config)# show dhcp security-table config
DHCP security-table entry delete time: 100(s)
DHCP security-table is configured on following vlans:
-----
```

```
100
```

```
OLT(config)#
```

11.6 DHCP Server

11.6.1. dhcp-server

Command Syntax	dhcp-server
Applicable View	config view
Function Description	Enter the dhcp server configuration view

【Configuration Case】

Case 1: Enter the dhcp server configuration view.

```
OLT(config)# dhcp-server
OLT(config-dhcp-server)#
```

11.6.2. dhcp-server vlanif

Command Syntax	dhcp-server vlanif <i>vlan-id</i>
Applicable View	dhcp-server view
Function Description	Configure which vlanif interface the dhcp-server is applied to
<i>vlan-id</i>	Port VLAN ID.

【Configuration Case】

Case 1: Configure dhcp-server and apply it to vlanif111.

```
OLT(config-dhcp-server)# dhcp-server vlanif 111
OLT(config-dhcp-server)#
```

11.6.3. dhcp-server ip- range

Command Syntax	dhcp-server ip-range XXXX XXXX no dhcp-server ip-range
Applicable View	dhcp-server view
Function Description	Configure the size of the IP address pool.
XXXX	The starting IP address and ending IP address of the IP address pool

【Configuration Case】

Case 1: Configure the IP address pool size of DHCP server to 192.168.11.2 ~ 192.168.11.222.

```
OLT(config-dhcp-server)# dhcp-server ip- range 192.168.11.2 192.168.11.222
OLT(config-dhcp-server)#
```

11.6.4. dhcp-server mask

Command Syntax	dhcp-server mask XXXX
Applicable View	dhcp-server view
Function Description	Configure the subnet mask assigned by the DHCP server. Note: The default is to follow the interface subnet mask.
XXXX	Subnet Mask

【Configuration Case】

Case 1: Configure the subnet mask of dhcp-server to 255.255.254.0.

```
OLT(config-dhcp-server)# dhcp-server mask 255.255.254.0
OLT(config-dhcp-server)#
```

11.6.5. dhcp-server gateway

Command Syntax	dhcp-server gateway XXXX
Applicable View	dhcp-server view
Function Description	Configure DHCP server gateway
XXXX	Gateway IP address

【Configuration Case】

Case 1: Configure the gateway IP address of DHCP server to 192.168.11.1.

```
OLT(config-dhcp-server)# dhcp-server gateway 192.168.11.1
OLT(config-dhcp-server)#
```

11.6.6. dhcp-server dns

Command Syntax	dhcp-server dns X.X.X.X
Applicable View	dhcp-server view
Function Description	Configure dhcp server DNS address
X.X.X.X	Dns address

【Configuration Case】

Case 1:Configure the DNS address of dhcp server to be 8.8.8.8.

```
OLT(config-dhcp-server)# dhcp-server dns 8.8.8.8
```

```
OLT(config-dhcp-server)#
```

11.6.7. dhcp-server nbns

Command Syntax	dhcp-server nbns X.X.X.X
Applicable View	dhcp-server view
Function Description	Configure dhcp-server WINS address
XXXX	wins address

【Configuration Case】

Case 1: Configure the nbns address of dhcp-server to 9.9.9.9.

```
OLT(config-dhcp-server)# dhcp-server nbns 9.9.9.9
OLT(config-dhcp-server)#
```

11.6.8. dhcp-server lease-time

Command Syntax	dhcp-server lease-time lease-time
Applicable View	dhcp-server view
Function Description	Configure dhcp-server to allocate lease time
<i>lease-time</i>	Lease time, value range: 60-604800, unit: sec (seconds)

【Configuration Case】

Case 1: Configure the lease time allocated by dhcp-server to 6000s.

```
OLT(config-dhcp-server)# dhcp-server lease-time 6000
OLT(config-dhcp-server)#
```

11.6.9. dhcp-server static-bind

Command Syntax	dhcp-server static-bind XXXX HH:HH:HH:HH:HH:HH
Applicable View	dhcp-server view
Function Description	Configure dhcp-server static binding to specify the IP address assigned to the MAC address.
XXXX	Static binding IP address
HH:HH:HH:HH:HH:HH	Static binding mac address

【Configuration Case】

Case 1: Configure dhcp-server to statically bind the IP address 192.168.11.11 to the host with the MAC address 00:00:00:00:11:11.

```
OLT(config-dhcp-server)# dhcp-server static-bind 192.168.11.11 00:00:00:00:11:11
OLT(config-dhcp-server)#
```

11.6.10. dhcp-server server-name

Command Syntax	dhcp-server server-name server-name
Applicable View	dhcp-server view
Function Description	Configure the dhcp-server name.
<i>server-name</i>	Static binding IP address

【Configuration Case】

Case 1: Configure the dhcp-server name as cdata.

```
OLT(config-dhcp-server)# dhcp-server server-name cdata
OLT(config-dhcp-server)#
```

11.6.11. dhcp-server (enable | disable)

Command Syntax	dhcp-server (enable disable)
Applicable View	dhcp-server view
Function Description	Configure dhcp-server to enable/disable.
enable	Enable dhcp-server.
disable	Shut down dhcp-server.

【Configuration Case】

Case 1: Enable dhcp-server.

```
OLT(config-dhcp-server)# dhcp-server enable
OLT(config-dhcp-server)#
```

11.6.12. show dhcp-server

Command Syntax	show dhcp-server ip-pool status all
Applicable View	dhcp-server view, config view
Function Description	Check the dhcp-server configuration and the dhcp-server address pool allocation status.

【Configuration Case】

Case 1: Check the dhcp-server configuration and the dhcp-server address pool allocation status.

```
OLT(config)# show dhcp-server ip-pool status all
```

```
-----
```

```
Pool-name      : vlanif 111
lease time     : 6000
Server-name    : cdata
DNS-server     : 8.8.8.8
NBNS-server    : 9.9.9.9
Position       : interface
Gateway        : 192.168.11.1
Mask           : 255.255.254.0
Status         : Enable
```

```
-----
```

```
Start      End      Total Used Idle(Expired) Conflict
-----
```

```
192.168.11.2  192.168.11.222  221  11  210(0)    0
```

```
-----
```

Network section:

```
-----
```

Index	IP	MAC	Lease	Status
1	192.168.11.2	00:00:00:00:11:12	2022-12-27 15:58:37	Used
2	192.168.11.3	00:00:00:00:11:13	2022-12-27 15:58:37	Used
3	192.168.11.4	00:00:00:00:11:14	2022-12-27 15:58:37	Used
4	192.168.11.5	00:00:00:00:11:15	2022-12-27 15:58:37	Used
5	192.168.11.6	00:00:00:00:11:16	2022-12-27 15:58:37	Used
6	192.168.11.7	00:00:00:00:11:17	2022-12-27 15:58:37	Used
7	192.168.11.8	00:00:00:00:11:18	2022-12-27 15:58:38	Used
8	192.168.11.9	00:00:00:00:11:19	2022-12-27 15:58:38	Used
9	192.168.11.10	00:00:00:00:11:1a	2022-12-27 15:58:38	Used
10	192.168.11.11	00:00:00:00:11:11	-	Static-bind
11	192.168.11.12	00:00:00:00:11:1b	2022-12-27 15:58:38	Used

```
-----
```

11.7 IPSEG

11.7.1. ip-source check binding

Command Syntax	ip-source check binding static rule ruleId port (gpon eth) F/S portlist ip-source check binding port (gpon eth) F/S portId static rule rulelist ip-source check binding static rule ruleId port lag lagId ip-source check binding port lag lagId static rule rulelist ip-source check binding static rule ruleId vlan vlanId ip-source check binding vlan vlanId static rule rulelist
----------------	---

Applicable View	config view
Function Description	This command is used to bind a static ipsg rule to a port or vlan.
<i>ruleid</i>	Static ipsg rule id, the value range is <1-1024>
<i>portlist</i>	The port list that the ipsg rule is bound to, in the format: 1-2,3:2,4:1
<i>portid</i>	The port to which the ipsg rule is bound
<i>rulelist</i>	Static ipsg rule id, the value range is <1-1024>, the format is: 1,2-3,4
<i>lagid</i>	Aggregation group id, the value range is <1-8>

【Configuration Case】

Case 1: Bind static ipsg rule 1 to eth 0/0/1 port.

```
OLT(config)# ip-source check binding static rule 1 port eth 0/0 1
OLT(config)#
```

11.7.2. ip-source check dhcp

Command Syntax	ip-source check dhcp dynamic (enable disable)
Applicable View	config view
Function Description	This command is used to enable or disable the ipsg dynamic entry function. The default state is ipsg dynamic entry disabled.
enable	Enable ipsg dynamic entry function
disable	Disable the ipsg dynamic entry function

【Configuration Case】

Case 1: Enabling the ipsg dynamic entry function.

```
OLT(config)# ip-source check dhcp dynamic enable
OLT(config)#
```

11.7.3. ip-source check port

Command Syntax	ip-source check port (gpon eth) F/S portlist (enable disable)
Applicable View	config view
Function Description	This command is used to enable or disable the ipsg function of a port. The ipsg function of a port is disabled by default.
<i>portlist</i>	The port list that the ipsg rule is bound to, in the format: 1-2,3:2,4:1
enable	Enable the ipsg function of the port

disable	Disable the ipsg function of the port
----------------	---------------------------------------

【Configuration Case】

Case 1: Enable the ipsg function on ports GPON 0/1/1 and GPON 0/1/2.

```
OLT(config)# ip-source check port gpon 0/1 1-2 enable
OLT(config)#
```

11.7.4. ip-source check static

Command Syntax	ip-source check static rule (<i>autoindex</i> <i>ruleid</i>) { <i>ip ipaddress</i> <i>mac MacAddress</i> <i>vlan Vlanid</i> }
Applicable View	config view
Function Description	This command is used to create ipsg static rules.
<i>autoindex</i>	Automatically obtain ipsg rule id
<i>ruleid</i>	Static ipsg rule id, the value range is <1-1024>
<i>ipaddress</i>	IP address of the ipsg rule, in dotted decimal format ABCD
<i>MacAddress</i>	The MAC address part of the ipsg rule, in the format of XX:XX:XX:XX:XX:XX
<i>Vlanid</i>	VLAN of the Ipseg rule, the value range is 1 to 4094

【Configuration Case】

Case 1: Create a static ipsg rule with an automatic id, an ip address of 6.6.6.6, a mac address of 00:00:00:00:00:11 , and a vlan of 100.

```
OLT(config)# ip-source check static rule autoindex ip 6.6.6.6 mac 00:00:00:00:00:11 vlan
100
OLT(config)#
```

11.7.5. ip-source check vlan

Command Syntax	ip-source check vlan <i>vlanlist</i> (enable disable)
Applicable View	config view
Function Description	This command is used to enable or disable the ipsg function of a vlan. The ipsg function of a vlan is disabled by default.
<i>vlanlist</i>	The VLAN list to which the ipsg rule is bound. The value range is <1-4094> and the format is: 1,2-3,4
enable	Enable the ipsg function of the port
disable	Disable the ipsg function of the port

【Configuration Case】

Case 1: Enable ipsg function for vlan 100.

```
OLT(config)# ip-source check vlan 100 enable
OLT(config)#
```

11.7.6. show ip-source check brief

Command Syntax	<code>show ip-source check brief port all</code> <code>show ip-source check brief port (gpon eth) F/S portlist</code>
Applicable View	config view
Function Description	This command is used to display port binding ipsg rule information.
all	Display all port binding ipsg rule information
portlist	The port list that the ipsg rule is bound to, in the format: 1-2,3:2,4:1

【Configuration Case】

Case 1: Display the ipsg rule bound to port eth0/0/4.

```
OLT(config)# show ip-source check brief port eth 0/0 4
-----
PORT Static/Dynamic Binding Table
-----
eth 0/0/4 1-2
-----
OLT(config)#
```

11.7.7. show ip-source check config

Command Syntax	<code>show ip-source check brief config</code>
Applicable View	config view
Function Description	This command is used to display system ipsg configuration information.

【Configuration Case】

Case 1: Display system ipsg configuration information.

```
OLT(config)# show ip-source check config
-----
dhcp-snooping dynamic: enable
-----
PORT      IP Source Check
-----
gpon 0/1/1  enable
gpon 0/1/2  enable
gpon 0/1/3  disable
gpon 0/1/4  disable
gpon 0/1/5  disable
gpon 0/1/6  disable
gpon 0/1/7  disable
```

```
gpon 0/1/8    disable
eth 0/0/1     disable
eth 0/0/2     disable
eth 0/0/3     disable
eth 0/0/4     enable
```

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

11.7.8. show ip-source check

Command Syntax	show ip-source check rule (all <i>rulelist</i>) show ip-source check (dynamic static) rule (<i>rulelist</i> all ip <i>ipaddress</i> mac <i>MacAddress</i> vlan <i>Vlanid</i>) show ip-source check (dynamic static) rule port (gpon eth) <i>F/S portlist</i>
Applicable View	config view
Function Description	This command is used to display ipsg rule information.
dynamic static	Display dynamic or static ipsg rule information
<i>rulelist</i>	The displayed ipsg rule id list has a value range of <1-1024> and a format of: 1,2-3,4
<i>ipaddress</i>	The IP address of the ipsg rule is displayed in dotted decimal format ABCD
<i>MacAddress</i>	The MAC address portion of the displayed ipsg rule is in the format of XX:XX:XX:XX:XX:XX
<i>Vlanid</i>	The VLAN of the displayed ipsg rule. The value range is 1 to 4094
<i>portlist</i>	Displays the list of ports to which the ipsg rule is bound, in the format: 1-2,3:2,4:1

【Configuration Case】

Case 1: Display all ipsg rule information.

```
OLT(config)# show ip-source check rule all
-----
INDEX IP MAC VLAN TYPE PORT
-----
1 1.1.1.1 -- -- Static eth 0/0 4
2 2.2.2.2 00:00:00:00:00:44 100 Static eth 0/0 4
3 6.6.6.6 00:00:00:00:00:11 100 Static --
-----
Total: 3
-----
OLT(config)#
```

12 AAA Function Configuration

12.1 RADIUS Server Configuration

12.1.1. authentication

Command Syntax	<code>authentication server-id <0-49> ip SADDR share-key SECKEY [port <1-6500>]</code> <code>no authentication server-id <0-49></code>
Applicable View	radius view
Function Description	This command is used to configure the RADIUS authentication server.
<0-49>	Authentication server id. Use this id when configuring domain
SADDR	Authentication server IP address
SECKEY	Authentication server's shared key
<1-6500>	Authentication service port (default port: 1812)

【Configuration Case】

Case 1: Configure a RADIUS authentication server with id 0 , IP 192.168.10.1, shared key 123456 , and port 1024.

```
OLT(config-radius)#authentication server-id 0 ip 192.168.10.1 share-key ***** port 1024
OLT(config-radius)#
```

Case 2: Clear the RADIUS authentication server with configuration id 0.

```
OLT(config-radius)# no authentication server-id 0
OLT(config-radius)#
```

12.1.2. radius

Command Syntax	<code>radius</code>
Applicable View	config view
Function Description	This command is used to enter the radius view mode.

【Configuration Case】

Case 1: Enter radius mode.

```
OLT(config)#radius
OLT(config-radius)#
```

12.1.3. show radius configuration

Command Syntax	<code>show radius configuration</code>
Applicable View	radius view
Function Description	This command is used to query the radius configuration information.

【Configuration Case】

Case 1: Query radius configuration information.

```
OLT(config-radius)#show radius configuration

RADIUS authentication is enabled.

RADIUS authentication server config:
id server-status server-ip server-udp-port
-----
1 ACTIVE 11.11.11.11 1812

OLT(config-radius)#
```

12.2 Tacacs+ Server Configuration

12.2.1. authentication

Command Syntax	<code>authentication server-id <0-4> ip SADDR share-key SECKEY [port <1-65535>]</code> <code>no authentication server-id <0-4></code>
Applicable View	tacacs+ view
Function Description	This command is used to configure the tacacs+ authentication server.
<0-4>	Authentication server id. Use this id when configuring domain
SADDR	Authentication server IP address
SECKEY	Authentication server's shared key
<1-6500>	Authentication service port (default port: 1812)

【Configuration Case】

Case 1: Configure the tacacs+ authentication server with id 0 , IP 10.10.10.10 , shared key 123456 , port 1024.

```
OLT(config-tacacs+)#authentication server-id 1 ip 10.10.10.10 share-key *****
port 1024
OLT(config-tacacs+)#
```

Case 2: Delete the tacacs+ authentication server with id 1.

```
OLT(config-tacacs+)#no authentication server-id 1
OLT(config-tacacs+)#
```

12.2.2. authorization

Command Syntax	authorization server-id <0-4> ip SADDR share-key SECKEY [port <1-65535>] no authentication server-id <0-4>
Applicable View	tacacs+ view
Function Description	This command is used to configure the tacacs+ authorization server.
<0-4>	Authorization server id. Use this id when configuring domain
SADDR	Authorization server IP address
SECKEY	Authorization server's shared secret
<1-6500>	Authorization service port (default port: 1812)

【Configuration Case】

Case 1: Configure the tacacs+ authorization server with id 0 , IP 10.10.10.10 , shared key 123456 , port 1024.

```
OLT(config-tacacs+)#authorization server-id 1 ip 10.10.10.10 share-key ***** p
ort 1024
OLT(config-tacacs+)#
```

Case 2: Delete the tacacs+ authorization server with id 1.

```
OLT(config-tacacs+)#no authorization server-id 1
OLT(config-tacacs+)#
```

12.2.3. show tacacs+ configuration

Command Syntax	show tacacs+ configuration
Applicable View	tacacs+ view
Function Description	This command is used to query tacacs+ configuration information.

【Configuration Case】

Case 1: Query radius configuration information.

```
OLT(config-tacacs+)#show tacacs+ configuration
=====
TACC authentication enabled
-----
id server-status server-ip tcp-port
```

```

=====
1  Active      10.10.10.10    1024
=====

TACC authorization enabled

=====
id  server-status  server-ip    tcp-port
=====
1  Active      10.10.10.10    1024
=====

TACC accounting disabled
OLT(config-tacacs+)#
    
```

12.2.4. tacacs+

Command Syntax	tacacs+
Applicable View	config view
Function Description	This command is used to enter tacacs+ view mode.

【Configuration Case】

Case 1: Enter tacacs+ mode.

```

OLT(config)#tacacs+
OLT(config-tacacs+)#
    
```

12.3 AAA Mode Configuration

12.3.1. aaa

Command Syntax	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)#
    
```

12.3.2. aaa-protocol

Command Syntax	aaa-protocol (radius tacacs+)
-----------------------	--------------------------------------

Applicable View	domain view
Function Description	This command is used to configure the authentication mode in the specified domain.
radius	Specifies the authentication mode as RADIUS authentication.
tacacs+	Specifies the authentication mode as tacacs+ authentication.

【Configuration Case】

Case 1: Set the authentication method in domain abc to radius.

```
OLT(config-aaa-domain-abc)#aaa_protocol radius
OLT(config-aaa-domain-abc)#
```

12.3.3. domain

Command Syntax	[no] domain DOMAIN-NAME
Applicable View	aaa view
Function Description	domain DOMAIN-NAME Create a domain and enter the domain view or enter an existing one 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
OLT(config-aaa-domain-domain1)#
```

Case 2: Enter a domain named default. The default domain exists by default.

```
OLT(config-aaa)#domain default
OLT(config-aaa-domain- default )#
```

12.3.4. radius

Command Syntax	[no] radius authentication server-id <0-4>
Applicable View	domain view
Function Description	The radius authentication server-id <0-4> command is used to bind a server with a specified ID to a specified domain name. no adius authentication server-id <0-4> command is used to delete the server bound to the specified domain name.
authentication	Specifies the type as authentication server.

<0-4>	The id of the server (see radius view)
-------	--

【Configuration Case】

Case 1: Set the authentication server with id 0 to be added to the domain name default.

```
OLT(config-aaa-domain-default)#radius authentication server-id 0
OLT(config-aaa-domain-default)#
```

12.3.5. show domain

Command Syntax	show domain (all name DOMAIN-NAME)
Applicable View	aaa view , domain view
Function Description	This command is used to query domain configuration information.
all	Query all domain configuration information
DOMAIN-NAME	Specifies the domain name to be queried.

【Configuration Case】

Case 1: Query the configuration information of abc domain.

```
OLT(config-aaa-domain-abc)#show domain name abc
=====
=====
Domain Name      : abc      Domain Id      : 1
AAA Protocol     : RADIUS   User Name      : Incomplete
Authentication   : Enabled

RADIUS Authentication Server Configuration:
id type  status  serverIP  port
-----
1 PRIMARY ACTIVE  11.11.11.11  1812

TACACS+ Authentication Server Configuration:
id type  status  serverIP  port
-----
1 PRIMARY ACTIVE  10.10.10.10  49

TACACS+ Authorize Server Configuration:
id type  status  serverIP  port
-----

OLT(config-aaa-domain-abc)#
```

12.3.6. tacacs+

Command Syntax	[no] tacacs+ (authentication authorize) server-id <0-4>
Applicable View	domain view
Function Description	tacacs+ The (authentication authorize) server-id <0-4> command is used to bind a server with a specified id to a specified domain name. no tacacs+ (authentication authorize) server-id <0-4> command is used to delete the server bound to the specified domain name.
authentication	Specifies the type as authentication server.
authorize	Specifies the type as authorization server.
<0-4>	Server ID (refer to tacacs+ view)

【Configuration Case】

Case 1: Set the authentication server with id 0 to be added to the domain name default.

```
OLT(config-aaa-domain-default)#tacacs+ authentication server-id 0
OLT(config-aaa-domain-default)#
```

12.3.7. username

Command Syntax	username (complete incomplete)
Applicable View	domain view
Function Description	This command is used to set the domain name.
complete incomplete	complete Configure the domain to use the complete name incomplete configures the domain to use an incomplete name

【Configuration Case】

Case 1: Setting the domain using an incomplete name.

```
OLT(config-aaa-domain-abc)#username incomplete
OLT(config-aaa-domain-abc)#
```

13 ONT Management

13.1 ONT Authentication Configuration

13.1.1. ont add by loid-auth

Command Syntax	<pre>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 <1-10080> once-no-aging][speed-mode (auto gpon xgpon xgspon)] ont add port-id ONT-id loid-auth LOID-VALUE mult-srv-profile (profile-id profile-id profile-name profile-name) [speed-mode (auto gpon xgpon xgspon)]</pre>
Applicable View	Gpon interface view
Function Description	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] The [always once-aging <1-10080> once-no-aging] command is used to authenticate the ONT and bind the ONT line template and service template according to the loid of the ONT. The OLT will determine whether the loid reported by the ONT is consistent with the configuration. If they are consistent, the authentication is passed and the ONT goes online normally. ont add port-id The ONT-id loid-auth LOID-VALUE mult-srv-profile (profile-id profile-id profile-name profile-name) command is used to authenticate the ONT and bind the ONT multi -service profile according to the loid of the ONT. The OLT will determine whether the loid reported by the ONT is consistent with the configuration. If they are consistent, the authentication is successful and the ONT goes online normally.
<i>port-id</i>	Specifies the PON port number where the newly added ONT is located. The value range is 1-16
<i>ONT-id</i>	Specifies the ONT number. The value range is 1-256
<i>LOID-VALUE</i>	The loid of the ONT to be authenticated, which can contain 1 to 24 characters.
<i>profile-id</i>	ONT template ID, ranging from 0 to 2300
<i>profile - name</i>	ONT template name, supports 1-64 characters
always	a lways: ONU can authenticate and go online at any time without limit. Each time it goes online , it only needs to match the password of ONU or loid + loid-password, loid according to its authentication method.
once-aging <1-10080>	once-aging: authentication and online access can only be done once within the specified time. If authentication and online access is not done

	within the specified time, authentication will fail. For the first time online access, only the password or loid + loid-password, loid of onu needs to be matched according to its authentication method. For non-first time online access, the authentication and online access must be successfully matched between SN and password or loid + loid-password, loid of onu according to its authentication method.
once-no-aging	once-no-aging: no restriction on when to authenticate. For the first time online, only the password or loid + loid-password, loid of onu needs to be matched according to its authentication method. For non-first time online, the authentication method needs to match SN and password or loid + loid-password, loid of onu needs to be matched successfully before the authentication can be online.
speed-mode	The speed-mode of the ONT to be authenticated , that is, the rate mode. When executing the XGS service, the rate mode of the ONU must be specified. Acceptable parameters: auto, gpon, xgpon, xgspon When this parameter is not specified, the default mode is auto, and its processing principle is: If a GPON ONU is found, add it in GPON mode. If a 10G ONU is found, add it in 10g_10g mode. In auto mode, both XGS and XG ONUs can be registered successfully. The ONU authentication module will try to adapt the ONU type and go online with the successful type. The actual rate is displayed in this mode.

【Configuration Case】

Case 1: Authenticate an ONT numbered 6 and Loid 12345678 on pon 1 and bind ONT line template 0 and ONT service template 0.

```
OLT(config- gpon-0/1 )# ont add 1 6 loid-auth 12345678 ont-lineprofile-id 0 ont
-srvprofile-id 0 always
OLT(config- gpon-0/1 )#
```

Case 2: Authenticate an ONT numbered 1 and Loid 123456 on pon 1 and bind ONT multi -service template 1.

```
OLT(config- gpon-0/1 )# ont add 1 1 loid-auth 123456 mult-srv-profile profile-id 1
OLT(config- gpon-0/1 )#
2022-05-15 14:13:25 PON 0/0/1 ONU 1: The ONT online
```

13.1.2. ont add by loid-auth password

Command Syntax	ont add <i>port-id</i> <i>ONT-id</i> loid-auth <i>LOID-VALUE</i> password <i>PASSWORD-VALUE</i> [(<i>ont-lineprofile-id</i> <i>profile-id</i> <i>ont-lineprofile-name</i> <i>profile-name</i>) [<i>ont-srvprofile-id</i> <i>profile-id</i> <i>ont-srvprofile-name</i> <i>profile-name</i>]] [<i>always</i> <i>once-aging</i> <1-10080> <i>once-no-aging</i>][<i>speed-mode</i> (<i>auto</i> <i>gpon</i> <i>xgpon</i> <i>xgspon</i>)]
-----------------------	--

	ont add <i>port-id</i> <i>ONT-id</i> loid-auth <i>LOID-VALUE</i> password <i>PASSWORD-VALUE</i> mult-srv-profile (profile-id <i>profile-id</i> profile-name <i>NAME</i>) [speed-mode (auto gpon xgpon xgspn)]
Applicable View	gpon interface view
Function Description	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 <1-10080> once-no-aging] The command is used to authenticate the ONT and bind the ONT line template and service template according to the loid+password of the ONT. The OLT will determine whether the loid and password reported by the ONT are consistent with the configuration. If they are consistent, the authentication is passed and the ONT goes online normally. ont add port-id ONT-id The loid-auth LOID-VALUE password PASSWORD-VALUE mult-srv-profile (profile-id profile-id profile-name NAME) command is used to authenticate the ONT and bind the ONT multi - service profile based on the loid+password of the ONT. The OLT will determine whether the loid and password reported by the ONT are consistent with the configuration. If they are consistent, the authentication is successful and the ONT goes online normally.
<i>port-id</i>	Specifies the PON port number where the newly added ONT is located. The value range is 1-16
<i>ONT-id</i>	Specifies the ONT number. The value range is 1-256
<i>LOID-VALUE</i>	The loid of the ONT to be authenticated, which can contain 1 to 24 characters.
<i>PASSWORD-VALUE</i>	to be authenticated , supports 1-12 characters
<i>profile-id</i>	ONT template ID, ranging from 0 to 2300
<i>profile - name</i>	ONT template name, supports 1-16 characters
always	a lways: ONU can authenticate and go online at any time without limit. Each time it goes online , it only needs to match the password of ONU or loid + loid-password, loid according to its authentication method.
once-again <1-10080>	once-aging: authentication and online access can only be done once within the specified time. If authentication and online access is not done within the specified time, authentication will fail. For the first time online access, only the password or loid + loid-password, loid of onu needs to be matched according to its authentication method. For non-first time online access, the authentication and online access must be successfully

	matched between SN and password or loid + loid-password, loid of onu according to its authentication method.
speed-mode	The speed-mode of the ONT to be authenticated , that is, the rate mode. When executing the XGS service, the rate mode of the ONU must be specified. Acceptable parameters: auto, gpon, xgpon, xgspon When this parameter is not specified, the default mode is auto, and its processing principle is: If a GPON ONU is found, add it in GPON mode. If a 10G ONU is found, add it in 10g_10g mode. In auto mode, both XGS and XG ONUs can be registered successfully. The ONU authentication module will try to adapt the ONU type and go online with the successful type. The actual rate is displayed in this mode.
speed-mode	The speed-mode of the ONT to be authenticated , that is, the rate mode. When executing the XGS service, the rate mode of the ONU must be specified. Acceptable parameters: auto, gpon, xgpon, xgspon When this parameter is not specified, the default mode is auto, and its processing principle is: If a GPON ONU is found, add it in GPON mode. If a 10G ONU is found, add it in 10g_10g mode. In auto mode, both XGS and XG ONUs can be registered successfully. The ONU authentication module will try to adapt the ONU type and go online with the successful type. The actual rate is displayed in this mode.

【Configuration Case】

Case 1: Authenticate an ONT numbered 10, with Loid test and password test, on pon 1 port , and bind ONT line template 5 and ONT service template 5. The authentication mode is always.

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

```
OLT( config-gpon-0/1 )#
```

Case 2: Authentication of an ONT numbered 1 and Loid numbered 123456 on pon 1 And the password is 123456 ONT and bind ONT multi- service template 1.

```
OLT( config-gpon-0/1 )# ont add 1 1 loid-auth 123456 password-auth 123456 mult-srv-
profile profile-id 1
```

```
OLT(config- gpon-0/1 )#
```

```
2022-05-15 14:1 5: 1 5 PON 0/0/1 ONU 1: The ONT online
```

13.1.3. ont add by password

Command Syntax	ont add <i>port-id</i> <i>ont-id</i> password-auth <i>PASSWOED-VALUE</i> [(ont-lineprofile-id <i>profile-id</i> ont-lineprofile-name <i>profile-name</i>) (ont-srvprofile-id <i>profile-id</i> ont-srvprofile-name <i>profile-name</i>)] [always once-aging <1-10080> once-no-aging][speed-mode (auto gpon xgpon xgspn)] ont add <i>port-id</i> <i>ont-id</i> password-auth <i>PASSWOED-VALUE</i> mult-srv-profile [profile-id <i>profile-id</i> profile-name <i>NAME</i>] [speed-mode (auto gpon xgpon xgspn)]
Applicable View	gpon interface view
Function Description	ont add port-id ont-id password-auth PASSWOED-VALUE [ont-lineprofile-id profile-id ont-lineprofile-name profile-name] [ont-srvprofile-id profile-id ont-srvprofile-name profile-name] The [always once-aging <1-10080> once-no-aging] command is used to authenticate the ONT and bind the ONT line template and service template according to the password of the ONT SN. The OLT will determine whether the password of the SN reported by the ONT is consistent with the configuration. If they are consistent, the authentication is successful and the ONT goes online normally. ont add port-id The ont-id password-auth PASSWOED-VALUE mult-srv-profile [profile-id profile-id profile-name NAME] command is used to authenticate the ONT and bind the ONT multi -service profile according to the password of the ONT's SN. The OLT will determine whether the password of the SN reported by the ONT is consistent with the configuration. If they are consistent, the authentication is successful and the ONT goes online normally.
<i>port-id</i>	Specifies the PON port number where the newly added ONT is located. The value range is 1-16
<i>ONT-id</i>	Specifies the ONT number. The value range is 1-256
<i>PASSWOED - VALUE</i>	Password of the SN of the ONT to be authenticated, in 10-bit ASCII characters, character length 1-10
<i>profile-id</i>	ONT template ID, ranging from 0 to 2300
<i>profile - name</i>	ONT template name, supports 1-16 characters
always	always: ONU can authenticate and go online at any time without limit. Each time it goes online , it only needs to match the password of ONU or loid + loid-password, loid according to its authentication method.
once-aging <1-10080>	once-aging: authentication and online access can only be done once within the specified time. If authentication and online access is not done within the specified time, authentication will fail. For the first time online

	access, only the password or loid + loid-password, loid of onu needs to be matched according to its authentication method. For non-first time online access, the authentication and online access must be successfully matched between SN and password or loid + loid-password, loid of onu according to its authentication method.
once-no-aging	once-no-aging: no restriction on when to authenticate. For the first time online, only the password or loid + loid-password, loid of onu needs to be matched according to its authentication method. For non-first time online, the authentication method needs to match SN and password or loid + loid-password, loid of onu needs to be matched successfully before the authentication can be online.
speed-mode	The speed-mode of the ONT to be authenticated , that is, the rate mode. When executing the XGS service, the rate mode of the ONU must be specified. Acceptable parameters: auto, gpon, xgpon, xgspon When this parameter is not specified, the default mode is auto, and its processing principle is: If a GPON ONU is found, add it in GPON mode. If a 10G ONU is found, add it in 10g_10g mode. In auto mode, both XGS and XG ONUs can be registered successfully. The ONU authentication module will try to adapt the ONU type and go online with the successful type. The actual rate is displayed in this mode.

【Configuration Case】

Case 1: Authenticate an ONT numbered 3 on PON 1 port. The sn password is 12345678 and is bound to ONT line template 0 and ONT service template 0. The authentication mode is always.

```
OLT(config- gpon-0/1 )# ont add 1 3 password-auth 12345678 ont-lineprofile-id 0 o
nt-srvprofile-id 0 always
OLT(config- gpon-0/1 )#
```

Case 2: Case 1: Authenticate an ONT numbered 1 at PON 1 port , with the sn password of 12345678 90 and bind ONT multi -service template 0.

```
OLT(config- gpon-0/1 )# ont add 1 1 password-auth 1234567890 mult-srv-profile profile-id 0
OLT(config- gpon-0/1 )#
2022-05-15 14:03:21 PON 0/0/1 ONU 1: The ONT online
```

13.1.4. ont add by sn-auth

Command Syntax	ont add port-id ont-id sn-auth SN-VALUE (ont-lineprofile-id profile-id ont-lineprofile-name profile-name) [ont-srvprofile-id profile-id ont-srvprofile-name profile-name][speed-mode (auto gpon xgpon xgspon)] ont add port-id ont-id sn-auth SN-VALUE mult-srv-profile (profile-id profile-id profile-name profile-name) [speed-mode (auto gpon xgpon xgspon)]
-----------------------	---

Applicable View	gpon interface view
Function Description	ont add port-id The ont-id sn-auth SN-VALUE [ont-lineprofile-id profile-id ont-lineprofile-name profile-name] {ont-srvprofile-id profile-id ont-srvprofile-name profile-name } command is used to authenticate the ONT and bind the ONT line template and service template according to the ONT's SN. The OLT determines whether the SN reported by the ONT is consistent with the configuration. If they are consistent, the authentication passes and the ONT goes online normally. The ont add port-id ont-id sn-auth SN-VALUE multi-srv-profile [profile-id profile-id profile-name profile-name] command is used to authenticate the ONT and bind the ONT multi -service profile according to the ONT's SN. The OLT determines whether the SN reported by the ONT is consistent with the configuration. If they are consistent, the authentication is successful and the ONT goes online normally.
<i>port-id</i>	Specifies the PON port number where the newly added ONT is located. The value range is 1-16
<i>ONT-id</i>	Specifies the ONT number. The value range is 1-256
<i>SN-VALUE</i>	SN of the ONT to be authenticated, in the format of 12-bit ASCII or converted hexadecimal number, format: < Length 12, 13, 16>(XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXX)
<i>profile-id</i>	ONT template ID, ranging from 0 to 2300
<i>profile - name</i>	ONT template name, supports 1-16 characters
<i>speed-mode</i>	The speed-mode of the ONT to be authenticated , that is, the rate mode. When executing the XGS service, the rate mode of the ONU must be specified. Acceptable parameters: auto, gpon, xgpon, xgspn When this parameter is not specified, the default mode is auto, and its processing principle is: If a GPON ONU is found, add it in GPON mode. If a 10G ONU is found, add it in 10g_10g mode. In auto mode, both XGS and XG ONUs can be registered successfully. The ONU authentication module will try to adapt the ONU type and go online with the successful type. The actual rate is displayed in this mode.

【Configuration Case】

Case 1: Authenticate an ONT numbered 2 and sn XPON12345678 on pon 1 port and bind ONT line template 0 and ONT service template 0.

```
OLT(config- gpon-0/1 )# ont add 1 2 sn-auth XPON12345678 ont-lineprofile-id 0 ont
-srvprofile-id 0
OLT(config- gpon-0/1 )#
```

Case 2: Authenticate an ONT numbered 1 and SN DD15B353EE6A on PON 1 and bind ONT multi - service template 1.

```
OLT(config- gpon-0/1 )# ont add 1 1 sn-auth 44443135B353EE6A mult-srv-profile pro
file-id 1
OLT(config- gpon-0/1 )#
2022-05-15 13:57:16 PON 0/0/1 ONU 1: The ONT online
OLT(config- gpon-0/1 )#
```

13.1.5. ont add by sn-auth password

Command Syntax	ont add <i>port-id ont-id sn-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][speed-mode (auto gpon xgpon xgspn)]</i> ont add <i>port-id ont-id sn-auth SN-VALUE password-auth PASSWOED-VALUE mult-srv-profile (profile-id profile-id profile-name NAME) [speed-mode (auto gpon xgpon xgspn)]</i>
Applicable View	gpon interface view
Function Description	ont add port-id ont-id sn-auth SN-VALUE password-auth PASSWOED-VALUE [ont-lineprofile-id profile-id ont-lineprofile-name profile-name] The [ont-srvprofile-id profile-id ont-srvprofile-name profile-name] command is used to authenticate the ONT and bind the ONT line template and service template 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 successful and the ONT goes online normally. ont add port-id ont-id The sn-auth SN-VALUE password-auth PASSWOED-VALUE mult-srv-profile [profile-id profile-id profile-name NAME] command is used to authenticate the ONT and bind the ONT multi - service profile according to 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 successful and the ONT goes online normally.
<i>port-id</i>	Specifies the PON port number where the newly added ONT is located. The value range is 1-16
<i>ONT-id</i>	Specifies the ONT number. The value range is 1-256
<i>SN-VALUE</i>	SN of the ONT to be authenticated, in the format of 12-bit ASCII or converted hexadecimal number, format: < Length 12, 13, 16>(XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXX)
<i>PASSWOED - VALUE</i>	Password of the SN of the ONT to be authenticated, in 10-bit ASCII characters, character length 1-10

<i>profile-id</i>	ONT template ID, ranging from 0 to 2300
<i>profile - name</i>	ONT template name, supports 1-16 characters
<i>speed-mode</i>	The speed-mode of the ONT to be authenticated , that is, the rate mode. When executing the XGS service, the rate mode of the ONU must be specified. Acceptable parameters: auto, gpon, xgpon, xgspon When this parameter is not specified, the default mode is auto, and its processing principle is: If a GPON ONU is found, add it in GPON mode. If a 10G ONU is found, add it in 10g_10g mode. In auto mode, both XGS and XG ONUs can be registered successfully. The ONU authentication module will try to adapt the ONU type and go online with the successful type. The actual rate is displayed in this mode.

【Configuration Case】

Case 1: Authenticate an ONT numbered 4 on PON 1 port , the authenticated sn is XPON12345678 , the authenticated password is 12345678 , and bind ONT line template 0 and ONT service template 0

```
OLT(config-gpon-0/1)# ont add 1 4 sn-auth XPON12345678 password-auth 12345678 o
nt-lineprofile-id 0 ont-srvprofile-id 0
OLT(config-gpon-0/1)#
```

Case 2: Authenticate an ONT numbered 1 on PON 1 , with the authenticated SN of 44443135B353EE6A and the authenticated password of 12345678 90 , and bind the ONT multi -service template 0

```
OLT(config-gpon-0/1)# ont add 1 1 sn-auth 44443135B353EE6A password-auth 123456
7890 mult-srv-profile profile-id 0
OLT(config-gpon-0/1)#
2022-05-15 14:03:21 PON 0/0/1 ONU 1: The ONT online
```

13.1.6. ont authmode

Command Syntax	ont authmode (<port-id> all) (auto manual) ont authmode (<port-id> all) aaa [to auth-mode]
Applicable View	gpon interface view
Function Description	This command is used to configure the ONT authentication mode for a specified PON port. Enabling automatic authentication means enabling policy authentication. The default automatic authentication mode is auto.
<i>port-id</i>	Specifies the PON port number for which the ONT authentication mode needs to be configured. The value range is 1-16
auto	Configure the specified PON port to use automatic authentication mode

manual	Configure the specified PON port to use manual authentication mode
aaa	Configure the specified PON port to use aaa authentication mode
auth-mode	After configuring ONT authentication, which authentication mode is used for recording? There are several authentication modes: 1- loid-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 pon 1 port to automatic authentication.

```
OLT( config-gpon-0/1 )# ont authmode 1 auto

OLT( config-gpon-0/1 )#
```

13.1.7. ont autofind

Command Syntax	ont autofind port-id (disable enable)
Applicable View	gpon interface view
Function Description	Enable or disable the ONT automatic discovery function. Only when the ONT automatic discovery function is enabled will the unregistered ONT be displayed on the OLT. The ONT automatic discovery function is enabled by default (enable).
all	Enable the ONT auto-discovery function for all PON ports on the OLT
disable enable	Enable: Enable the ONT automatic discovery function Disable: Disable the ONT automatic discovery function.

【Configuration Case】

Case 1: Enable the ONT auto-discovery function on the PON1 port on the OLT.

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

OLT( config-gpon-0/1 )#
```

13.1.8. ont autofind all

Command Syntax	ont autofind all (disable enable)
Applicable View	Config view
Function Description	Enable or disable the ONT automatic discovery function. Only when the ONT automatic discovery function is enabled will the unregistered ONT

	be displayed on the OLT. The ONT automatic discovery function is enabled by default (enable).
all	Enable the ONT auto-discovery function for all PON ports on the OLT
disable enable	Enable: Enable the ONT automatic discovery function Disable: Disable the ONT automatic discovery function.

【Configuration Case】

Case 1: Enable the automatic discovery function for all ONTs on the OLT.

```
OLT(config)# ont autofind all enable
OLT(config)#
```

13.1.9. ont autofind timely-update

Command Syntax	ont autofind timely-update (enable disable)
Applicable View	config view
Function Description	Control the timely update of automatic discovery list information
enable disable	Enable: Enable the function of updating the automatic discovery list information in a timely manner Disable: Disable the function of updating the automatic discovery list information in a timely manner. the automatic discovery list information will not be updated until the automatic discovery aging time expires.

【Configuration Case】

Case 1: Enable the automatic discovery list information update function.

```
OLT(config)# ont autofind timely-update enable
OLT(config)#
```

13.1.10. ont blacklist

Command Syntax	ont blacklist (disable enable)
Applicable View	config view
Function Description	This command enables or disables the ONT blacklist authentication function.
disable	Disable the ONT blacklist authentication function.
enable	Enable ONT blacklist authentication function

【Configuration Case】

Case 1: Enable the blacklist authentication function.

```
OLT(config)# ont blacklist enable
```

```
OLT(config)#
```

13.1.11. ont blacklist add

Command Syntax	ont blacklist add sn <i>SN-VALUE</i> <i>mask length</i>
Applicable View	config view, gpon interface view
Function Description	This command is used to add the specified ONT to the blacklist and then make the authentication of the blacklisted ONT fail.
<i>SN-VALUE</i>	Add the specified ONT sn to the blacklist. The length is 12 characters and the format is XXXXXXXXXXXX
<i>SN-VALUE</i>	Configure the sn mask length of the specified ONT sn added to the blacklist. The value range is 4-12

【Configuration Case】

Case 1: Add the ONT with SN test12345678 to the blacklist, and configure the mask length of sn to 4.

```
OLT( config-gpon-0/1 )# ont blacklist add sn test12345678 mask 4
OLT( config-gpon-0/1 )#
```

13.1.12. ont blacklist delete

Command Syntax	ont blacklist delete (all <i>index</i>)
Applicable View	config view, gpon interface view
Function Description	This command is used to delete the ONU with the specified index from the blacklist.
<i>index</i>	Specify the ID of the ONT to be deleted from the blacklist. You can use show ont blacklist to view the ID of the ONT in the blacklist. The value range is 1 -12 8

【Configuration Case】

Case 1: Remove the ONU device with index 1 from the device blacklist.

```
OLT(config- gpon-0/1 )# ont blacklist delete
<1-128> Blacklist index. <U><1-128>
all All Blacklist entries
OLT(config- gpon-0/1 )# ont blacklist delete 1
OLT(config- gpon-0/1 )#
```

13.1.13. ont auth-vendor switch

Command Syntax	ont auth-vendor switch (on off)
Applicable View	config view

Function Description	This command is used to enable the ONU authorization verification function.
(on off)	On or Off

【Configuration Case】

Case 1: Enable onu authentication and authorization verification.

OLT(config)# ont auth-vendor switch on
OLT(config)#

13.1.14. ont auth-vendor add

Command Syntax	ont auth-vendor (add delete) <i>VENDOR</i>
Applicable View	config view
Function Description	This command is used to set the vendor that requires ONU authorization verification, and verification will be performed when the matching ONU is authenticated.
<i>VENDOR</i>	onu's vendor

【Configuration Case】

Case 1: Authentication and authorization verification for the ONU whose vendor is ACT.

OLT(config)# ont auth-vendor add ACT
OLT(config)#

13.1.15. ont confirm

Command Syntax	ont confirm <i>port-id</i> all (loid-auth loid-password-auth password-auth sn-auth sn-password-auth) (ont-srvprofile-id <i>profile-id</i> ont-srvprofile-name <i>profile-name</i>) [always once-again <1-10080> once-no-aging][speed-mode (auto gpon xgpon xgspn)] ont confirm <i>port-id</i> (loid-auth LOID-VALUE [password-auth PASSWORD-VALUE] password-auth PASSWORD-VALUE sn-auth SN-VALUE [password-auth PASSWORD-VALUE]) (ont-lineprofile-id <i>profile-id</i> ont-lineprofile-name <i>profile-name</i>) (ont-srvprofile-id <i>profile-id</i> ont-srvprofile-name <i>profile-name</i>) [always once-again <1-10080> once-no-aging][speed-mode (auto gpon xgpon xgspn)]
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 OLT has turned on the ONT automatic discovery switch, after adding the ONT, the OLT will obtain the ONT registration information and the ONT will be in the automatic discovery state. After confirming the ONT with this command, the ONT

	enters the normal working state and the relevant services of the ONT can be configured. It can be used to register ONTs in batches.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
all	Batch authenticate all discovered ONTs under the PON port.
loid-auth	Adopt loid authentication method
<i>LOID-VALUE</i>	The loid value that needs to be entered in loid authentication mode, length 1-24 characters
loid-password-auth	Use loid+loid password authentication
password-auth	Use sn password authentication
<i>PASSWORD-VALUE</i>	The password value that needs to be entered in password authentication mode, the length is 1-10 characters
sn-auth	Using sn authentication method
<i>SN-VALUE</i>	SN of the ONT to be authenticated, in the format of 12-bit ASCII or converted hexadecimal number, format: < Length 12, 13, 16>(XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXX)
sn-password-auth	Use sn+password authentication
<i>profile-id</i>	ONT template ID, ranging from 0 to 2300
<i>profile-name</i>	ONT template name, supports 1-16 characters
always	Always: ONU can authenticate and go online at any time without limiting the number of times
once-again <1-10080>	once-aging: can only be authenticated and online once within the specified time, and will be cleared once the ONU goes offline
once-no-aging	once-no-aging: There is no restriction on when to authenticate, but after the authentication is online once, if the ONU is offline, it will be deleted
speed-mode	The speed-mode of the ONT to be authenticated , that is, the rate mode. When executing the XGS service, the rate mode of the ONU must be specified. Acceptable parameters: auto, gpon, xgpon, xgspon When this parameter is not specified, the default mode is auto, and its processing principle is:

	If a GPON ONU is found, add it in GPON mode. If a 10G ONU is found, add it in 10g_10g mode. In auto mode, both XGS and XG ONUs can be registered successfully. The ONU authentication module will try to adapt the ONU type and go online with the successful type. The actual rate is displayed in this mode.
--	--

【Configuration Case】

Case 1: Authenticate all ONTs in the discovery state under the pon 1 port according to the sn method and bind the line template and Service.

Service Template 10

```
OLT( config-gpon-0/1 )#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-gpon-0/1 )#
```

Case 2: Verify the ONT under Pon1 port that is in discovery state and has a loid of test, and bind the line template and business template.

```
OLT( config-gpon-0/1 )# ont confirm 1 loid-auth test ont-lineprofile-id 10 ont-srvprofile-id 10
Add port 1 ONT 1 successfully.

OLT( config-gpon-0/1 )#
```

13.1.16. ont modify

Command Syntax	ont modify <i>port-id</i> <i>ONT-id</i> {(ont-lineprofile-id <i>profile-id</i> ont-lineprofile-name <i>profile-name</i>) (ont-srvprofile-id <i>profile-id</i> ont-srvprofile-name <i>profile-name</i>)} ont modify <i>port-id</i> <i>ONT-id</i> mult-srv-profile (<i>profile-id</i> <i>profile-id</i> <i>profile-name</i> <i>profile-name</i>)
Applicable View	gpon interface view
Function Description	This command is used to modify the line template and service template bound to the ONT under the PON port.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	Specifies the ONT ID of the line template and service template to be modified. The value range is 1-256
<i>profile-id</i>	of the line template , service template , and multi-service template. The value range is 0-2300
<i>profile-name</i>	Name of line template , service template , multi-service template , the value can be 1-16 characters

【Configuration Case】

Case 1: Change the line template of ONT 1 under PON 1 port to 5.

```
OLT( config-gpon-0/1 )# ont modify 1 1 ont-lineprofile-id 5
```

```
OLT( config-gpon-0/1 )#
```

Case 2: Change the line template and service template of ONT 1 under PON 1 port to 5 and 5 respectively.

```
OLT( config-gpon-0/1 )# ont modify 1 1 ont-lineprofile-id 5 ont-srvprofile-id 5
```

```
OLT( config-gpon-0/1 )#
```

Case 3: Change the multi-service template bound to onu with ID 1 under pon1 to 1.

```
OLT(config- gpon-0/1 )# ont modify 1 1 mult-srv-profile profile-id 1
```

```
OLT(config- gpon-0/1 )#
```

13.1.17. ont modify auth-type

Command Syntax	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 PASSOERD-VALUE])
Applicable View	gpon interface view
Function Description	This command is used to modify the authentication mode of a registered ONT.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	of the authentication method to be modified. The value range is 1-256.
sn-auth SN-VALUE	Change the authentication mode of the registered ONT to sn and enter the sn value to be authenticated. The length supports 12, 13, 13, and the format is XXXXXXXXXXXXX, XXXX-XXXXXXXXXX, XXXXXXXXXXXXXXXXXXXX
sn-auth SN-VALUE password-auth PASSWORD-VALUE	Modify the authentication mode of the registered ONT to sn+sn password and enter the sn value and the password value under sn. The sn length supports 12, 13, 13, and the format is XXXXXXXXXXXXX, XXXX-XXXXXXXXXX, XXXXXXXXXXXXXXXXXXXX. The password value range is 1-10 characters.
password-auth PASSWORD-VALUE	Change the authentication mode of the registered ONT to the password under sn and enter the password value under sn. The password value range is 1-10 characters.
loid -auth LOID-VALUE	Change the authentication mode of the registered ONT to loid and enter the loid value to be authenticated. The value range is 1-24 characters.

loid -auth <i>LOID-VALUE</i> password-auth <i>PASSWORD-VALUE</i>	Modify the authentication mode of the registered ONT to loid+loid's password and enter the loid value and the password value under loid. The loid value range is 1-24 characters, and the password value range is 1-12 characters.
---	--

【Configuration Case】

Case 1: Change the authentication mode of the first ONT under PON 1 port to sn authentication and sn is xpon12345678.

```
OLT( config-gpon-0/1 )# ont modify 1 1 auth-type sn-auth xpon12345678

OLT( config-gpon-0/1 )#
```

Case 2: Change the authentication mode of the first ONT under PON 1 port to loid authentication and loid to test.

```
OLT( config-gpon-0/1 )# ont modify 1 1 auth-type loid-auth test

OLT( config-gpon-0/1 )#
```

Case 3: Change the authentication mode of the first ONT under PON 1 port to sn + password authentication and the loid and password are xpon12345678 and test1 respectively.

```
OLT( config-gpon-0/1 )# ont modify 1 1 auth-type sn-auth xpon12345678 password-auth test

OLT( config-gpon-0/1 )#
```

13.1.18. ont quiet-period

Command Syntax	ont quiet-period <i>quiet-time</i>
Applicable View	config view
Function Description	This command is used to configure the quiet time of the ONT.
<i>quiet time</i>	Quiet time, the value range is 10-120, in seconds.

【Configuration Case】

Case 1: Configure the ONT authentication silent time to 60s.

```
OLT(config)# ont quiet-period 60
The ont quiet-period set secess!
OLT(config)#
```

13.1.19. ont re-register

Command Syntax	ont re -register <i>port- id (ONT-id all)</i>
Applicable View	gpon interface view

Function Description	This command is used to re-register the ONT. After this command is successfully executed, the ONT goes offline and re-reports the registration information.
<i>port-id</i>	Re-register the ONT under the specified PON port
<i>ONT-id</i>	Re-register the ONT with the specified ID under the specified PON port. The value range is 1-256
all	Batch re-register all ONTs under a specified PON port

【Configuration Case】

Case 1: Re-register ONT 1 under PON 2.

```
OLT(config-gpon-0/1)# ont re-register 2 1
OLT(config-gpon-0/1)# 2000-01-03 08:50:39 PON 0/0/2 ONU 1 Onu offline
OLT(config-gpon-0/1)#
OLT(config-gpon-0/1)# 2000-01-03 08:50:48 PON 0/0/2 ONU 1 Onu online
```

13.1.20. ont policy-auth

Command Syntax	ont policy-auth <i>PORT ONTID</i> {{ <i>ont-lineprofile-id</i> < <i>Profile-ID</i> > <i>ont-lineprofile-name</i> < <i>Profile-name</i> > }} { <i>ont-srvprofile-id</i> < <i>Profile-ID</i> > <i>ont-srvprofile-name</i> < <i>Profile-name</i> > } } { <i>mult-srv-profile-id</i> < <i>Profile-ID</i> > <i>mult-srv-profile-name</i> < <i>Profile-name</i> > } } [<i>sn-auth</i> <i>password-auth</i> <i>sn-password-auth</i> <i>loid-auth</i> <i>loid-password-auth</i>] [<i>always</i> <i>once</i>] no ont policy-auth <i>PORT ONTID</i> show ont policy-auth <i>PORT</i>
Applicable View	Gpon interface view
Function Description	This command is used to pre-configure the service template and authentication mode of the ONT. It is only effective when the port authentication mode is manual authentication.
<i>PORT</i>	Specify the PON port to be preconfigured
<i>ONTID</i>	Specify the onu-id to be preconfigured
[<i>sn-auth</i> <i>password-auth</i> <i>sn-password-auth</i> <i>loid-auth</i> <i>loid-password-auth</i>]	Configure the registration method of ONT in ONT policy authentication to register in loid, loid+password, password under sn, sn, or password under sn+sn. Default is sn-auth
< <i>profile-id</i> >	The ID number of the ONT template to be issued, the value range is 0-2300
< <i>profile-name</i> >	The name of the ONT template to be issued, supporting 1-64 characters

[always once]	The default setting is always. always means to keep, once means not to keep. If once is configured, the pre-configuration will be automatically deleted after the onu is added. If always is configured, the pre-configuration can only be deleted manually using the no command.
------------------------	---

【Configuration Case】

Case 1: Pre-configure the onu1 binding line template 1 and service template 1 of the pon1 port.

```
F D1702M(config-gpon-0/1)# ont policy-auth 1 1 ont-lineprofile-id 1 ont-srvprofi
le-id 1
AX1700-MB140(config-gpon-0/1)#
AX1700-MB140(config-gpon-0/1)# show ont policy-auth 1

-----
ONT-ID mult-srv-profile line-profile srv-profile auth-mode mode
-----
1          1      1      sn      always
```

13.1.21. show ont autofind

Command Syntax	show ont autofind <i>F/S portid</i> (all [brief sn-format (hex string)]) sn SN-NUM show ont autofind all [brief sn-format (hex string)]
Applicable View	config view or gpon interface view
Function Description	This command is used to view the unregistered ONTs that are automatically discovered on the OLT.
all	View the automatically discovered ONUs under all PON ports.
F/S	Check the slot number of the PON where the automatically discovered ONT is located
port-id	the PON port number where the ONT is automatically discovered. The value range is 1-16
hex	Display the ONU sn number in hexadecimal format
string	Display the sn number of the ONU in string format
SN-NUM	View the SN of the automatically discovered ONT

【Configuration Case】

Case 1: View all ONTs automatically discovered by the PON2 port.

```
OLT(config-gpon-0/1)# show ont autofind 0/0 2 all

-----
Number      : 1
Frame/Slot   : 0/0
Port        : 2
Logic ID    : 1
```

```

Ont SN: DD16B3551CD3
Password: 12345678
Loid: e067b3551cd3
Loid Password: e067b3551cd3
OMCC Green: 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-gpon-0/1)#

13.1.22. show ont blacklist

Command Syntax	show ont blacklist
Applicable View	config view,gpon interface view
Function Description	This command is used to view the ONT authentication blacklist.

【Configuration Case】

Case 1: View ONT information in the authentication blacklist.

```

OLT(config- gpon-0/1 )# show ont blacklist
-----
Blacklist function switch: disable
-----
ID SN/Mask-Len Hit-Count
-----
There is no entry available.
-----
OLT(config- gpon-0/1 )#
  
```

13.1.23. show ont auth-vendor

Command Syntax	<code>show ont auth-vendor</code>
Applicable View	config view
Function Description	This command is used to view ONU authentication authorization rules.

13.1.24. show ont info

Command Syntax	<code>show ont info all [online [sn-format (hex string)] sn-format (hex string)]</code> <code>show ont info port-id (ONT-id all [online [sn-format (hex string)] sn-format (hex string)])</code> <code>show ont info (by-desc DESCRIPTION by-loid LOID-VALUE by-password PASSWORD-VALUE by-sn SN-VALUE)</code>
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 relevant information of the ONT (including the current status of the ONT, the relevant configuration of the ONT, and the relevant information of the ONT T-CONT). Port: PON port number of the ONT on the OLT. ONT ID: ONT ID set by the user. SN: sn of ONT. Control flag: Active:ONT is in the activated state. The ONT must be activated on the OLT first, and the ONT is allowed to go online only when it is in the activated state. deactivate: The ONT is in the deactivated state. When the ONT is in the deactivated state, you can use the ont activate command to activate the ONT. Run state: ONT operation flag, which identifies the current ONT operation state. It includes two states: "online" and "offline". When the ONT is online, it is "online". Config state: Configuration state. After the ONT is online normally, this state indicates whether the ONT configuration is issued or restored, as well as the completion status of configuration issuance and restoration. There are three states: "initial", "failed", and "Success". initial: The ONT is in the process of delivering or restoring configuration. failed: The ONT configuration fails to be delivered or restored. Success: ONT configuration is delivered or restored successfully.

<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	Specify the detailed information of the ONT id to be viewed. When the information to be viewed is specified to the ONT id, the detailed registration status of the ONT, the template information bound to the ONT, the port configuration information of the ONT, etc. can be viewed. The value is 1-256
all	View the registration status of all registered ONUs of all PON ports or specified PON ports, mainly some brief registration information, including online and offline.
online	View the current online onu information
by-desc <i>DESCRIPTION</i>	Check the registration status of ONT by specifying the description information of ONT, which supports 1-64 characters
by-loid <i>LOID-VALUE</i>	Check the registration status of the ONT by specifying the ONT's LOID. It supports 1-24 characters.
by-password <i>PASSWORD-VALUE</i>	Check the registration status of ONT by specifying the password under ONT's SN. It supports 1-10 characters.
by-sn <i>SN-VALUE</i>	Check the registration status of the ONT by specifying the SN of the ONT. The length supports 12 , 13, 16 characters and the format is: XXXXXXXXXXXX, XXXX-XXXXXXXX, XXXXXXXXXXXXXXXXX)

【Configuration Case】

Case 1: Check the registration status of all ONTs on the PON2 port.

```
OLT( config-gpon-0/1 )# show ont info 2 all
-----
F/S P ONT SN      Control Run   Config Match
  ID      flag  state state state
-----
0/0 2 1  TPLGCAF02E40 Active  Online failed mismatch
0/0 2 2  DD16B3551CD3 Active  Offline initial initial
0/0 2 3  XPON12345678 Active  Online success match
-----
Total: 3, online: 2, deactive: 0, failed: 1

OLT( config-gpon-0/1 )#
```

Case 2: View the detailed registration information of PON2 port ONT3.

```
OLT( config-gpon-0/1 )# 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-gpon-0/1)#

Case 3: View the information of all online ONTs on the PON2 port.

OLT(config- gpon-0/1)# show ont info all online							

F/SP	ONT SN	Control	Run	Config	Match	Last	Desc
ID	flag	state	state	state	state	down-cause	

0/0	1	3	XAHSF094DF86	Active	Online	success	match --

Total: 1, online: 1, deactive: 0, success: 1 , failed: 0							

13.2 ONT Basic Management

13.2.1. ont activate

Command Syntax	ont activate <i>port-id</i> (<i>ONT-id</i> all)
Applicable View	gpon interface view
Function Description	This command is used to activate an ONT that is in the deactivated state. The ONT can work normally only when it is in the activated state. Use this command to activate the ONT when the ONT needs to work normally. By default, the ONT is in the activated state.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i> all	ONT -id: ONT ID to be activated, the value range is 1-256. all: activate all ONTs

【Configuration Case】

Case 1: Activate the first ONT under PON 1 port.

```
OLT( config-gpon-0/1 )# ont activate 1 1
```

```
OLT( config-gpon-0/1 )#
```

13.2.2. ont deactivate

Command Syntax	on de activate <i>port-id</i> (<i>ONT-id</i> 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 deactivate the ONT. By default, the ONT is in the activated state.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i> all	ONT -id: ONT ID to be deactivated, ranging from 1 to 256. all: All ONTs to be deactivated

【Configuration Case】

Case 1: Deactivate the first ONT under PON 1 port.

```
OLT( config-gpon-0/1 )# ont deactivate 1 1
```

```
OLT( config-gpon-0/1 )#
```

13.2.3. ont delete

Command Syntax	ont delete <i>port-id</i> (<i>ONT-id</i> all offline-list all)
Applicable View	GPON view
Function Description	Clear offline ONU
<i>port-id</i>	to be set is in the range of 1-16.
<i>ONT-id</i> all offline-list all	<i>ONT-id</i> : <i>ONT id</i> of the ONT to be deleted , ranging from 1 to 256. all: Delete all ONTs under this PON port. offline-list all: Clear offline ONUs

【Configuration Case】

Case 1: Delete the onu with ID 1 under PON1 port.

```
OLT( config-gpon-0/1 )# ont delete 1 1
OLT( config-gpon-0/1 )#
```

Case 2: Clear all ONUs under PON1 port.

```
OLT( config-gpon-0/1 )# ont delete 1 all
This command will delete all the ONTs in port. Are you sure to execute this command?
(y/n):y
Number of ONTs that can be deleted: 0, success: 0
OLT( config-gpon-0/1 )#
```

Case 3: Clear all offline ONUs on PON1.

```
OLT( config-gpon-0/1 )# ont delete 1 offline-list all
Total offline ONT(s):0 delete.
OLT( config-gpon-0/1 )#
```

13.2.4. ont description

Command Syntax	ont description <i>port-id</i> <i>ONT-id</i> <i>description</i> no ont description <i>port-id</i> <i>ONT-id</i>
Applicable View	gpon interface view
Function Description	The ont description command is used to add description information for the ONT for easy identification and management. The default value is empty. no ont description command is used to delete the description information added for the ONT.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16

<i>ONT-id</i>	The ONT id to which the description information is to be added. The value range is 1-256.
<i>description</i>	Description information to be added, supports 1-64 characters

【Configuration Case】

Case 1: Add the description information "test" to ONT 1 under PON 1 port.

```
OLT( config-gpon-0/1 )# ont description 1 1 test

OLT( config-gpon-0/1 )#
```

Case 2: Delete the description information of ONT 1 under PON 1 port.

```
OLT( config-gpon-0/1 )# no ont description 1 1

OLT(config-gpon-0/1)#
```

13.2.5. ont ipconfig

Command Syntax	ont ipconfig <i>port-id</i> <i>ONT-id</i> ip-index <i>IP-host-index</i> dhcp vlan <i>VLAN-ID</i> priority <i>VLAN-priority</i> ont ipconfig <i>port-id</i> <i>ONT-id</i> ip-index <i>IP-host-index</i> static { ip-address <i>ONT-IP</i> mask <i>ONT-subnet-mask</i> gateway <i>ONT gateway</i> pri-dns <i>ONT-primary-DNS</i> slave-dns <i>ONT-slave-DNS</i> vlan <i>VLAN-ID</i> priority <i>VLAN-tag-priority</i> } no ont ipconfig <i>port-id</i> <i>ONT-id</i> [ip-index <i>IP-host-index</i>]
Applicable View	gpon interface view
Function Description	The ont ipconfig command is used to configure the iphost function of the ONT, including the management IP address, subnet mask, gateway, management VLAN, priority, etc. no ont ipconfig command is used to delete the iphost function of the ONT.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	ONT - id: ONT id of the ONT to be configured, the value is 1-256
ip-index <i>IP - host - index</i>	Configure the IP Host interface index, value range: 0-1
dhcp	Configure the ONT to obtain its IP address dynamically through DHCP.
vlan <i>VLAN-ID</i>	Configure the management VLAN of the ONT. The value range is 1-4094.

priority <i>VLAN - priority</i>	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 <i>ONT-IP</i>	Configure a static management IP address in the format of XXXX
mask <i>ONT - subnet - mask</i>	Configure the address mask of the static IP address in the format of XXXX
gateway <i>ONT gateway</i>	Configure the IP address of the gateway of the ONT management network. It must be in the same network segment as the configured static IP address and the format is XXXX
pri-dns <i>ONT - primary - DNS</i>	Configure the primary DNS server IP address. 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 <i>ONT - slave - DNS</i>	Configure the secondary DNS server IP address in the format of XXXX

【Configuration Case】

Case 1: Configure the static management IP of PON1 port ONT 1 to 192.168.101.1, the subnet mask to 255.255.255.0, the gateway IP to 192.168.101.254, the management VLAN to 101, and the priority to 0.

```
OLT( config-gpon-0/1 )# 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-gpon-0/1 )#
```

Case 2: Configure the management IP address of PON1 port ONT 2 to DHCP mode.

```
OLT( config-gpon-0/1 )# ont ipconfig 1 1 ip-index 0 dhcp vlan 101 priority 0

OLT( config-gpon-0/1 )#
```

Case 3: Deleting the management IP address of ONT 1 on PON1 port.

```
OLT( config-gpon-0/1 )# no ont ipconfig 1 1

OLT( config-gpon-0/1 )#
```

13.2.6. ont reboot

Command Syntax	ont reboot <i>port-id (ONT-id all)</i>
-----------------------	---

Applicable View	gpon interface view
Function Description	This command is used to restart the ONT.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id all</i>	ONT - id: ONT id of the ONT to be restarted, the value is 1-256 all: restart all ONTs under the PON port

【Configuration Case】

Case 1: Restart ONT 1 under PON 1 port.

```
OLT( config-gpon-0/1 )# ont reboot 1 1
```

```
OLT( config-gpon-0/1 )#
```

13.2.7. ont restore-factory

Command Syntax	ont restore-factory <i>Port-ID</i> <i>ONT-ID</i>
Applicable View	GPON view
Function Description	Restore onu to factory mode.
<i>Port-ID</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-ID</i>	ONT ID of the ONT to be restored to factory default , value range is 1-256

【Configuration Case】

Case 1: pon 16-port onu1 restored to factory mode.

```
OLT( config-gpon-0/1 )# ont restore-factory 5 5
```

<cr> - Please press ENTER to execute command

13.2.8. ont synchronize-time

Command Syntax	ont synchronize-time { <i>port-id ont-id all</i> } (disable enable)
Applicable View	GPON view
Function Description	This command is used to enable or disable the time synchronization function of the onu. The default setting is to enable the time synchronization function of the onu (enable).
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16

<i>ont-id</i>	the ont of the time synchronization function to be modified. The value range is 1-256
all	Modify the time synchronization function of all onus
disable	Disable the time synchronization function of the ONU
enable	Enable the time synchronization function of the ONU

【Configuration Case】

Case 1: Enable the time synchronization function of ont1 under pon1 port.

```
OLT( config-gpon-0/1 )# ont synchronize-time 1 1 enable
OLT( config-gpon-0/1 )#
```

Case 2: Enable time synchronization for all ONUs.

```
OLT( config-gpon-0/1 )# ont synchronize-time all enable
OLT( config-gpon-0/1 )#
```

13.2.9. ont tr069-profile

Command Syntax	ont tr069-profile <i>PORTID</i> <1-256> (ont-tr069profile-id <1-32> ont-tr069profile-name <i>PROFILE-NAME</i>) no ont tr069-profile <i>PORTID</i> <1-32>
Applicable View	GPON view
Function Description	Ont bind tr069 template
<i>PORTID</i>	PON port number to be configured (the value range varies depending on the device type and can be 1-4, 1-8, 1-16,...).
<1-256>	To be configured.
<1-32>	tr069 template number, the value range is 1 - 32.
<i>PROFILE-NAME</i>	tr069 profile name, the name length supports 1-32 characters. The default profile name is tr069 - profile_x, where "x" is replaced by the actual profile number.
all	All PON ports

【Configuration Case】

Case 1: The first onu under pon1 is bound to the tr069 template 10.

```
OLT(config- gpon-0/1 )# ont tr069-profile 1 1 ont-tr069profile-id 10
OLT(config- gpon-0/1 )#
```

13.2.10. ont default sn-format

Command Syntax	ont default sn-format(hex string)
Applicable View	config view
Function Description	This command is used to configure the display format of ONU sn. The default format is string.
hex string	Display format of ONU sn.

【Configuration Case】

Case 1: Set the ONU SN display format to hex.

```
AX1700-MB140 (config)# ont default sn-format hex
AX1700-MB140 (config)#
```

13.2.11. olt-vendor-rule

Command Syntax	olt-vendor-rule rule -id VENDOR ont-equipment-id EQUIPMENT
Applicable View	config view
Function Description	Deliver the OLT vendor attributes to the ONU that matches the specified device number.
rule -id	Rule ID, the value range is 1-64
VENDOR	OLT manufacturer name. The string length range is 1-4.
EQUIPMENT	ont device number, the string length range is 1-20.

【Configuration Case】

Case 1: Configure a rule to issue the vendor ACT to the OLT whose equipment is MONUV412.

```
OLT(config)# olt-vendor-rule 1 ACT ont-equipment-id MONUV412
OLT(config)#
```

13.2.12. show ont capability

Command Syntax	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 ONT port type and number.
port-id	the ONT is located. The value range is 1-16.
ONT-id	The ID of the ONT to be viewed. The value range is 1-256

【Configuration Case】

Case 1: Query the actual capability set information of ONT No. 2 under PON2 port.

```
OLT( config-gpon-0/1 )# show ont capability 2 2
```

```
-----
Frame/Slot: 0/0
Port: 5
ONT-ID           : 5
ONT TYPE         : HGU
OMCC version      : 0x80
Number of uplink PON ports : 1
Number of POTS ports   : 1
Number of IPHOST     : 2
Number of ETH ports   : 0
  10eth number       : 0
  eth number         : 0
  FE number          : 0
Number of VEIP      : 1
Number of CATV UNI ports : 0
Number of gem ports   : 64
Number of T-CONTs     : 16
The type of flow control: PQ + Car
-----
```

```
OLT(config- gpon-0/1 )#
```

13.2.13. show ont catv-info

Command Syntax	<code>show ont catv-info port-ID (ONT-id all)</code>
Applicable View	GPON view
Function Description	View ont catv information
<i>port-ID</i>	to be checked ranges from 1 to 16.
<i>ONT-id</i>	The ONT to be checked. The value range is 1-256.

【Configuration Case】

Case 1: View CATV information of all ONUs in PON8.

```
OLT( config-gpon-0/1 )# show ont catv-info 8 all
```

```
-----
F/SP ONT Volt age Tx Rx optical Temperature
ID (V) Volt age (dBuV) power (dBm) (C)
-----
```

```
0/0 8 1 -- -- -- --
```

```
OLT(config-gpon-0/1)#
```

13.2.14. show ont config-capability

Command Syntax	show ont config-capability <i>port-id</i> <i>ONT-id</i>
Applicable View	config view or gpon interface view
Function Description	This command is used to query the ONT capability set information configured by the user. You can compare the queried ONT capability set configured by the user with the actual capability set of the ONT to check whether the capabilities match. This is mainly the ONT capability set information configured by the service template.
<i>port-id</i>	the ONT is located. The value range is 1-16
<i>ONT-id</i>	The ID of the ONT to be viewed. The value range is 1-256

【Configuration Case】

Case 1: Query the user configuration capability set of ONT numbered 3 under PON3 port.

```
OLT(config-gpon-0/1)# 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-gpon-0/1 )#
```

13.2.15. show ont failed-config

Command Syntax	show ont failed-config <i>port-id</i> <i>ONT-id</i>
Applicable View	gpon interface view
Function Description	This command is used to check the reasons for the ONT configuration failure.
<i>port-id</i>	the ONT is located. The value range is 1-16
<i>ONT-id</i>	The ID of the ONT to be viewed. The value range is 1-256

【Configuration Case】

Case 1: The reason why the configuration status of ONT No. 1 failed to be queried under the PON3 port.

```
OLT( config-gpon-0/1 )# show ont failed-config 3 1
```

```
-----
```

```
Frame/Slot: 0/0
```

```
Port          : 3
```

```
ONT-ID        : 1
```

```
-----
```

```
CATV port 1 : shutdown
```

```
-----
```

```
OLT( config-gpon-0/1 )#
```

13.2.16. show ont ipconfig

Command Syntax	show ont ipconfig <i>port-id</i> <i>ONT-id</i> [<i>ip-index</i> <i>IP - host - index</i>]
Applicable View	gpon interface view
Function Description	This command is used to view the iphost configuration and iphost status of the ONT.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	ONT - id: The ONT id of the ONT whose management IP address is to be checked. The value range is 1-256

【Configuration Case】

Case 1: Delete the management IP address of ONT 1 on PON3 port.

```
OLT( config-gpon-0/1 )# 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-gpon-0/1)#
```

13.2.17. show ont optical-info

Command Syntax	<code>show ont optical-info port-id (ONT-id all)</code>
Applicable View	gpon interface view
Function Description	This command is used to query the optical power information of the ONT under the PON port. Usually when performing routine maintenance or troubleshooting on the 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.
<i>port-id</i>	the ONT is located. The value range is 1-16.
<i>ONT-id</i>	The ID of the ONT to be viewed. The value range is 1-256
all	View the optical power information of all ONTs under the specified PON port

【Configuration Case】

Case 1: Query the optical power information of ONT numbered 3 under PON3 port.

```
OLT( config-gpon-0/1 )# 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-gpon-0/1)#
```

13.2.18. show ont port state

Command Syntax	<code>show ont port state port-ID ONT-id eth all</code>
Applicable View	GPON view
Function Description	Check the ONT port status
<i>port-ID</i>	The port number to be checked ranges from 1 to 16.
<i>ONT-id</i>	The ONT to be checked. The value range is 1-256.

【Configuration Case】

Case 1: Check the status of all ports of the first ONU of PON8.

```
OLT( config-gpon-0/1 )# show ont port state 8 1 eth all
```

```
-----
F/SP ONT Port Type Speed(Mbps) Duplex Link-State
-----
```

```
0/0 8 1 1 eth - - down
0/0 8 1 2 - - - -
0/0 8 1 3 - - - -
0/0 8 1 4 - - - -
-----
```

```
OLT(config-gpon-0/1)#
```

13.2.19. show ont register-statistics

Command Syntax	show ont register-statistics (<i>port-id</i> <i>all</i>)
Applicable View	config view or gpon interface view
Function Description	This command is used to query the number of registered and online ONTs under the PON port.
<i>port-id</i>	Specify which PON port to view
<i>all</i>	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-gpon-0/1 )# show ont register-statistics 3
```

```
-----
F/SP Autofind Authenticated Online
-----
```

```
0/0 3 0 3 1
-----
```

```
OLT(config-gpon-0/1)#
```

13.2.20. show ont run-info

Command Syntax	show ont run-info <i>port-ID</i> (<i>ONT-ID</i> <i>all</i>) show ont run-info all
Applicable View	GPON view
Function Description	View ont operation information

all	View the operating information of all PON ports or all ONTs under the selected PON port.
<i>port-ID</i>	The port number to be checked ranges from 1 to 16.
<i>ONT-ID</i>	The ONT to be checked. The value range is 1-256.

【Configuration Case】

Case 1: Check the operating status of all ONUs under PON8

```
OLT( config-gpon-0/1 )# 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-gpon-0/1 )#
```

13.2.21. show ont status-count

Command Syntax	show ont status-count [brief]
Applicable View	GPON view
Function Description	Check the current status of ONU
brief	Briefly view the current status and quantity information of ONU

【Configuration Case】

Case 1: Check the current status of the ONU.

```
OLT(config- gpon-0/1 )# show ont status-count
```

```
-----
Total Info
-----
```

```
Offline: 0
```

```
Deactive: 0
```

```
Active: 1
```

```
ConfigSuccess : 1
```

```
ConfigFailed : 0
```

```
Configing : 0
```

```
ConfigInit : 0
```

```
MibReady : 1
```

```
Unknown : 0
-----
```

```
OLT(config-gpon-0/1)#
```

13.2.22. show ont version

Command Syntax	<code>show ont version port-id (ONT-id all)</code>
Applicable View	config view or gpon interface view
Function Description	This command is used to query the related information of the ONT version, including the software and hardware version, manufacturer and other information of the ONT.
<i>port-id</i>	the ONT is located. The value range is 1-16.
<i>ONT-id</i>	The ID of the ONT to be viewed. If the ONT ID is specified after the command, the detailed version information of the ONT will be viewed. The value range is 1-256
<i>all</i>	View the version information of all ONTs under the specified PON port. This command mainly looks at some brief version information of the ONT

【Configuration Case】

Case 1: Query the version information of ONT No. 2 under PON2 port.

```
OLT(config-gpon-0/1)# 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-gpon-0/1 )#
```

13.2.23. show ont default sn-format

Command Syntax	<code>show ont default sn-format</code>
Applicable View	config view

Function Description	This command is used to display the display format of ONU sn.
-----------------------------	---

【Configuration Case】

Case 1: Display format of ONU sn.

AX1700-MB140 (config)# show ont default sn-format

ONU SN Format: hex

AX1700-MB140 (config)#

13.2.24. show olt-vendor-rule

Command Syntax	<i>show olt-vendor-rule</i>
Applicable View	config view
Function Description	Check the configured olt vendor rules.

【Configuration Case】

Case 1: Check the configured olt vendor rules.

OLT(config)# show olt-vendor-rule

ID VENDOR equipment-id

1 ACT MONUV412

13.3 ONT Port Management

13.3.1. encryption

Command Syntax	<i>encryption (enable disable)</i>
Applicable View	GPON view
Function Description	This command is used to enable or disable the security key function.
<i>(enable disable)</i>	Enable is to enable, diable is to disable, the default is disable

【Configuration Case】

Case 1: Enabling the security key feature.

OLT(config-gpon-0/1)# encryption enable

13.3.2. key-exchange-interval

Command Syntax	<i>key-exchange-interval <1000-3600></i> <i>no key-exchange-interval</i>
-----------------------	---

Applicable View	GPON view
Function Description	key-exchange-interval command is used to set the renegotiation interval of the security key. The initial value is 10000. no key-exchange-interval command is used to delete the renegotiation interval of the security key and restore the default value of 3600.
<1000-3600>	The value range is 1000-3600, in ms

【Configuration Case】

Case 1: Set the security key renegotiation interval to 1000ms

```
OLT(config-gpon-0/1)#key-exchange-interval 1000
```

13.3.3. ont (enable|disable)

Command Syntax	ont (enable disable) port-ID (<1- 256 > all sn SN-VALUE)
Applicable View	gpon interface view
Function Description	This command is used to enable or disable the ONT transmit optical power.
(enable disable)	enable: Enables the ONT to transmit optical power. disable: turns off the ONT transmit optical power.
port-ID	specified port number ranges from 1 to 16.
<1- 256 >	Specifies the ONT id, which ranges from 1 to 256.
all	All ONTs under the specified port.
SN-VALUE	Specifies the SN number of the ONT. The length is 12, 13, or 16.

【Configuration Case】

Case 1: Turn off the ONT transmit optical power of port 1.

```
OLT(config-gpon-0/1)#ont disable 1 1
OLT(config-gpon-0/1)# 2022-06-23 13:42:10 PON 0/0/1 ONU 1: The ONT offline

OLT(config-gpon-0/1)#
```

Case 2: Enable the ONT transmit optical power of port 1 with sn number DD15B353EE6A.

```
OLT(config-gpon-0/1)#ont enable 1 sn DD15B353EE6A
OLT(config-gpon-0/1)# 2022-06-23 13:48:04 PON 0/0/1 ONU 1: The ONT online

OLT(config-gpon-0/1)#
```

13.3.4. ont auto-aging

Command Syntax	ont auto-aging <i>port-ID</i> (disable enable)
Applicable View	GPON view
Function Description	This command is used to set the automatic aging switch of the ONT registration of a single port. The default is to turn off the automatic aging switch (disable).
<i>port-ID</i>	to be modified. The value range is 1-16.
disable enable	disable: off enable: on

【Configuration Case】

Case 1: Turn on the automatic aging switch of the ONT under the PON1 port.

```
OLT(config- gpon-0/1 )# ont auto-aging 1 enable
OLT(config- gpon-0/1 )#
```

13.3.5. ont auto-aging all

Command Syntax	ont auto -aging all (disable enable)
Applicable View	config view
Function Description	This command is used to set the automatic aging switch for all ONT registrations. The default is to turn off the automatic aging switch (disable).
<i>port-ID</i>	to be modified. The value range is 1-16.
disable enable	disable: off enable: on

【Configuration Case】

Case 1: Turn on the automatic aging switch of the ONTs under all PON ports.

```
OLT(config)# ont auto-aging all enable
Number of Ports that can be set: 4, success: 4
OLT(config)#
```

13.3.6. ont moving-check

Command Syntax	ont moving-check (enable disable)
Applicable View	gpon interface view
Function Description	This command is used to automatically delete the record of ONU at port a when ONU moves from port a to port b. The default setting is to disable the ONT moving-check function (disable).

(enable disable)	Enable: Enable the ONT moving-check function Disable: Disable the ONT moving-check function.
---------------------------	---

【Configuration Case】

Case 1: Enable the moving check function of the port.

OLT(config-gpon-0/1)# ont moving-check enable
OLT(config-gpon-0/1)#

13.3.7. ont optical-alarm-profile

Command Syntax	ont optical-alarm-profile <i>PORTID</i> <1-256> (profile-id <0-256> profile-name <i>PROFILE-NAME</i>) no ont optical-alarm-profile (<i>PORTID</i> <1-128> all)
Applicable View	GPON view
Function Description	The ont optical-alarm-profile command is used to bind an optical module alarm profile. no ont optical-alarm-profile command is used to unbind the optical module alarm profile.
<1-256>	ONT ID number.
<0-256>	Optical module alarm template number, used to identify an optical module alarm template, with a value range of 0 - 256. For an automatically online ONT , the PON port automatically matches the optical module alarm template 0 , and the optical module alarm template 0 cannot be modified or deleted.
<i>PROFILE-NAME</i>	Optical module alarm profile name, the name length supports 1 to 32 characters. The default profile name is optical_alarm_profile_x, where "x" is replaced by the actual profile number.
<i>PORTID</i>	PON port number to be configured (the value range varies depending on the device type and can be 1-4, 1-8, 1-16,...).
all	All PON ports

【Configuration Case】

Case 1: Bind the first onu under pon1 to the optical module template 10.

OLT(config- gpon-0/1)# ont optical-alarm-profile 1 1 profile-id 10
OLT(config- gpon-0/1)#

13.3.8. ont policy-auth

Command Syntax	ont policy-auth <i>PORTID</i> [speed-mode {<i>gpon</i>/<i>xgpon</i>/<i>xgspon</i>}] match any(sn-auth sn-password-auth password-auth loid-auth loid-password-auth) to mult-srv-profile (profile-id <i>profile-id</i> profile-name <i>NAME</i>) priority <0-63> ont policy-auth <i>PORTID</i>[speed-mode{<i>gpon</i>/<i>xgpon</i>/<i>xgspon</i>}] match {sn<i>SN-VALUE</i> vendor-id <i>VENDOR-VALUE</i> equip-id <i>EQUIP-VALUE</i> soft-ver <i>SOFTVER-VALUE</i>}(sn-auth sn-password-auth password-auth loid-auth loid-password-auth) to mult-srv-profile (profile-id <i>profile-id</i> profile-name <i>NAME</i>) priority <0-63> no ont policy-auth <i>PORTID</i> mult-srv-profile (profile-id <i>profile-id</i> profile-name <i>NAME</i>) no ont policy-auth <i>PORTID</i> priority <0-63> no ont policy-auth <i>PORTID</i> (sn-auth sn-password-auth password-auth loid-auth loid-password-auth)
Applicable View	GPON view
Function Description	ont policy-auth command is used to bind multiple service templates to a port. Each binding template is not associated with the port policy authentication switch. A port can be bound to a maximum of 32 templates. In addition to the template, you also need to specify the rules, authentication method, and matching priority of the ONU on the port. The priority value is 0-63, with 0 being the lowest priority. You can select multiple items of sn, vendor-id, equip-id, and soft-ver. You must select at least one item and select them in order. If you select the latter item first to configure the parameters, the former item will no longer be selected. Optional. no ont policy-auth <i>PORTID</i> mult-srv-profile { profile-id < <i>profile-id</i> > profile-name <i>NAME</i> } is used to unbind the relationship between the specified port and the specified multi-service template; no ont policy-auth <i>PORTID</i> priority <0-63> is used to release the binding relationship with the port through the priority of the multi-service template on the port; no ont policy-auth <i>PORTID</i> (sn-auth sn-password-auth password-auth loid-auth loid-password-auth) is used to remove the priority of the port through the ont matching multi-service template. Binding relationship.
<i>PORTID</i>	Specify the PON port number. The value range is 1-16
speed-mode	The speed-mode of the ONT to be authenticated , that is, the rate mode. When executing the XGS service, the rate mode of the ONU must be specified. Acceptable parameters: gpon, xgpon, xgspon

sn <i>SN-VALUE</i>	Specifies the string that matches the sn number of the multi-service template on the current port. The length supports 1-20.
vendor-id <i>VENDOR-VALUE</i>	Specifies the string that matches the vendor-id of the multi-service template on the current port. The supported length is 1-20.
equip-id <i>EQUIP-VALUE</i>	Specifies the string that matches the equip-id number of the multi-service template on the current port. The supported length is 1-20.
soft-ver <i>SOFTVER-VALUE</i>	Specifies the string that matches the soft-ver number of the multi-service template on the current port. The supported length is 1-20.
(sn-auth sn-password-auth password-auth loid-auth loid-password-auth)	Specifies the registration mode of the ONT that matches the multi-service template on the current port.
<i>profile-id</i>	ONT multi-service template ID, value range is 0-255
<i>NAME</i>	ONT multi-service template name, supports 1-64 characters
any	Specify the matching rule of the multi-service template on the current port as any ont
priority <0-63>	Specifies the matching priority of the multi-service template on the current port. The value range is 0-63.

【Configuration Case】

Case 1: Bind multi-service template 1 on pon 1 with matching rule sn RTKG, authentication mode password-auth , and priority 2.

```
OLT(config- gpon-0/1 )# ont policy-auth 1 match sn RTKG password-auth to mult-srv
-profile profile-id 1 priority 2
Port gpon-0/1 1 bind mult-srv-profile success!
OLT(config- gpon-0/1 )#
```

13.3.9. ont port attribute catv

Command Syntax	ont port attribute <i>port-id ONT-id catv catv-port-id (disable enable)</i>
Applicable View	gpon interface view
Function Description	This command is used to enable or disable the ONT CATV port.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	ONT ID of the ONT to be configured, the value is 1-256

<i>catv-port-id</i>	ONT catv port ID, value range 1-8
disable enable	enable: Enable catv port disable: disable catv port

【Configuration Case】

Case 1: Enable the CATV port of PON1 ONT 1.

```
OLT( config-gpon-0/1 )# ont port attribute 1 1 catv 1 operational-state enable
```

```
OLT( config-gpon-0/1 )#
```

13.3.10. ont port attribute eth

Command Syntax	ont port attribute <i>port-id</i> <i>ONT-id</i> eth <i>eth -port-id</i> (flow-control (disable enable) auto-neg operational-state (disable enable) speed <i>speed</i> dulepx (full half))
Applicable View	config view
Function Description	This command is used to configure related functions of the ONT Ethernet port. The flow-control command is used to enable or disable the flow control function of the ONT Ethernet port. auto-neg command is used to enable the auto-negotiation function of the ONT port. operational-state command is used to enable or disable an ONT port. speed command is used to configure the speed and duplex mode of the ONT Ethernet port.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>eth-port-id</i>	The ID of the Ethernet port of the ONT. The value range is 1-8
flow-control	enable: Enable the flow control function of the Ethernet port disable: Disable the flow control function of the Ethernet port
auto-neg	Enable the auto-negotiation function of the ONT port
operational-state	enable: Enable the ONT 's eth port disable: Disable the ONT 's eth port
speed <i>speed</i>	10: 10Mb /s 100: 100Mb/s 1000: 1 000Mb/s
full/half	full: full-duplex mode half: half-duplex mode

【Configuration Case】

Case 1: Enable the flow control function of the first Ethernet port of PON1 ONT 1.

```
OLT( config-gpon-0/1 )# ont port attribute 1 1 eth 1 flow-control enable

OLT( config-gpon-0/1 )#
```

Case 2: Enable the auto-negotiation function of the first Ethernet port of PON1 ONT 1.

```
OLT( config-gpon-0/1 )# ont port attribute 1 1 eth 1 auto-neg

OLT( config-gpon-0/1 )#
```

Case 3: Open PON1 port ONT 1 port 1.

```
OLT( config-gpon-0/1 )# ont port attribute 1 1 eth 1 operational-state enable

OLT( config-gpon-0/1 )#
```

Case 4: Configure the first Ethernet port of PON1 ONT 1 to have a rate of 1000 Mb /s and full-duplex mode.

```
OLT( config-gpon-0/1 )# ont port attribute 1 1 eth 1 speed 1000 dulepx full

OLT( config-gpon-0/1 )#
```

13.3.11. ont port attribute pots

Command Syntax	ont port attribute <i>port-id</i> <i>ONT-id</i> pots <i>pots -port-id</i> operational-status (disable enable)
Applicable View	gpon interface view
Function Description	This command is used to enable or disable the ONT pots port.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>pots -port-id</i>	ONT pots port ID, value range 1-8
disable enable	enable: Enable pots port disable: disable the pots port

【Configuration Case】

Case 1: Enable the pots port of PON1 ONT 1.

```
OLT( config-gpon-0/1 )# ont port attribute 1 1 pots 1 operational-state enable

OLT( config-gpon-0/1 )#
```

13.3.12. ont port car

Command Syntax	ont port car <i>port-id</i> <i>ONT-id</i> eth <i>eth-port-id</i> (inbound <i>traffic-profile-ID</i> outbound <i>traffic-profile-ID</i> outbound <i>traffic-profile-ID</i>) no ont port car <i>port-id</i> <i>ONT-id</i> eth <i>eth-port-id</i> (inbound outbound all)
Applicable View	gpon interface view
Function Description	the upstream and downstream bandwidth rate limit function of the ONT port.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>eth-port-id</i>	The ID of the Ethernet port of the ONT. The value range is 1-8
inbound	Configure the upstream (inbound) rate limit function of the ONT port
outbound	Configure the downstream (egress) rate limit function of the ONT port
<i>traffic - profile - ID</i>	The traffic profile ID that needs to be bound to the ONT port speed limit. The bandwidth value of the ONT port speed limit configuration is bound to the traffic profile. You can use the OLT(config)# show traffic-profile all command to view which traffic profiles are on the OLT.

【Configuration Case】

Case 1: Configure the upstream and downstream port rates of the first Ethernet port of PON1 ONT 1 to 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-gpon-0/1 )# ont port car 1 1 eth 1 inbound 6 outbound 6
OLT( config-gpon-0/1 )#
```

13.3.13. ont re-enable

Command Syntax	ont re-enable <i>port-ID</i> sn <i>SN-VALUE</i>
Applicable View	gpon interface view
Function Description	This command is used to remove an ONU from the rogue ONU automatic isolation table.
<i>port-ID</i>	specified port number ranges from 1 to 16.

SN-VALUE	Specifies the SN number of the ONT. The length is 12, 13, or 16.
-----------------	--

【Configuration Case】

Case 1: Remove the ONU with sn serial number RTKG11111111 on port 1 from the isolation table.

```
OLT(config- gpon-0/1 )# ont re-enable 1 sn RTKG11111111
There is no exit.
OLT(config- gpon-0/1 )#
```

13.3.14. show encryption

Command Syntax	show encryption
Applicable View	View GPON view
Function Description	Display ONT encryption status

【Configuration Case】

Case 1: Check the encryption status of ONT.

```
OLT( config-gpon-0/1 )# show encryption

GPON ONT encryption switch: Enable

OLT( config-gpon-0/1 )#
```

13.3.15. show key- exchange

Command Syntax	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: Check the renegotiation interval configuration of the security key.

```
OLT( config-gpon-0/1 )# show key- exchange

-----
Control Status Interval(ms)
-----
Enable 1000
-----
```

13.3.16. show ont auto-aging info

Command Syntax	show ont auto-aging info
-----------------------	---------------------------------

Applicable View	config 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- gpon-0/1 )# show ont auto-aging info
-----
F/S Port Switch Interval(Day)
-----
0/0 1 on 100
0/0 2 on 100
0/0 3 on 100
0/0 4 on 100
-----
OLT(config- gpon-0/1 )#
```

13.3.17. show ont disable-info

Command Syntax	show ont disable-info
Applicable View	gpon interface view
Function Description	This command is used to view the ONT whose transmit optical power is currently shut down.

【Configuration Case】

Case 1: Check the ONT transmit optical power shutdown table item.

```
OLT(config- gpon-0/1 )# show ont disable-info
-----
F/S Index Port ONT-ID SN
-----
0/0 1 1 1 DD15B353EE6A
-----
OLT(config- gpon-0/1 )#
```

13.3.18. show ont moving-check

Command Syntax	show ont moving-check
Applicable View	gpon interface view
Function Description	This command is used to check whether the current ONU moving-check conflict detection is enabled.

【Configuration Case】

Case 1: Check whether ONU moving-check conflict detection is enabled.

```
OLT(config- gpon-0/1 )# ont moving-check enable
OLT(config- gpon-0/1 )# show ont moving-check
ONT moving check: enable
OLT(config- gpon-0/1 )#
```

13.3.19. show ont port attribute

Command Syntax	show ont port attribute <i>port-id</i> <i>ONT-id</i> (<i>catv</i> <i>eth</i>) all
Applicable View	gpon interface view
Function Description	This command is used to view the ONT CATV and ETH port configurations.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	ONT ID of the ONT to be viewed, the value is 1-256
all	View all CATV port configurations of the ONT

【Configuration Case】

Case 1: View the CATV port configuration information of PON2 ONT2.

```
OLT( config-gpon-0/1 )# show ont port attribute 2 2 catv all
-----
F/S P  ONT  ONT-Port  Port-Switch
-----
0/0 2  2   1       off
-----

OLT( config-gpon-0/1 )#
```

13.3.20. show ont port car

Command Syntax	show ont port car <i>port-id</i> <i>ONT-id</i> eth all
Applicable View	config view or gpon interface view
Function Description	This command is used to view the upstream and downstream bandwidth rate configuration of the ONT port.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	ONT ID of the ONT to be viewed, the value is 1-256
all	View the upstream and downstream bandwidth rate configuration of all ports on the ONT

【Configuration Case】

Case 1: View the upstream and downstream bandwidth rate configuration of all ports of PON2 ONT2.

```
OLT( config-gpon-0/1 )# show ont port car 2 2 eth all
```

```
-----
F/S P  ONT Port Inbound Outbound
-----
```

```
0/0 2 2  1   6   6
-----
```

```
OLT(config-gpon-0/1)#
```

13.3.21. show ont port learned-mac

Command Syntax	<code>show ont port learned-mac port-id ONT-id eth eth -port-id</code>
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.
<i>port-id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ONT-id</i>	ONT ID of the ONT to be viewed, the value is 1-256
<i>eth -port-id</i>	Specifies the port ID of the MAC address table that the ONT needs to view. The value range is 1-8.

【Configuration Case】

Case 1: Check the MAC address table learned by port 1 of PON2 ONT2.

```
OLT( config-gpon-0/1 )# show ont port learned-mac 2 2 eth 1
```

```
No mac address learned
```

```
OLT( config-gpon-0/1 )#
```

13.3.22. show ont status-count

Command Syntax	<code>show ont status-count [brief]</code>
Applicable View	GPON view
Function Description	Check the current status of ONU
<i>brief</i>	Briefly display the current status of ONU

【Configuration Case】

Case 1: Check the current status of the ONU.

```
OLT( config-gpon-0/1 )# show ont status-count
```

Total Info

Offline: 0
Inactive: 0
Disable: 0
Active : 1
ConfigSuccess : 1
MibReady : 1
Unknown : 0

OLT(config-gpon-0/1)#

13.3.23. transceiver-compat

Command Syntax	ttransceiver-compat <i>port-ID</i> type (sps_43_48_h_hp_cde_sd_2013 sog_4321_psgb lte_3680_m source_photonics lte_3680_p_type_c_plus any any_reset_guard any_reset_preamble wtd_rtxm_167_526_cplus wtd_rtxm_167_522_bplus lte_3680_p_bc sogq_4321_psgb_c_plus wtd_rtxm167_521 lte3678 sogp_4321_psga lth_5308 ltf_5308 ltf_5308_e ltf_5306 ltf_5308_b sdds_st_xs_cp_cdfa zj pt ansaoen_dp hisilicon z_quick tsuhan_ltd dp gpon_general_1 gpon_general_2 gpon_general_3 gpon_general_4 gpon_general_5 gpon_general_6 gpon_general_7 gpon_general_8 gpon_general_9 gpon_general_10 gpon_general_11)
Applicable View	GPON view
Function Description	Empty snowflakes
<i>port-ID</i>	to be checked ranges from 1 to 16.
sps_43_48_h_hp_cde_sd_2013 sog_4321_psgb lte_3680_m source_photonics lte_3680_p_type_c_plus any any_reset_guard any_reset_preamble wtd_rtxm_167_	All adapter templates for optical modules

```

526_cplus |
wtd_rtxm_167_
522_bplus |
lte_3680_p_bc |
sogq_4321_psgb
_c_plus |
wtd_rtxm167_5
21 | lte3678 |
sogp_4321_psga
| lth_5308 |
ltf_5308 |
ltf_5308_e |
ltf_5306 |
ltf_5308_b |
sdds_st_xs_cp_c
dfa | zj | pt |
ansaoen_dp |
hisilicon |
z_quick |
tsuhan_ltd | dp
|
gpon_general_1
|
gpon_general_2
|
gpon_general_3
|
gpon_general_4
|
gpon_general_5
|
gpon_general_6
|
gpon_general_7
|
gpon_general_8
|
gpon_general_9
|
gpon_general_1
0 |
gpon_general_1
1
    
```

【Configuration Case】

Case 1: Configure the optical module template of PON1 to ltf_5308_e.

```
OLT( config-gpon-0/1 )# transceiver-compatible 1 type ltf_5308_e
```

```
OLT( config-gpon-0/1 )#
```

14 ONT Upgrade Configuration

14.1 ONT Automatic Upgrade

14.1.1. description

Command Syntax	description <i>DESCRIPTION</i>
Applicable View	ont-auto-upgrade-task view
Function Description	The ont-upgrade file command is used to configure the upgrade file name for the ONT automatic upgrade task. The file path is specified as /mnt/user_space/ by default. This command can only be used to configure the upgrade file name. Unable to start.
<i>DESCRIPTION</i>	Task description of the ONT automatic upgrade task. The length of the description string ranges from 1 to 127.

【Configuration Case】

Case 1: Configure the upgrade file name for the ONT automatic upgrade task.

```
OLT(config-ont-auto-upgrade-task-1)# ont-upgrade file AX511G_F_So8S_V1.2.5_2110
14_11836_X000.img
OLT(config-ont-auto-upgrade-task-1)#
```

14.1.2. load file

Command Syntax	load file [to flash] (ftp ftp- server-ip-address user-name user-password file-name tftp tftp- server-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.
to flash	Write the transmitted ONT upgrade file into the flash for storage. If the ONT upgrade file is not written into the flash, the ONT upgrade file disappears after the OLT restarts.
<i>ftp- server-ip-address</i>	The IP address of the FTP server.
<i>user-name</i>	ftp login username.
<i>user-password</i>	FTP login password.
<i>file-name</i>	ONT upgrade file name
<i>tftp- server-ip-address</i>	The IP address of the tftp server.

【Configuration Case】

Case 1: Use FTP to transfer the ONT upgrade file 111.tar to the OLT.

```
OLT(config)# load file ftp 192.168.5.111 test **** 111.tar
OLT(config)#
```

14.1.3. ont-auto-upgrade-task

Command Syntax	ont-auto-upgrade-task task-id no ont-auto-upgrade-task (task-id all)
Applicable View	config view
Function Description	The ont-auto-upgrade-task command is used to create an ONT auto-upgrade task and enter the ONT auto-upgrade task view. After entering the ONT auto-upgrade task view, you can complete the parameter configuration of the auto-upgrade task and manage the actions of the auto-upgrade task. The no ont-auto-upgrade-task command is used to delete unnecessary ONT automatic upgrade tasks. When an ONT automatic upgrade task is in the running state, the task cannot be deleted.
<i>task-id</i>	ONT automatic upgrade task number, the value range is 1-10. You can create, configure, and delete ONT automatic upgrade tasks through the task number.
all	All ONT automatic upgrade tasks are used to delete all currently existing ONT automatic upgrade tasks.

【Configuration Case】

Case 1: Create a new ONT automatic upgrade task and enter the ONT automatic upgrade task configuration view.

```
OLT(config)# ont-auto-upgrade-task 1
OLT(config-ont-auto-upgrade-task-1)#
```

Case 2: Delete an ONT automatic upgrade task based on task -id.

```
OLT(config)# no ont-auto-upgrade-task 1
OLT(config)#
```

14.1.4. ont-match

Command Syntax	ont-match {vendor-id VENDOR equipment-id EQUIPMENT version VERSION }
Applicable View	ont-auto-upgrade-task view
Function Description	ont-upgrade command is used to configure the ONT selection conditions for the ONT automatic upgrade task. The vendor-id, equipment-id, and version conditions restrict the ONTs selected by the ONT automatic upgrade task. When all three conditions are not empty, only ONTs that meet all three conditions can be upgraded. The ONT selection conditions take effect only after the task is started.

<i>VENDOR</i>	ont Manufacturer name. The string length range is 1-4.
<i>EQUIPMENT</i>	ont device number, the string length range is 1-20.
<i>VERSION</i>	ont software version. The string length range is 1-14.

【Configuration Case】

Case 1: Configure the ONT selection conditions for the ONT automatic upgrade task: vendor-id is ACT, equipment-id is AD511G, and version is F690.1B.

```
OLT (config-ont-auto-upgrade-task-1)# ont-match vendor-id ACT equipment-id AD511G
version F690.1B
OLT(config-ont-auto-upgrade-task-1) #
```

14.1.5. ont-upgrade

Command Syntax	ont-upgrade (start stop pause continue)
Applicable View	ont-auto-upgrade-task view
Function Description	ont-upgrade command is used to control the automatic upgrade task of the ONT device. The automatic upgrade task of the ONT is controlled by the state machine: The task can only be started when it is in the unstarted state; The task can be stopped or paused only when it is in the started state; The task can be continued only when it is in the paused state.
start	Used to start the automatic upgrade task of the ONT device.
stop	Used to stop the automatic upgrade task of the ONT device. A stopped task cannot be restarted but can only be deleted.
pause	Used to pause the automatic upgrade task of the ONT device.
continue	Used to restart the suspended automatic upgrade task of the ONT device

【Configuration Case】

Case 1: Start the automatic upgrade task of the ONT device.

```
OLT(config-ont-auto-upgrade-task-1)# ont-upgrade start
OLT(config-ont-auto-upgrade-task-1)#
```

14.1.6. ont-upgrade delete

Command Syntax	ont-upgrade delete F/S (all port- list all port- id ont - list)
Applicable View	ont-auto-upgrade-task view
Function Description	ont-upgrade command is used to delete the ONT device selected in the ONT automatic upgrade task. If the ONT to be deleted selected by this

	command is not the ONT to be upgraded selected by the ONT automatic upgrade task, no operation is performed on this ONT.
<i>F/S</i>	Used to specify the slot number of the ONT to be deleted.
<i>port- list</i>	Used to specify the port list where the ONT to be deleted is located. The format is 1-2, 3:2, 4:1. The ONT device is connected to the PON port of the OLT device. If the input port number is detected to be not a PON port, the input port number is invalid and this command does not perform any operation.
<i>port -id</i>	Used to specify the port number where the ONT to be deleted is located.
<i>ont - list</i>	Used to specify the ONT list of the ONT to be deleted. The format is 1, 55-66 , 77-88. The ONT device number range is 1 - 128.
all	Used to select all ONTs under the selected slot/port.

【Configuration Case】

Case 1: Delete the ONT devices with ONU numbers 55-65 under PON port No. 1 under slot 0 of the ONT automatic upgrade task.

```
OLT(config-ont-auto-upgrade-task-1)# ont-upgrade delete 0/0 1 55-6 5
OLT(config-ont-auto-upgrade-task-1)#
```

14.1.7. ont-upgrade file

Command Syntax	ont-upgrade file <i>FILENAME</i>
Applicable View	ont-auto-upgrade-task view
Function Description	The ont-upgrade file command is used to configure the upgrade file name of the ONT automatic upgrade task. The file path is specified as /mnt/user_space/ by default. This command can only be used to configure the upgrade file name. If the upgrade file name does not exist, the ONT automatic upgrade task cannot be started.
<i>FILENAME</i>	ONT automatic upgrade task upgrade file name, used to specify the upgrade file used by the automatic upgrade task. The file name string length range is 1-80.

【Configuration Case】

Case 1: Configure the upgrade file name for the ONT automatic upgrade task.

```
OLT(config-ont-auto-upgrade-task-1)# ont-upgrade file AX511G_F_So8S_V1.2.5_2110
14_11836_X000.img
OLT(config-ont-auto-upgrade-task-1)#
```

14.1.8. ont-upgrade mode

Command Syntax	ont-upgrade mode (batch policy)
Applicable View	ont-auto-upgrade-task view
Function Description	ont-upgrade mode command is used to configure the automatic upgrade mode of the ONT, which is divided into batch upgrade and policy upgrade.
batch	The task mode is batch upgrade. After configuring this mode, the current upgrade task only upgrades the ONTs in the ONT list.
policy	The task mode is policy upgrade. After configuring this mode, the current upgrade task can upgrade the ONTs in the ONT list and the ONTs that are about to go online.

【Configuration Case】

Case 1: Configure the upgrade file name for the ONT automatic upgrade task.

```
OLT(config-ont-auto-upgrade-task-1)# ont-upgrade file AX511G_F_So8S_V1.2.5_2110
14_11836_X000.img
OLT(config-ont-auto-upgrade-task-1)#
```

14.1.9. ont-upgrade select

Command Syntax	ont-upgrade select F/S (all port- list (ont - list all))
Applicable View	ont-auto-upgrade-task view
Function Description	ont-upgrade The select command is used to configure the ONT selection range for the ONT automatic upgrade task. The ONT devices selected by this command are the ONTs to be upgraded.
F/S	Used to specify the slot number where the ONT to be upgraded is located.
port- list	Used to specify the port list where the ONT to be upgraded is located. The format is 1-2, 3:2, 4:1. The ONT device is connected to the PON port of the OLT device. If the input port number is detected to be not a PON port, the input port number is invalid and this command does not perform any operation.
ont - list	Used to specify the ONT list that needs to be upgraded. The format is 1, 55-66 , 77-88. The ONT device number range is 1 - 128.
all	Used to select all ONTs under the selected slot/port.

【Configuration Case】

Case 1: The ONT selection range for configuring the ONT automatic upgrade task is the ONT devices with ONU numbers 12, 55-66, 77-88 under PON ports 1-2 under slot 0.

```
OLT(config-ont-auto-upgrade-task-1)# ont-upgrade 0/0 1-2 12,55-66,77-88
OLT(config-ont-auto-upgrade-task-1)#
```

14.1.10. ont-upgrade start-time

Command Syntax	ont-upgrade start-time (YYYY/MM/DD-HH:MM:SS current) {end-time YYYY/MM/DD-HH:MM:SS}
Applicable View	ont-auto-upgrade-task view
Function Description	ont-upgrade start-time command is used to configure the start and stop time of the ONT automatic upgrade task. The stop time can be left blank. If the task stop time is not set, it defaults to 3 hours after the task start time. The start time can also be left blank. It defaults to the current time.
YYYY/MM/DD-HH:MM:SS	The input format of the task start time or task stop time. If the time value entered in the command does not conform to the format, the command cannot be executed.
current	Set the task start time to the current time.

【Configuration Case】

Case 1: Configure the start and stop time of the ONT automatic upgrade task.

```
OLT(config-ont-auto-upgrade-task-1)# ont-upgrade start-time 2023/3/21-1:00:00 end-time 2023/3/21-22:00:00
OLT(config-ont-auto-upgrade-task-1)#
```

14.1.11. target-version

Command Syntax	target-version VERSION
Applicable View	ont-auto-upgrade-task view
Function Description	target-version command is used to configure the target matching version of the ONT automatic upgrade task. If the ONT version after the upgrade is consistent with the target version, the upgrade is considered successful. Otherwise, the upgrade is considered failed.
VERSION	ont software version. The string length range is 1-14.

【Configuration Case】

Case 1: Configure the target version for automatic ONT upgrade to V3.2.16.

```
OLT(config-ont-auto-upgrade-task-1)# target-version V3.2.16
OLT(config-ont-auto-upgrade-task-1)#
```

14.1.12. show ont-auto-upgrade-task

Command Syntax	show ont-auto-upgrade-task brief
-----------------------	---

Applicable View	config view
Function Description	This command is used to view brief information about all existing ONT automatic upgrade tasks.

【Configuration Case】

Case 1: View brief information about all ONT automatic upgrade tasks.

OLT(config)# show ont-auto-upgrade-task brief				

task-ID	status	start-time	end-time	ont-select-total

1	none	2023-03-21 01:00:00	2023-03-21 22:00:00	0
2	none	2024-06-23 22:58:00	2024-06-24 01:58:00	0
3	none	-	-	0

14.1.13. show ont-auto-upgrade-task info

Command Syntax	show ont-auto-upgrade-task info (task-id all)
Applicable View	config view
Function Description	This command is used to view detailed information about the ONT automatic upgrade task.
<i>task-id</i>	ONT automatic upgrade task number, ranging from 1 to 10, is used to view detailed information of the ONT automatic upgrade task corresponding to the task number.
all	All ONT automatic upgrade tasks are used to view the detailed information of all existing ONT automatic upgrade tasks.

【Configuration Case】

Case 1: View detailed information of all ONT automatic upgrade tasks.

OLT(config)# show ont-auto-upgrade-task info all	

Task ID: 1	
Task Description:	
Creat Time: 2024-06-23 22:57:27	
start Time: 2023-03-21 01:00:00	
end Time: 2023-03-21 22:00:00	
Task Status: none	
Upgrade File Name: AD511G_F_So8S_V1.2.5_211014_11836_X000.img	
ont-match vendor-id: ACT	
ont-match equipment-id: AD511G	
ont-match Version : F690.1B	

```

-----
Slot-ID Port-ID  ONT-list
0      1      12,66,77-88
0      2      12,55-66,77-88
-----

```

```

-----
Task ID      : 2
Task Describe :
Creat Time   : 2024-06-23 22:57:42
start Time   : 2024-06-23 22:58:00
end Time     : 2024-06-24 01:58:00
Task Status  : none
Upgrade File Name :
ont-match vensor-id :
ont-macth equipment-id:
ont-math Version :
-----

```

```

-----
Slot-ID Port-ID  ONT-list
-----

```

14.1.14. show ont-auto-upgrade-task statistics

Command Syntax	<code>show ont-auto-upgrade-task status all</code>
Applicable View	config view
Function Description	This command is used to view the statistics of upgraded ONT devices in all ONT automatic upgrade tasks.

【Configuration Case】

Case 1: View the statistics of all ONT automatic upgrade tasks for upgrading ONT devices.

```
OLT(config)# show ont-auto-upgrade-task statistics all
```

```

-----
task-ID total waiting loading fail success cancel
-----

```

```

1  0  0  0  0  0  0
2  0  0  0  0  0  0
-----

```

14.1.15. show ont-auto-upgrade-task upgrade info

Command Syntax	<code>show ont-auto-upgrade-task upgrade info (task-id all)</code>
Applicable View	config view
Function Description	This command is used to view the upgrade status information of the ONT devices to be upgraded in the ONT automatic upgrade task. This command only displays the information of the ONTs in the task to be upgraded. Therefore, if the task is not started or there are no ONT devices that meet the conditions and need to be upgraded after the task is started, this command will be displayed. The command does not display any information.
<i>task-id</i>	ONT automatic upgrade task number, ranging from 1 to 10, is used to view the ONT device upgrade status of the ONT automatic upgrade task corresponding to the task number.
<i>all</i>	All ONT automatic upgrade tasks are used to view the ONT device upgrade status of all existing ONT automatic upgrade tasks.

【Configuration Case】

Case 1: View the upgrade status information of all ONT devices to be upgraded in the ONT automatic upgrade task.

OLT(config)# show ont-auto-upgrade-task upgrade info all						

Task-ID: 1						

Slot-ID	Port-ID	ONT-ID	SN	Status	Percent	UpgradeTime

No ont is selected						

Task-ID: 2						

Slot-ID	Port-ID	ONT-ID	SN	Status	Percent	UpgradeTime

No one is selected						

14.2 ONU Single Unit Upgrade

14.2.1. ont-upgrade

Command Syntax	ont -upgrade <i>F/S port - id ont -list filename</i> no ont -upgrade (<i>F/S port - id ont -list all</i>)
Applicable View	config interface view
Function Description	This command is used to add or cancel the upgrade of certain ONUs.
<i>F/S</i>	Used to specify the slot number where the ONT to be upgraded is located.
<i>port -id</i>	Used to specify the port where the ONT to be upgraded is located. The ONT device is connected to the PON port of the OLT device. If the input port number is detected to be not a PON port, the input port number is invalid and this command does not perform any operation.
<i>ont - list</i>	Used to specify the ONT list that needs to be upgraded. The format is 1, 55-66 , 77-88. The ONT device number range is 1 - 128.
<i>filename</i>	File name used for ONU upgrade, length is 1-80.
all	Used to select all ONTs under the selected port.

【Configuration Case】

Case 1: Select ONUs with ONU IDs 10-20 under PON port 2 in slot 0 for upgrade. The upgrade file is test.tar.

```
OLT(config)# ont-upgrade 0/0 2 10-20 test.tar
OLT(config)#
```

Case 2: Cancel the ONU upgrade task for ONU IDs 60-64 on PON port 2 in slot 0.

```
OLT(config)# no ont-upgrade 0/0 2 60-64
OLT(config)#
```

14.2.2. show ont-upgrade manual

Command Syntax	show ont-upgrade manual (<i>current history</i>) info
Applicable View	config view
Function Description	This command is used to view the upgrade information of the ONT that is currently being upgraded or the ONT that has been upgraded.
<i>current</i>	List of ONTs being upgraded. Includes ONTs waiting to be upgraded and those being upgraded.
<i>history</i>	The upgraded ONT list will be added to this list from the current upgrade list.

【Configuration Case】

Case 1: View the upgrade information of the ONT currently being upgraded.

```
OLT(config)# show ont-upgrade manual current info
```

```
-----  
Slot-ID Port-ID ONT-ID  SN Status Percent(%) UpgradeTime FailReason  
-----
```

```
0 1 11 DC31-B3243900 downloading 1 -
```

```
0 1 12 DC31-B3241800 downloading 1 -
```

```
0 1 13 DC31-B3240800 downloading 2 -  
-----
```

Case 2: Check the upgrade information of the upgraded ONT.

```
AX1700(config)# show ont-upgrade manual history info
```

```
-----  
Slot-ID Port-ID ONT-ID SN Status UpgradeTime FailReason Filename  
-----
```

```
0 1 13 DC31-B3240800 success 2023/10/26-20:14:43 asdf.tar
```

```
0 1 12 DC31-B3241800 success 2023/10/26-20:14:53 asdf.tar
```

```
0 1 11 DC31-B3243900 success 2023/10/26-20:14:58 asdf.tar  
-----
```

15 ONT Voice Port Configuration

15.1 ONT Voice Port Discrete Configuration

15.1.1. ont port attribute pots

Command Syntax	ont port attribute <i>port - id ont - id pots pots-port-id operational-state (on off)</i>
Applicable View	gpon interface view
Function Description	This command is used to enable or disable the voice port of the ONT.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>pots-port-id</i>	ONT voice port ID, the value range is 1-8
on	Open the ONT voice port
off	Disable the ONT voice port

【Configuration Case】

Case 1: Enable the first voice port of ONT 1 on PON1

```
OLT( config-gpon-0/1 )# ont port attribute 1 1 pots 1 operational-state on

OLT( config-gpon-0/1 )#
```

15.1.2. pstnport electric

Command Syntax	pstnport electric <i>port - id ont - id pots-port-id pots -profile (profile-id profile-id profile-name profile-name)</i>
Applicable View	gpon interface view
Function Description	ONU voice port service binding pots template
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>pots-port-id</i>	ONT voice port ID, the value range is 1-8
<i>profile-id</i>	pots template id, value range is 0-16
<i>profile-name</i>	pots template name, maximum length is 16

【Configuration Case】

Case 1: The first voice port of ONU1 under PON1 port is bound to pots-profile template 1.

```
OLT(config-gpon-0/1)# pstnport electric 5 1 1 pots-profile profile-id 1
Error: sippstnuser pots profile modify fail
OLT(config-gpon-0/1)#
```

15.1.3. show sippstnuser attribute

Command Syntax	show sippstnuser attribute <i>port - id ont - id pots (pots-port-id all)</i>
Applicable View	gpon interface view
Function Description	ONU voice configuration information and status display
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>pots-port-id</i>	ONT voice port ID, the value range is 1-8
all	All voice ports

【Configuration Case】

Case 1: Check the configuration information and status of the first voice port of ONU1 under the PON1 port.

```
OLT( config-gpon-0/1 )# show sippstnuser attribute 1 1 pots 1
Error: The Information eth failed
OLT( config-gpon-0/1 )#
```

15.1.4. sippstnuser add

Command Syntax	sippstnuser add <i>port -id ont - id pots-port-id {password password telno telno username username }</i>
Applicable View	gpon interface view
Function Description	Add discrete configuration of onu voice port
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>pots-port-id</i>	ONT voice port ID, the value range is 1-8
<i>password</i>	Password, maximum length is 24
<i>telno</i>	Phone number, maximum length is 31

<i>username</i>	Username, maximum length is 24
-----------------	--------------------------------

【Configuration Case】

Case 1: Add the first voice port of ONU1 under PON1 port.

```
OLT( config-gpon-0/1 )#sippstnuser add 1 1 1
The ONU does not exist in the authentication table

OLT( config-gpon-0/1 )#
```

15.1.5. sippstnuser del

Command Syntax	sippstnuser del <i>port - id ont - id pots-port-id</i>
Applicable View	gpon interface view
Function Description	Delete ONU voice port configuration
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>pots-port-id</i>	ONT voice port ID, the value range is 1-8

【Configuration Case】

Case 1: Delete the first voice port of ONU1 under PON1 port.

```
OLT( config-gpon-0/1 )#sippstnuser del 1 1 1
The ONU does not exist in the authentication table

OLT( config-gpon-0/1 )#
```

15.1.6. sippstnuser digitmap

Command Syntax	sippstnuser digitmap <i>port - id ont - id digitmap-profile (profile-id profile-id profile-name profile-name)</i> no sippstnuser digitmap <i>port - id ont - id</i>
Applicable View	gpon interface view
Function Description	The sippstnuser digitmap command is used to bind the digitmap template to the ONT voice service. The no sippstnuser digitmap command is used to revert the digitmap template bound to the ONT voice service to the default template 0.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256

<i>profile-id</i>	Digitmap template id, value range is 0-16
<i>profile-name</i>	Digitmap template name, maximum length is 16

【Configuration Case】

Case 1: Bind digitmap template 1 to ONU1 under PON1 port.

```
OLT( config-gpon-0/1 )#sippstnuser digitmap 1 1 digitmap-profile profile-id 1
The digital map profile does not exist

OLT( config-gpon-0/1 )#
```

15.1.7. sippstnuser ipconfig

Command Syntax	sippstnuser ipconfig <i>port-id ont-id ont-sipagent-profile (profile-id profile-id profile-name profile-name)</i> no sippstnuser ipconfig <i>port-id ont-id</i> sippstnuser ipconfig <i>port-id ont-id ip-index (ip-index unbind)</i>
Applicable View	gpon interface view
Function Description	The sippstnuser ipconfig command is used to bind the ont-sipagent template to the ONT voice port service. The no sippstnuser ipconfig command is used to roll back the ont-sipagent template bound to the ONT voice port service to the default template 0.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>ip-index</i>	IP number, can be 0 or 1, the default is 0.
<i>profile-id</i>	ont-sipagent template id, the value range is 0-16
<i>profile-name</i>	ont-sipagent template name, the maximum length is 64
unbind	Configure ont-sipagent to unbind iphost. It is not bound by default.

【Configuration Case】

Case 1: Bind ONU1 to the ont-sipagent template 1 under the PON1 port.

```
LT( config-gpon-0/1 )# sippstnuser ipconfig 1 1 ont-sipagent-profile profile-id 1
The sip agent profile does not exist

OLT( config-gpon-0/1 )#
```

15.1.8. sippstnuser modify

Command Syntax	sippstnuser modify <i>port - id ont - id pots-port-id {password password telno telno username username }</i>
-----------------------	---

Applicable View	gpon interface view
Function Description	This command is used to modify the voice port user attributes of the ONT.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>pots-port-id</i>	ONT voice port ID, the value range is 1-8
<i>password</i>	Password, maximum length is 24
<i>telno</i>	Phone number, maximum length is 31
<i>username</i>	Username, maximum length is 24

【Configuration Case】

Case 1: Change the username of the first voice port of ONU1 under PON1 port to 12, password to 123, telno1234.

```
OLT( config-gpon-0/1 )# sippstnuser modify 1 1 1 username 12 password 123 telno 1234
The ONU does not exist in the authentication table
OLT( config-gpon-0/1 )#
```

15.1.9. sippstnuser rightflag

Command Syntax	sippstnuser rightflag <i>port - id ont - id siprightflag-profile (profile-id profile-id profile-name profile-name)</i>
Applicable View	gpon interface view
Function Description	ONU voice port service binding siprightflag template
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>profile-id</i>	siprightflag template id, the value range is 0-16
<i>profile-name</i>	siprightflag template name, the maximum length is 64

【Configuration Case】

Case 1: ONU1 under PON1 port is bound to siprightflag template 1.

```
OLT( config-gpon-0/1 )# sippstnuser rightflag 1 1 siprightflag-profile profile-id 1
The ONU does not exist in the authentication table
OLT( config-gpon-0/1 )#
```

15.2 ONT POTS Port Template Configuration

15.2.1. commit

Command Syntax	commit
Applicable View	POTS port template 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
```

15.2.2. impedance

Command Syntax	impedance <i>impedance-value</i>
Applicable View	POTS port template view
Function Description	This command is used to set the impedance of the POTS port in the ONTPOTS port template.
<i>impedance-value</i>	Value range: 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 ONTPOTS port template 1 to type 2.

```
OLT(config-pots-profile-1)# impedance 2
```

15.2.3. ont-pots-profile

Command Syntax	ont-pots-profile gpon { profile-id <i>profile-id</i> profile-name <i>profile-name</i> } no ont-pots-profile (profile-id <i>profile-id</i> profile-name <i>profile-name</i>)
Applicable View	config view
Function Description	The ont-pots-profile command is used to add a POTS port profile for an ONT. The POTS port profile saves the physical properties of the ONT

	POTS port, such as port impedance, transmit/receive gain, and port signaling type. The no ont-pots-profile command is used to delete the ONTPOTS port profile that has been created in the system.
<i>profile-id</i>	ONTPOTS port template ID uniquely identifies a template, with a value range of 0-16. When creating a template without specifying a template ID, the system automatically assigns the smallest idle template ID. POTS port template 0 is the system default template. If the ONT does not specify a bound POTS port template, it will automatically match the default template.
<i>profile-name</i>	ONT POTS port profile name, length supports 1-32 characters. The default profile name is pots_profile_x, where "x" is replaced by the actual profile number.

【Configuration Case】

Case 1: Create and enter the ONT POTS port template with ID 1.

```
OLT(config)# ont-pots-profile gpon profile-id 1
OLT(config-pots-profile-1)#
```

Case 2: Delete the ONTPOTS port template 1 on the OLT.

```
OLT(config)# no ont-pots-profile profile-id 1
OLT(config-pots-profile-1)#
```

15.2.4. pots-side-signaling

Command Syntax	pots-side-signaling <i>pots-side-signaling-value</i>
Applicable View	POTS port template view
Function Description	This command is used to set the signaling type of the POTS port in the ONTPOTS port template.
<i>pots-side-signaling-value</i>	Value range: 1, 2, 3, 4, 5, 6. 1: Loop start indicates 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 indicates the ground start signal (monitors whether the potential of the Ring line is close to the ground potential (grounding means off-hook), generally used for PBX or trunk). 3: Loop reverse battery indicates loop reverse battery signaling (POTS port with reverse polarity function, generally used for phones with billing function). 4: Coin first refers to the port for connecting a coin-operated telephone. You must insert coins before making a call.

	5: Dial tone first refers to the port connected to a coin-operated telephone, which can play the dial tone before inserting coins. 6: Multi-party refers to a port that connects multiple phones on one line. Default value: 1.
--	--

【Configuration Case】

Case 1: Set the POTS port signaling type in ONT POTS port template 1 to 1.

```
OLT(config-pots-profile-1)# pots-side-signaling 1
```

15.2.5. rxgain

Command Syntax	<i>rxgain rxgain-value</i>
Applicable View	POTS port template view
Function Description	This command is used to set the receiving gain of the POTS port in the ONT POTS port template.
<i>rxgain-value</i>	Value range: 0, 1, 2...36 (integers from 0 to 36). 0 means -12dB, 1 means -11.5dB, 36 indicates +6dB, in increments of 0.5dB. Default value: 24 (0dB)

【Configuration Case】

Case 1: Set the POTS port receiving gain in ONT POTS port template 1 to 0dB.

```
OLT(config-pots-profile-1)# rxgain 24
```

15.2.6. show ont-pots-profile

Command Syntax	<i>show ont-pots-profile (all profile-id profile-id profile-name profile-name)</i>
Applicable View	config view
Function Description	This command is used to query the information of the ONTPOTS port template that has been created in the system.
<i>all</i>	View the information of all POTS port templates on the OLT.
<i>profile-id</i>	View the information of the POTS port template with the specified ID.
<i>profile-name</i>	View the information of the POTS port template with the specified name.

【Configuration Case】

Case 1: View the information of all ONT POTS port templates on the OLT.

```
OLT(config)# show ont-pots-profile all
```

```
-----
Profile-ID Profile-name Binding times
```

```
-----
0 pots-profile_0 0
```

```
1 pots-profile_1 0
```

```
-----
Total: 2
```

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

15.2.7. show ont-pots-profile current

Command Syntax	<code>show ont-pots-profile current</code>
Applicable View	POTS port template 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)
```

```
Rx gain: 0(dB)
```

```
Pots side signaling: Loop start
```

```
-----
OLT(config-pots-profile_1)#
```

15.2.8. txgain

Command Syntax	<code>txgain txgain-value</code>
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 template.
<code>txgain-value</code>	Value range: 0, 1, 2...36 (integers from 0 to 36). 0 means -12dB, 1 means Indicates -11.5dB, 36 indicates +6dB, in increments of 0.5dB. Default value: 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)#txgain 24
```

15.3 ONT Digitmap Template Configuration

15.3.1. commit

Command Syntax	commit
Applicable View	Digitmap Template Configuration view
Function Description	This command is used to submit the current digitmap template configuration. The parameter configuration of all logarithmic graph templates will take effect

【Configuration Case】

Case 1: Submit the current digitmap template configuration.

```
OLT(config-digitmap-profile-1)# commit
```

15.3.2. ont-digitmap-profile

Command Syntax	ont-digitmap-profile gpon {profile-id <i>profile-id</i> profile-name <i>profile-name</i> } no ont-digitmap-profile (profile-id <i>profile-id</i> profile-name <i>profile-name</i>)
Applicable View	Digitmap Template Configuration view
Function Description	The ont-digitmap-profile command is used to create an ONT digitmap profile. The ONT digitmap profile saves the ONT digitmap information, including the digitmap format, digitmap timer timeout duration, etc. A newly added profile can take effect after it is bound to a user. no ont-digitmap-profile command is used to delete an ONT digitmap profile that has been created in the system.
<i>profile-id</i>	ONT digitmap template ID uniquely identifies a template, with a value range of 0-16. When you create a template without specifying a template ID, the system automatically assigns the smallest idle template ID. Digitmap template 0 is the system default template. If an ONT does not specify a bound digitmap template , it will automatically match digitmap template 0.
<i>profile-name</i>	ONT digitmap template name, length supports 1-64 characters. The default template name is digitmap_x, where "x" is replaced by the actual template number.

【Configuration Case】

Case 1: Create and enter the ONT digitmap template with ID 1.

```
OLT(config)#ont-digitmap-profile gpon profile-id 1
OLT(config-digitmap-profile-1)#
```

15.3.3. critical-dial-time

Command Syntax	critical-dial-time <i>critical-dial-time-value</i>
Applicable View	Digitmap Template Configuration view
Function Description	This command is used to set the exact match in the ONT digit map template (the number pressed by the user The format is exactly the same as in the digitmap template). The timeout duration of the digitmap timer.
<i>critical-dial-time-value</i>	Value range: 1-65535. Unit: ms. Default value: 4000.

【Configuration Case】

Case 1: When setting the exact match in ONT digitmap template 1, the timeout period of the digitmap timer is 4000.

```
OLT(config-digitmap-profile-1)# critical-dial-time 4000
```

15.3.4. partial-dial-time

Command Syntax	partial-dial-time <i>partial-dial-time-value</i>
Applicable View	Digitmap Template Configuration view
Function Description	This command is used to set the partial match in the ONT digit map template (the number pressed by the user The format is only partially consistent with that in the digitmap template). The timeout period of the digitmap timer.
<i>partial-dial-time-value</i>	Value range: 1-65535. Unit: ms. Default value: 16000.

【Configuration Case】

Case 1: When partial matching is set in ONT digitmap template 1, the timeout period of the digitmap timer is 16000.

```
OLT(config-digitmap-profile-1)# partial-dial-time 16000
```

15.3.5. digitmap-format

Command Syntax	digitmap-format <i>digitmap-format-value</i>
Applicable View	Digitmap Template Configuration view

Function Description	This command is used to set the digitmap format in the ONT digitmap template.
<i>digitmap-format-value</i>	Value range: h.248: indicates a datagram in H248 format ncs: indicates a digital map in ncs format not_defined: Indicates that the internal data map of the ONT is used. vendor_specific: indicates that the digitmap uses the vendor-defined format Default value: 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
```

15.3.6. token

Command Syntax	<i>token token - index token - value</i> <i>no token token - Index</i>
Applicable View	Digitmap Template Configuration view
Function Description	The token is used to add a sub-digital map scheme to a specified ONT digital map template. The content is the number matching rules. The no token is used to delete a sub-digitmap scheme in a specified ONT digitmap template.
<i>Token - index</i>	Sub-map scheme ID. Value range: 1-10
<i>Token - value</i>	The content of the sub-digit map scheme, that is, the number matching rules. The length of the string that can be entered 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
```

Case 2: Delete sub-digitmap scheme 1 in ONT digitmap template 1.

```
OLT(config-digitmap-profile-1)# no token 1
OLT(config-digitmap-profile-1)#
```

15.3.7. show ont-digitmap-profile

Command Syntax	<i>show ont-digitmap-profile (all profile-id profile- id profile-name profile-name)</i>
Applicable View	config view
Function Description	This command is used to query the information of the ONT digitmap template that has been created in the system.

all	View all digitmap template information on the OLT.
<i>profile-id</i>	View the information of the digitmap template with the specified ID.
<i>profile-name</i>	View information about a digitmap template with a specified name.

【Configuration Case】

Case 1: View all ONT digitmap template information on the OLT.

```
OLT(config)# show ont-digitmap-profile all
```

```
-----
Profile-ID Profile-name Binding times
```

```
-----
0 digitmap-profile_0 0
```

```
1 digitmap-profile_1 0
```

```
-----
Total: 2
```

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

15.3.8. show ont-digitmap-profile current

Command Syntax	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: digitmap-profile_1
```

```
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
```

```
OLT(config-pots-profile_1)#
```

15.4 ONT SIP Proxy Template Configuration

15.4.1. auth-realm

Command Syntax	auth-realm <i>realm</i> no auth-realm
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	The auth-realm command is used to configure the authentication realm of the proxy server. The no auth-realm command cancels the user configuration and sets the authentication realm value of the proxy server to "0".
<i>realm</i>	The authentication domain value of the proxy server. The default value is empty and the character length is 1-24.

【Configuration Case】

Case 1: Configure the authentication domain of the proxy server to be abcd.

```
OLT(config- sipagent -profile-1)# auth-realm abcd
OLT(config- sipagent -profile-1)#
```

15.4.2. bridged-line-agent

Command Syntax	bridged-line-agent <i>bridged-line-agent-uri</i> no bridged-line-agent
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	The bridged-line-agent command is used to configure the proxy server address of the " bridged line" service. When the service is configured on the ONT, a subscription message needs to be sent to the server. The proxy server address can be an IP address or a domain name. The no bridged-line-agent command cancels the user configuration and sets the proxy server address value of the " bridged line" service to "0".
<i>bridged-line-agent-uri</i>	" bridged line" service. The default value is empty and the character length is 1-63.

【Configuration Case】

Case 1: Set the proxy server IP address of the " bridged line" service in ONT SIP proxy template 1 to 192.168.2.202.

```
OLT(config- sipagent -profile-1)# bridged-line-agent 192.168.2.202
OLT(config- sipagent -profile-1)#
```

15.4.3. commit

Command Syntax	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)#
```

15.4.4. conf-factory

Command Syntax	conf-factory <i>conf-factory-uri</i> no conf-factory
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	The conf-factory command is used to set the address of the conference factory (conference server). The address can be an IP address or a domain name. The no conf-factory command cancels the user configuration and sets the address of the conference factory (conference server) to "0".
<i>conf-factory-uri</i>	The address of the conference factory (conference server). The default value is empty and the character length is 1-63.

【Configuration Case】

Case 1: Configure the conference factory (conference server) address to 192.168.6.201.

```
OLT(config- sipagent -profile-1)# conf-factory 192.168.6.201
OLT(config-sipagent-profile-1)#
```

15.4.5. ont-sipagent-profile

Command Syntax	ont-sipagent-profile gpon { <i>profile-id profile-id</i> <i>profile-name profile-name</i> } no ont-sipagent-profile (<i>profile-id profile-id</i> <i>profile-name profile-name</i>)
Applicable View	config view
Function Description	The ont-sipagent profile command is used to add the SIP proxy template for ONT. The ONT SIP proxy template stores the basic attribute configuration data of the ONT SIP interface, such as the IP address of the SIP primary or backup proxy server. The 'no ont SIP profile' command is used to delete ONT SIP proxy templates that have already been created in the system.
<i>profile-id</i>	ONT SIP proxy template ID, uniquely identifies a template, value range: 0-16. When creating a template without specifying a template ID, the

	system automatically assigns the smallest free template ID. ONT SIP proxy template 0 is the system default template. If ONT does not specify a binding proxy template, it will automatically match the ONT SIP proxy template. 0.
<i>profile-name</i>	ONT SIP proxy template name, the length supports 1-64 characters. The default template name is sipagent_x , where "x" is replaced by the actual template number.

【Configuration Case】

Case 1: Create and enter the ONT SIP proxy template with ID 1.

```
OLT(config)#ont- sipagent -profile gpon profile-id 1
OLT(config- sipagent -profile-1)#
```

15.4.6. outbound-server

Command Syntax	outbound-server <i>outbound-server-uri</i> no outbound-server
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	The registration server-uri command is used to set the address of the SIP outbound proxy server in the ONT SIP proxy template. It can be an IP address or a domain name. The no registration server-uri command cancels the user configuration and sets the SIP outbound proxy server address value to "0".
<i>outbound-server-uri</i>	SIP outbound proxy server address, string type, default value is empty, the input string length is 1-63.

【Configuration Case】

Case 1: Set the IP address of the SIP outbound proxy server in ONT SIP proxy template 1 to 192.168.2.205.

```
OLT(config- sipagent -profile-1)# outbound-server 192.168.2.205
OLT(config- sipagent -profile-1)#
```

15.4.7. outbound-server-port

Command Syntax	outbound-server-port <i>outbound-server- port-value</i>
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	the SIP outbound proxy server port number in the ONT SIP proxy template.
<i>outbound-server- port-value</i>	SIP outbound proxy server port number. The default value is 0 and the value range is 0-65535.

【Configuration Case】

Case 1: Set the SIP outbound proxy server port number in ONT SIP proxy template 1 to 3090.

```
OLT(config- sipagent -profile-1)# outbound-server-port 3090
```

```
OLT(config- sipagent -profile-1)#
```

15.4.8. proxy-server

Command Syntax	proxy-server <i>proxy-server-uri</i> no proxy-server
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	The proxy-server command is used to set the SIP proxy server IP address or domain name in the ONT SIP proxy template. no proxy-server command cancels the user configuration and sets the SIP proxy server address value to "0".
<i>proxy-server-uri</i>	SIP proxy server address, string type, the default value is empty, and the input string length is 1-63.

【Configuration Case】

Case 1: Set the SIP 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)#
```

15.4.9. proxy-server-port

Command Syntax	proxy-server-port <i>proxy-server- port-value</i>
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	The proxy-server-port command is used to set the proxy server port number in the ONT SIP proxy template.
<i>proxy-server - port-value</i>	Proxy server port number. The default value is 0 and the value range is 0-65535.

【Configuration Case】

Case 1: Set the SIP proxy server port number in ONT SIP proxy template 1 to 3070.

```
OLT(config- sipagent -profile-1)# proxy-server-port 3 070
OLT(config- sipagent -profile-1)#
```

15.4.10. rtp dscp

Command Syntax	rtp dscp <i>rtp -dscp-value</i>
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	This command is used to configure the DSCP priority of media RTP packets. DSCP is an IP QoS policy that ensures that high-priority packets are forwarded first.

<i>rtp -dscp-value</i>	DSCP priority of media RTP packets. The default value is 46 and the value range is 0-63.
------------------------	--

【Configuration Case】

Case 1: Set the DSCP priority of media RTP packets in ONT SIP proxy template 1 to 46.

```
OLT(config- sipagent -profile-1)#rtp dscp 46
OLT(config- sipagent -profile-1)#
```

15.4.11. rtp port

Command Syntax	rtp port <i>min-rtp-port max-rtp-port</i>
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	This command is used to configure the port number range that can be used by RTP sessions.
<i>min-rtp-port</i>	The minimum port number for media RTP messages. The default value is 50000 and the value range is 1-65535.
<i>max-rtp-port</i>	The maximum port number for media RTP packets. The default value is 60000 and the value range is 1-65535.

【Configuration Case】

Case 1: Set the port number range that can be used by RTP sessions in ONT SIP proxy template 1 to 55000-65000.

```
OLT(config- sipagent -profile-1)#rtp port 55000 65000
OLT(config- sipagent -profile-1)#
```

15.4.12. registration expiration

Command Syntax	registration expiration <i>expiration-value</i>
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	This command is used to configure the registration validity period of the SIP registration server. The registration validity period is the registration cycle. When this period is exceeded, the SIP user needs to re-register.
<i>expiration-value</i>	The registration validity period of the SIP registration server. The default value is 0 and the value range is 1-4294967295, in seconds.

【Configuration Case】

Case 1: Set the registration validity period of the SIP registrar server in ONT SIP proxy template 1 to 600 seconds.

```
OLT(config- sipagent -profile-1)# registration expiration 600
OLT(config- sipagent -profile-1)#
```

15.4.13. registration rereg-head-start- time

Command Syntax	registration rereg-head-start-time <1-4294967295>
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	This command is used to configure the refresh registration start time of the SIP registration server. It indicates how much time in advance before the registration validity period expires to send a refresh registration message.
<i>expiration-value</i>	The refresh registration start time of the SIP registrar server. The default value is 0 and the value range is 1-4294967295, in seconds.

【Configuration Case】

Case 1: Set the refresh registration start time of the SIP registrar server in ONT SIP proxy template 1 to 300 seconds.

```
OLT(config- sipagent -profile-1)# registration rereg-head-start-time 300
OLT(config- sipagent -profile-1)#
```

15.4.14. registration server-port

Command Syntax	registration server-port <i>registration-server -port-value</i>
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	The proxy-server-port command is used to set the SIP registration server port number in the ONT SIP proxy template.
<i>registration-server -port-value</i>	SIP proxy server port number. The default value is 0 and the value range is 0-65535.

【Configuration Case】

Case 1: Set the SIP proxy server port number in ONT SIP proxy template 1 to 3080.

```
OLT(config- sipagent -profile-1)# registration server-port 3080
OLT(config- sipagent -profile-1)#
```

15.4.15. registration server-uri

Command Syntax	registration server-uri <i>registration-server-uri</i> no registration server-uri
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	The registration server-uri command is used to set the address of the SIP registration server in the ONT SIP proxy template. It can be an IP address or a domain name.

	The no registration server-uri command cancels the user configuration and sets the SIP registration server address value to "0".
<i>registration-server-uri</i>	SIP registration server address, string type, default value is empty, the input string length is 1-63.

【Configuration Case】

Case 1: Set the IP address of the SIP registrar server in ONT SIP proxy template 1 to 192.168.2.203.

```
OLT(config- sipagent -profile-1)# registration server-uri 192.168.2.203
OLT(config- sipagent -profile-1)#
```

15.4.16. show ont- sipagent -profile

Command Syntax	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 information of the ONT SIP proxy template that has been created in the system.
all	View all ONT SIP proxy template information on the OLT
<i>profile-id</i>	View the ONT SIP proxy template information of the specified id.
<i>profile-name</i>	View the information of the ONT SIP proxy template with 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-profile_0 0
1 sipagent-profile_1 0
-----
Total: 2
-----
OLT(config)#
```

15.4.17. show ont-sipagent-profile current

Command Syntax	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
```

Proxy server:

Proxy server port: 0

Rt

Min port: 50000

Max port: 60000

Dscp : 46

Signal

Transfer mode : UDP

Port : 5070

Dscp : 24

Registration

Server :

Port : 0

Expiration : 0(s)

Rereg head start time : 0(s)

Voice mail

Server :

Subscription expiration: 0(s)

Conf fatcory :

bridged line agent :

Auth realm:

Outbound server:

Outbound server port: 0

OLT(config- sipagent -profile-1)#

15.4.18. signal dscp

Command Syntax	signal dscp <i>signal-dscp-value</i>
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	This command is used to configure the DSCP priority of signaling packets. DSCP is an IP QoS policy that ensures that packets with high priority are forwarded first.
<i>signal-dscp-value</i>	The DSCP priority of the signaling message. The default value is 24 and the value range is 0-63.

【Configuration Case】

Case 1: Set the DSCP priority of signaling messages in ONT SIP proxy template 1 to 24.

```
OLT(config- sipagent -profile-1)# signal dscp 24
OLT(config- sipagent -profile-1)#
```

15.4.19. signal port

Command Syntax	signal port <i>signal-port-value</i>
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	This command is used to configure the UDP/TCP port number for SIP signaling.
<i>signal-port-value</i>	UDP/TCP port number for SIP signaling. The default value is 5070 and the value range is 1-65535.

【Configuration Case】

Case 1: Set the UDP/TCP port number of SIP signaling in ONT SIP proxy template 1 to 5071.

```
OLT(config- sipagent -profile-1)# signal port 5071
OLT(config- sipagent -profile-1)#
```

15.4.20. signal transfer-mode

Command Syntax	signal transfer-mode (tcp udp)
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	This command is used to set the signaling transport protocol type. The default value is udp.

【Configuration Case】

Case 1: Set the signaling transport protocol type in ONT SIP proxy template 1 to tcp.

```
OLT(config- sipagent -profile-1)# signal transfer-mode tcp
OLT(config- sipagent -profile-1)#
```

15.4.21. voicemail server-uri

Command Syntax	voicemail server-uri voicemail-server-uri no voicemail server-uri
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	The voicemail server-uri command is used to set the address of the Voicemail server in the ONT SIP proxy template. It can be an IP address or a domain name. The no voicemail server-uri command cancels the user configuration and sets the Voicemail server address value to "0".
<i>voicemail-server-uri</i>	Voicemail server address, string type, default value is empty, the input string length is 1-63.

【Configuration Case】

Case 1: Set the IP address of the Voicemail server in ONT SIP proxy template 1 to 192.168.2.204.

```
OLT(config- sipagent -profile-1)# voicemail server-uri 192.168.2.204
OLT(config- sipagent -profile-1)#
```

15.4.22. voicemail subscription-expiration

Command Syntax	voicemail subscription-expiration subscription-expiration-value
Applicable View	ONT SIP Proxy Template Configuration view
Function Description	The proxy-server-port command is used to set the validity period of the voicemail subscription.
<i>subscription-expiration-value</i>	The validity period of voicemail subscription. The default value is 0 and the value range is 1-4294967295, in seconds.

【Configuration Case】

Case 1: Set the validity period of voicemail subscription in ONT SIP proxy template 1 to 3600.

```
OLT(config-sipagent -profile-1)# voicemail subscription-expiration 3600
OLT(config-sipagent -profile-1)#
```

15.5 ONT SIP Service Data Template Configuration

15.5.1. commit

Command Syntax	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-sipright-profile_1)# commit
OLT(config-sipright-profile_1)#
```

15.5.2. call-hold

Command Syntax	call-hold (enable disable)
Applicable View	SIP service data template view
Function Description	This command is used to set the call hold permission in the ONT SIP service data template. The default is to enable the call hold permission (enable).
enable	Enable call hold permission.
disable	Disable the call hold permission.

【Configuration Case】

Case 1: Enable the call hold permission in ONT SIP service data template 1.

```
OLT(config-sipright-profile_1)# call-hold enable
OLT(config-sipright-profile_1)#
```

15.5.3. call-park

Command Syntax	call-park (enable disable)
-----------------------	-------------------------------------

Applicable View	SIP service data template view
Function Description	This command is used to set the call park permission in the ONT SIP service data template. The default setting is to disable the call park permission (disable).
enable	Enable call park privilege.
disable	Turn off call park privilege.

【Configuration Case】

Case 1: Disable the call parking permission in ONT SIP service data template 1.

```
OLT(config-sipright-profile_1)# call-park disable
OLT(config-sipright-profile_1)#
```

15.5.4. call-transfer

Command Syntax	call-transfer (enable disable)
Applicable View	SIP service data template view
Function Description	This command is used to set the call forwarding permission in the ONT SIP service data template. The default setting is to disable the call forwarding permission (disable).
enable	Enable call forwarding permission.
disable	Turn off call forwarding permission.

【Configuration Case】

Case 1: Disable the call forwarding permission in ONT SIP service data template 1.

```
OLT(config-sipright-profile_1)# call-transfer disable
OLT(config-sipright-profile_1)#
```

15.5.5. call-waiting

Command Syntax	call-waiting (enable disable)
Applicable View	SIP service data template view
Function Description	This command is used to set the call waiting permission in the ONT SIP service data template. The default is to enable the call forwarding waiting permission (enable).
enable	Enable call forwarding waiting permission.
disable	Turn off the call forwarding waiting permission.

【Configuration Case】

Case 1: Enable call waiting permission in ONT SIP service data template 1.

```
OLT(config-sipright-profile_1)# call-waiting enable
OLT(config-sipright-profile_1)#
```

15.5.6. conference

Command Syntax	conference (enable disable)
Applicable View	SIP service data template view
Function Description	This command is used to set the telephone conference permission in the ONT SIP service data template. The default setting is to disable the telephone conference permission.
enable	Start conference call permissions.
disable	Turn off conference call permissions.

【Configuration Case】

Case 1: Disable the conference call permission in ONT SIP service data template 1.

```
OLT(config-sipright-profile_1)# conference disable
OLT(config-sipright-profile_1)#
```

15.5.7. do-not-disturb

Command Syntax	do-not-disturb (enable disable)
Applicable View	SIP service data template view
Function Description	This command is used to set the call do not disturb permission in the ONT SIP service data template. The default setting is to disable the call do not disturb permission (disable).
enable	Activate the Do Not Disturb (DND) permission.
disable	Turn off the Do Not Disturb (DND) permission.

【Configuration Case】

Case 1: Disable the call do not disturb permission in ONT SIP service data template 1.

```
OLT(config-sipright-profile_1)# do-not-disturb disable
OLT(config-sipright-profile_1)#
```

15.5.8. hotline

Command Syntax	hotline (enable hotline-num HOTLINE-NUM disable)
Applicable View	SIP service data template view

Function Description	This command is used to set the hotline service permission in the ONT SIP service data template. The default setting is to disable the hotline service permission (disable).
enable	Enable hotline service permissions.
disable	Disable hotline service permissions.
HOTLINE-NUM	Hotline Numbers

【Configuration Case】

Case 1: Disable the hotline service permission in ONT SIP service data template 1.

```
OLT(config-sipright-profile_1)# hotline disable
OLT(config-sipright-profile_1)#
```

15.5.9. mwi

Command Syntax	mwi (enable disable)
Applicable View	SIP service data template view
Function Description	This command is used to set the message waiting indication permission in the ONT SIP service data template. The default setting is to disable the message waiting indication permission (disable).
enable	Enable the Message Waiting Indication permission.
disable	Turn off the message waiting indication permission.

【Configuration Case】

Case 1: Disable the message waiting indication permission in ONT SIP service data template 1.

```
OLT(config-sipright-profile_1)# mwi disable
OLT(config-sipright-profile_1)#
```

15.5.10. ont-siprightflag-profile

Command Syntax	ont-siprightflag-profile gpon {profile-id profile-id profile-name profile-name } no 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 a SIP service data profile for the ONT. no ont-siprightflag-profile command is used to delete the SIP service data profile of the ONT that has been created in the system.

<i>profile-id</i>	ONT SIP service data template ID, uniquely identifies a template, value range: 0-16. When creating a template without specifying a template ID, the system automatically assigns the smallest free template ID. ONT SIP service data template 0 is the system default template. If ONT does not specify a binding data template, it will automatically match the ONT SIP service data template. 0.
<i>profile-name</i>	ONT SIP service data template name, length supports 1-64 characters. The default template name is sipright_x, where "x" is replaced by 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 gpon profile-id 1
OLT(config-sipright-profile_1)#
```

15.5.11. show ont-siprightflag-profile

Command Syntax	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 information of the ONT SIP service data template that has been created in the system.
all	View all SIP service data template information on the OLT
<i>profile-id</i>	View the SIP service data template information of the specified id.
<i>profile-name</i>	View the information of the SIP service data template with 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-profile_0 0
```

```
1 sipright-profile_1 0
```

```
-----
Total: 2
```

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

15.5.12. show ont-siprightflag-profile current

Command Syntax	<code>show ont-siprightflag-profile current</code>
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-sipright-profile_1)# show ont-siprightflag-profile current
```

```
-----
Profile-ID: 1
```

```
Profile-name      : sipright-profile_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-sipright-profile_1)#
```

15.5.13. three-party

Command Syntax	<code>three-party (enable disable)</code>
-----------------------	---

Applicable View	SIP service data template view
Function Description	This command is used to set the three-party calling permission in the ONT SIP service data template. The default setting is to enable the three-party calling permission (enable).
enable	Enable three-way calling permission.
disable	Disable the three-way calling permission.

【Configuration Case】

Case 1: Enable the three-party calling permission in ONT SIP service data template 1.

```
OLT(config-sipright-profile_1)# three-party enable
OLT(config-sipright-profile_1)#
```

15.6 ONT Datagram Discrete Configuration

15.6.1. sippstnuser digitmap critical-dial-time

Command Syntax	sippstnuser digitmap <i>port - id ont - id critical-dial-time critical-dial-time-value</i>
Applicable View	gpon interface view
Function Description	This command is used to set the exact match in the ONT digit map (the number pressed by the user as that in the Digitmap Discrete field). The timeout period of the Digitmap Timer.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>critical-dial-time-value</i>	Value range: 1-65535. Unit: ms. Default value: 4000.

【Configuration Case】

Case 1: When setting the exact match in ONT digitmap discrete 1, the timeout period of the digitmap timer is 4000.

```
OLT(config- gpon-0/1 )# sippstnuser digitmap 1 1 critical-dial-time 4000
```

15.6.2. sippstnuser digitmap partial-dial-time

Command Syntax	sippstnuser digitmap <i>port - id ont - id partial-dial-time partial-dial-time-value</i>
Applicable View	gpon interface view

Function Description	This command is used to set the partial match in the ONT digit map discrete (the number pressed by the user with that in Digitmap Discrete), the timeout duration of the Digitmap timer.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>partial-dial-time-value</i>	Value range: 1-65535. Unit: ms. Default value: 16000.

【Configuration Case】

Case 1: When setting partial match in ONT digitmap discrete 1, the timeout period of the digitmap timer is 16000.

```
OLT(config- gpon-0/1 )# sippstnuser digitmap 1 1 partial-dial-time 16000
```

15.6.3. sippstnuser digitmap digitmap-format

Command Syntax	sippstnuser digitmap <i>port - id ont - id digitmap-format digitmap-format-value</i>
Applicable View	gpon interface view
Function Description	This command is used to set the digitmap format in the ONT digitmap.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>digitmap-format-value</i>	Value range: h.248: indicates a datagram in H248 format ncs: indicates a digital map in ncs format not_defined: Indicates that the internal data map of the ONT is used. vendor_specific: indicates that the digitmap uses the vendor-defined format Default value: h.248.

【Configuration Case】

Case 1: Set the digitmap format in ONT digitmap discrete 1 to h.248.

```
OLT(config- gpon-0/1 )# sippstnuser digitmap 1 1 digitmap-format h248
```

15.6.4. sippstnuser digitmap token

Command Syntax	sippstnuser digitmap <i>port - id ont - id token token - index token - value</i>
Applicable View	gpon interface view

Function Description	The token is used to add a sub-map solution to the specified ONT map discrete. The content is the number matching rules. delete a sub-digitmap solution in a specified ONT digitmap discrete.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>Token - index</i>	Sub-map scheme ID. Value range: 1-10
<i>Token - value</i>	The content of the sub-digit map scheme, that is, the number matching rules. The length of the string that can be entered is 1-27

【Configuration Case】

Case 1: Set the sub-digitmap scheme in ONT digitmap discrete 1 to 8888XXXX.

```
OLT(config- gpon-0/1 )# sippstnuser digitmap 1 1 token 1 8888XXXX
```

15.6.5. show sippstnuser digitmap

Command Syntax	show sippstnuser digitmap <i>port - id ont - id</i>
Applicable View	gpon interface view
Function Description	discrete information of the ONT digitmap that has been created in the system.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256

【Configuration Case】

Case 1: View the discrete information of all ONT digitmaps on the OLT.

```
OLT(config- gpon-0/1 )# show sippstnuser digitmap 1 1
```

```
-----
```

```
Critical dial time: 4000(ms)
```

```
Partial dial time: 16000(ms)
```

```
Digital map format: H.248
```

```
-----
```

```
dial-plan-id dial-plan-token
```

```
-----
```

1 XL

OLT(config-gpon-0/1)#

15.7 ONT SIP Proxy Discrete Configuration

15.7.1. sippstnuser ipconfig auth-realm

Command Syntax	sippstnuser ipconfig <i>port - id ont - id auth-realm realm</i>
Applicable View	gpon interface view
Function Description	The auth-realm command is used to configure the authentication realm of the proxy server.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>realm</i>	The authentication domain value of the proxy server. The default value is empty and the character length is 1-24.

【Configuration Case】

Case 1: Configure the authentication domain of the proxy server to be abcd.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 auth-realm abcd
```

15.7.2. sippstnuser ipconfig bridged-line-agent

Command Syntax	sippstnuser ipconfig <i>port - id ont - id bridged-line-agent bridged-line-agent-uri</i>
Applicable View	gpon interface view
Function Description	The bridged-line-agent command is used to configure the proxy server address of the "bridged line" service. When the service is configured on the ONT, a subscription message needs to be sent to the server. The proxy server address can be an IP address or a domain name.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>bridged-line-agent-uri</i>	"bridged line" service. The default value is empty and the character length is 1-63.

【Configuration Case】

Case 1: Set the proxy server IP address of the "bridged line" service in ONT SIP proxy discrete 1 to 192.168.2.202.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 bridged-line-agent 192.168.2.202
```

15.7.3. sippstnuser ipconfig conf-factory

Command Syntax	sippstnuser ipconfig <i>port - id ont - id conf-factory conf-factory-uri</i>
Applicable View	gpon interface view
Function Description	The conf-factory command is used to specify the address of the conference factory (conference server). The address can be an IP address or a domain name.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>conf-factory-uri</i>	The address of the conference factory (conference server). The default value is empty and the character length is 1-63.

【Configuration Case】

Case 1: Configure the conference factory (conference server) address to 192.168.6.201.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 conf-factory 192.168.6.201
```

15.7.4. sippstnuser ipconfig outbound-server

Command Syntax	sippstnuser ipconfig <i>port - id ont - id outbound-server outbound-server-uri</i>
Applicable View	gpon interface view
Function Description	The registration server-uri command is used to set the address of the SIP outbound proxy server in the ONT SIP proxy discrete, which can be an IP address or domain name.
<i>outbound-server-uri</i>	SIP outbound proxy server address, string type, default value is empty, the input string length is 1-63.

【Configuration Case】

Case 1: Set the IP address of the SIP outbound proxy server in ONT SIP proxy discrete 1 to 192.168.2.205.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 outbound-server 192.168.2.205
```

15.7.5. sippstnuser ipconfig outbound-server-port

Command Syntax	sippstnuser ipconfig <i>port - id ont - id outbound-server-port outbound-server-port-value</i>
Applicable View	gpon interface view
Function Description	The outbound-server-port command is used to set the SIP outbound proxy server port number in the ONT SIP proxy discrete.

<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>outbound-server-port-value</i>	SIP outbound proxy server port number. The default value is 0 and the value range is 0-65535.

【Configuration Case】

Case 1: Set the SIP outbound proxy server port number in ONT SIP proxy discrete 1 to 3090.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 outbound-server-port 3090
```

15.7.6. sippstnuser ipconfig proxy-server

Command Syntax	sippstnuser ipconfig <i>port - id ont - id proxy-server proxy-server-uri</i>
Applicable View	gpon interface view
Function Description	The proxy-server command is used to set the SIP proxy server IP address or domain name in the ONT SIP proxy discrete.
<i>proxy-server-uri</i>	SIP proxy server address, string type, the default value is empty, and the input string length is 1-63.

【Configuration Case】

Case 1: Set the SIP proxy server IP address in ONT SIP Proxy Discrete 1 to 192.168.2.201.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 proxy-server 192.168.2.201
```

15.7.7. sippstnuser ipconfig proxy-server-port

Command Syntax	sippstnuser ipconfig <i>port - id ont - id proxy-server-port proxy-server-port-value</i>
Applicable View	gpon interface view
Function Description	The proxy-server-port command is used to set the proxy server port number in the ONT SIP proxy discrete.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>proxy-server - port-value</i>	Proxy server port number. The default value is 0 and the value range is 0-65535.

【Configuration Case】

Case 1: Set the SIP proxy server port number in ONT SIP proxy discrete 1 to 3070.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 1 proxy-server-port 3070
```

15.7.8. sippstnuser ipconfig rtp dscp

Command Syntax	sippstnuser ipconfig port - id ont - id rtp dscp rtp -dscp-value
Applicable View	gpon interface view
Function Description	This command is used to configure the DSCP priority of media RTP packets. DSCP is an IP QoS policy that ensures that high-priority packets are forwarded first.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>rtp -dscp-value</i>	DSCP priority of media RTP packets. The default value is 46 and the value range is 0-63.

【Configuration Case】

Case 1: Set the DSCP priority of media RTP packets in ONT SIP proxy discrete 1 to 46.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 rtp dscp 46
```

15.7.9. sippstnuser ipconfig rtp port

Command Syntax	sippstnuser ipconfig port - id ont - id rtp port min-rtp-port max-rtp-port
Applicable View	gpon interface view
Function Description	This command is used to configure the port number range that can be used by RTP sessions.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>min-rtp-port</i>	The minimum port number for media RTP messages. The default value is 50000 and the value range is 1-65535.
<i>max-rtp-port</i>	The maximum port number for media RTP packets. The default value is 60000 and the value range is 1-65535.

【Configuration Case】

Case 1: Set the port number range that can be used by RTP sessions in ONT SIP proxy discrete 1 to 55000-65000.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 rtp port 55000 65000
```

15.7.10. sippstnuser ipconfig registration expiration

Command Syntax	sippstnuser ipconfig port - id ont - id registration expiration expiration-value
Applicable View	gpon interface view

Function Description	This command is used to configure the registration validity period of the SIP registration server. The registration validity period is the registration cycle. When this period is exceeded, the SIP user needs to re-register.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>expiration-value</i>	The registration validity period of the SIP registration server. The default value is 0 and the value range is 1-86400, in seconds.

【Configuration Case】

Case 1: Set the registration validity period of the SIP registrar server in ONT SIP proxy discrete 1 to 600 seconds.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 registration expiration 600
```

15.7.11. sippstnuser ipconfig registration rereg-head-start- time

Command Syntax	sippstnuser ipconfig port - id ont - id registration rereg-head-start-time <1-4294967295>
Applicable View	gpon interface view
Function Description	This command is used to configure the refresh registration start time of the SIP registration server. It indicates how much time in advance before the registration validity period expires to send a refresh registration message.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>expiration-value</i>	The refresh registration start time of the SIP registrar server. The default value is 0 and the value range is 1-65535, in seconds.

【Configuration Case】

Case 1: Set the refresh registration start time of the SIP registrar server in ONT SIP proxy discrete 1 to 300 seconds.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 registration rereg-head-start-time 300
```

15.7.12. sippstnuser ipconfig registration server-port

Command Syntax	sippstnuser ipconfig port - id ont - id registration server-port registration-server -port-value
Applicable View	gpon interface view
Function Description	The proxy-server-port command is used to set the port number of the SIP registration server in the ONT SIP proxy discrete.

<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>registration-server-port-value</i>	SIP proxy server port number. The default value is 0 and the value range is 0-65535.

【Configuration Case】

Case 1: Set the SIP proxy server port number in ONT SIP proxy discrete 1 to 3080.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 registration server-port 3080
```

15.7.13. sippstnuser ipconfig registration server-uri

Command Syntax	sippstnuser ipconfig <i>port - id ont - id registration server-uri registration-server-uri</i>
Applicable View	gpon interface view
Function Description	The registration server-uri command is used to set the address of the SIP registration server in the ONT SIP proxy discrete, which can be an IP address or a domain name.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>registration-server-uri</i>	SIP registration server address, string type, default value is empty, the input string length is 1-63.

【Configuration Case】

Case 1: Set the IP address of the SIP registration server in ONT SIP proxy discrete 1 to 192.168.2.203.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 registration server-uri 192.168.2.203
```

15.7.14. show sippstnuser ipconfig

Command Syntax	show sippstnuser ipconfig <i>port - id ont - id</i>
Applicable View	gpon interface view
Function Description	discrete information of the ONT SIP proxy that has been created in the system.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256

【Configuration Case】

Case 1: View all ONT SIP proxy discrete information on the OLT.

```
OLT (config-gpon-0/1)# show sippstnuser ipconfig 1 1
```

```
-----
Proxy server:
Proxy server port: 0
Rt
Min port: 50000
Max port: 60000
Dscp: 46
Signal
Transfer mode      : UDP
Port               : 5070
Dscp               : 24
Registration
Server             :
Port               : 0
Expiration         : 0(s)
Rereg head start time : 0(s)
Voice mail
Server             :
Subscription expiration: 0(s)
Conf fatcory       :
bridged line agent :
Auth realm         :
Outbound server    :
Outbound server port : 0
OLT (config-gpon-0/1 )#
```

15.7.15. sippstnuser ipconfig signal dscp

Command Syntax	<code>sippstnuser ipconfig port - id ont - id signal dscp signal-dscp-value</code>
Applicable View	gpon interface view
Function Description	This command is used to configure the DSCP priority of signaling packets. DSCP is an IP QoS policy that ensures that packets with high priority are forwarded first.
<i>signal-dscp-value</i>	The DSCP priority of the signaling message. The default value is 24 and the value range is 0-63.

【Configuration Case】

Case 1: Set the DSCP priority of signaling messages in ONT SIP proxy discrete 1 to 24.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 signal dscp 24
```

15.7.16. sippstnuser ipconfig signal port

Command Syntax	sippstnuser ipconfig port - id ont - id signal port signal-port-value
Applicable View	gpon interface view
Function Description	This command is used to configure the UDP/TCP port number for SIP signaling.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>signal-port-value</i>	UDP/TCP port number for SIP signaling. The default value is 5070 and the value range is 1-65535.

【Configuration Case】

Case 1: Set the UDP/TCP port number of SIP signaling in ONT SIP proxy discrete 1 to 5071.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 signal port 5071
```

15.7.17. sippstnuser ipconfig signal transfer-mode

Command Syntax	sippstnuser ipconfig port - id ont - id signal transfer-mode (tcp udp)
Applicable View	gpon interface view
Function Description	This command is used to set the signaling transport protocol type. The default value is udp.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256

【Configuration Case】

Case 1: Set the transmission protocol type of signaling in ONT SIP proxy discrete 1 to tcp.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 signal transfer-mode tcp
```

15.7.18. sippstnuser ipconfig voicemail server-uri

Command Syntax	sippstnuser ipconfig port - id ont - id voicemail server-uri voicemail-server-uri
Applicable View	gpon interface view
Function Description	The voicemail server-uri command is used to set the address of the Voicemail server in the ONT SIP proxy discrete, which can be an IP address or a domain name.

	The no voicemail server-uri command cancels the user configuration and sets the Voicemail server address value to "0".
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>voicemail-server-uri</i>	Voicemail server address, string type, default value is empty, the input string length is 1-63.

【Configuration Case】

Case 1: Set the IP address of the Voicemail server in ONT SIP proxy discrete 1 to 192.168.2.20 4.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 voicemail server-uri 192.168.2.204
```

15.7.19. sippstnuser ipconfig voicemail subscription-expiration

Command Syntax	sippstnuser ipconfig <i>port - id ont - id voicemail subscription-expiration subscription-expiration-value</i>
Applicable View	gpon interface view
Function Description	The proxy-server-port command is used to set the validity period of the voicemail subscription.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
<i>subscription-expiration-value</i>	The validity period of voicemail subscription. The default value is 0 and the value range is 1-4294967295, in seconds.

【Configuration Case】

Case 1: Set the validity period of voicemail subscription in ONT SIP proxy discrete 1 to 3600.

```
OLT (config-gpon-0/1)# sippstnuser ipconfig 1 1 voicemail subscription-expiration 3600
```

15.8 ONT SIP Service Data Discrete Configuration

15.8.1. sippstnuser rightflag call-hold

Command Syntax	sippstnuser rightflag <i>port - id ont - id call-hold (enable disable)</i>
Applicable View	gpon interface view
Function Description	This command is used to set the call hold permission in the discrete ONT SIP service data. The default is to enable the call hold permission (enable).

<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	ONT ID of the ONT to be configured, the value is 1-256
enable	Enable call hold permission.
disable	Disable the call hold permission.

【Configuration Case】

Case 1: Enable call hold permission in ONT SIP service data discrete 1.

```
OLT (config-gpon-0/1)# sippstnuser rightflag 1 1 call-hold enable
```

15.8.2. sippstnuser rightflag call-park

Command Syntax	sippstnuser rightflag <i>port - id ont - id</i> call-park (enable disable)
Applicable View	gpon interface view
Function Description	This command is used to set the call park permission in the discrete ONT SIP service data. The default setting is to disable the call park permission (disable).
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	of the ONT to be configured , the value is 1-256
enable	Enable call park privilege.
disable	Turn off call park privilege.

【Configuration Case】

Case 1: Disable call parking permission in ONT SIP service data discrete 1.

```
OLT (config-gpon-0/1)# sippstnuser rightflag 1 1 call-park disable
```

15.8.3. sippstnuser rightflag call-transfer

Command Syntax	sippstnuser rightflag <i>port - id ont - id</i> call-transfer (enable disable)
Applicable View	gpon interface view
Function Description	This command is used to set the call forwarding permission in the discrete ONT SIP service data. The default is to disable the call forwarding permission (disable).
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16

<i>ont - id</i>	of the ONT to be configured , the value is 1-256
enable	Enable call forwarding permission.
disable	Turn off call forwarding permission.

【Configuration Case】

Case 1: Disable call forwarding permission in ONT SIP service data discrete 1.

```
OLT (config-gpon-0/1)# sippstnuser rightflag 1 1 call-transfer disable
```

15.8.4. sippstnuser rightflag call-waiting

Command Syntax	sippstnuser rightflag port - id ont - id call-waiting (enable disable)
Applicable View	gpon interface view
Function Description	This command is used to set the call waiting permission in the discrete ONT SIP service data. The default is to enable the call forwarding waiting permission (enable).
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	of the ONT to be configured , the value is 1-256
enable	Enable call forwarding waiting permission.
disable	Turn off the call forwarding waiting permission.

【Configuration Case】

Case 1: Enable call waiting permission in ONT SIP service data discrete 1.

```
OLT (config-gpon-0/1)# sippstnuser rightflag 1 1 call-waiting enable
```

15.8.5. sippstnuser rightflag conference

Command Syntax	sippstnuser rightflag port - id ont - id conference (enable disable)
Applicable View	gpon interface view
Function Description	This command is used to set the teleconference permission in the ONT SIP service data discrete. The default is to disable the teleconference permission (disable).
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	of the ONT to be configured , the value is 1-256
enable	Start conference call permissions.

disable	Turn off conference call permissions.
----------------	---------------------------------------

【Configuration Case】

Case 1: Disable the conference call permission in ONT SIP service data discrete 1.

OLT (config-gpon-0/1)# sippstnuser rightflag 1 1 conference disable

15.8.6. sippstnuser rightflag do-not-disturb

Command Syntax	sippstnuser rightflag port - id ont - id do-not-disturb (enable disable)
Applicable View	gpon interface view
Function Description	This command is used to set the call DND permission in the ONT SIP service data discrete state. The default setting is to disable the call DND permission (disable).
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	of the ONT to be configured , the value is 1-256
enable	Activate the Do Not Disturb (DND) permission.
disable	Turn off the Do Not Disturb (DND) permission.

【Configuration Case】

Case 1: Disable the call do not disturb permission in ONT SIP service data discrete 1.

OLT (config-gpon-0/1)# sippstnuser rightflag 1 1 do-not-disturb disable

15.8.7. sippstnuser rightflag hotline

Command Syntax	sippstnuser rightflag port - id ont - id hotline (enable hotline-num HOTLINE-NUM disable)
Applicable View	gpon interface view
Function Description	This command is used to set the hotline service permission in the ONT SIP service data discrete. The default setting is to disable the hotline service permission (disable).
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	of the ONT to be configured , the value is 1-256
enable	Enable hotline service permissions.
disable	Disable hotline service permissions.
HOTLINE-NUM	Hotline Numbers

【Configuration Case】

Case 1: Disable the hotline service permission in ONT SIP service data discrete 1.

```
OLT (config-gpon-0/1)# sippstnuser rightflag 1 1 hotline disable
```

15.8.8. sippstnuser rightflag mwi

Command Syntax	sippstnuser rightflag port - id ont - id mwi (enable disable)
Applicable View	gpon interface view
Function Description	This command is used to set the message waiting indication permission in the discrete SIP service data of the ONT. The default setting is to disable the message waiting indication permission (disable).
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	of the ONT to be configured , the value is 1-256
enable	Enable the Message Waiting Indication permission.
disable	Turn off the message waiting indication permission.

【Configuration Case】

Case 1: Disable the message waiting indication permission in ONT SIP service data discrete 1.

```
OLT (config-gpon-0/1)# sippstnuser rightflag 1 1 mwi disable
```

15.8.9. show sippstnuser rightflag

Command Syntax	show sippstnuser rightflag port - id ont - id
Applicable View	gpon interface view
Function Description	This command is used to view the current SIP service data discrete configuration.
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	of the ONT to be configured , the value is 1-256

【Configuration Case】

Case 1: View the current SIP service data discrete configuration.

```
OLT (config-gpon-0/1)# show sippstnuser rightflag 1 1
```

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

```

15.8.10. sippstnuser rightflag three-party

Command Syntax	sippstnuser rightflag <i>port - id ont - id</i> three-party (enable disable)
Applicable View	gpon interface view
Function Description	This command is used to set the three-party calling permission in the ONT SIP service data discrete. The default is to enable the three-party calling permission (enable).
<i>port - id</i>	Specifies the PON port number where the ONT is located. The value range is 1-16
<i>ont - id</i>	of the ONT to be configured , the value is 1-256
enable	Enable three-way calling permission.
disable	Disable the three-way calling permission.

【Configuration Case】

Case 1: Enable the three-party calling permission in ONT SIP service data template 1.

```
OLT(config-gpon-0/1)# sippstnuser rightflag 1 1 three-party enable
```

16 WAN Configuration

16.1 WAN Discrete Configuration

16.1.1. ont wan ipv4

Command Syntax	<code>ont wan port-id onu-id wan-index vlan (vlan-id [priority priority] untag) ipv4 (dhcp pppoe username username password password static ip ip-addr mask mask-addr gateway gateway-addr pri-dns pri-dns slave-dns slave-dns) no ont wan port-id onu-id wan-index</code>
Applicable View	GPON view
Function Description	This command is used to add or modify an IPv4 routing wan and configure the basic properties of the routing wan. When adding an IPv4 routing wan, its optional properties are the default options. When modifying an IPv4 routing wan, its optional properties remain unchanged. The no ont wan command is used to delete the WAN configuration.
<i>port-id</i>	number of the ONU to be configured.
<i>onu-id</i>	The ONT ID to be configured. The value range is 1-256.
<i>wan-index</i>	wan index , the value range is 1-8.
<i>vlan-id</i>	Configure the management VLAN of the ONT. After configuration, the WAN connection only allows the configured VLAN data packets to pass through. The value range is 1-4094, of which 4077-4094 are occupied by the system and are unavailable.
<i>priority</i>	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, and the default value is 0.
untag	Untag mode, after configuration, the WAN connection can only pass packets without VLAN.
dhcp	Configure the IP v4 address to be obtained dynamically through DHCP.
pppoe	Configure the WAN connection to PPPoE mode. username: User name, string length 1-63 password: User password, string length 1-63
static	Configure the IP v4 address as static. ip-addr: The configured static IP address in dotted decimal format. mask-addr: Specifies the subnet mask of the network segment interface, in dotted decimal notation.

	gateway-addr: Gateway IP address, in dotted decimal format. pri-dns: Configure the primary DNS server IP address. 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 dotted decimal. slave-dns: Configure the slave DNS server IP address in dotted decimal format.
--	--

【Configuration Case】

Case 1: On port 0/0/1, configure wan1 of ONT 5, vlan 11, protocol ipv4 , mode DHCP.

```
OLT(config- gpon-0/1 )# ont wan 1 5 1 vlan 11 ipv4 dhcp
OLT(config- gpon-0/1 )#
```

Case 2: On port 0/0/1, configure wan1 of ONT 5, set the vlan id to 11, the vlan priority to 3, the protocol to ipv4, the mode to pppoe, the username of the PPPoE account to username, and the password to password.

```
OLT(config- gpon-0/1 )# ont wan 1 5 1 vlan 11 priority 3 ipv4 pppoe username username
password password
OLT(config- gpon-0/1 )#
```

Case 3: Delete the WAN1 configuration of ONT 5 under port 0/0/1.

```
OLT(config- gpon-0/1 )# no ont wan 1 5 1
OLT(config- gpon-0/1 )#
```

16.1.2. ont wan ipv4-ipv6

Command Syntax	ont wan <i>port-id onu-id wan-index</i> vlan (<i>vlan-id</i> [<i>priority priority</i>] untag) ipv4-ipv6 (dhcp pppoe <i>username username password password</i> static ip <i>ip-addr mask mask-addr gateway gateway-addr pri-dns pri-dns slave-dns slave-dns</i>) v6 [auto slaac dhcipv6] [dns (auto slaac dhcipv6)]
Applicable View	GPON view
Function Description	This command is used to add or modify a dual-stack routing WAN and configure the basic attributes of the routing WAN. When adding a dual-stack routing WAN, its optional attributes are the default options. When modifying a dual-stack routing WAN, its optional attributes are the default options. Remain unchanged.
<i>port-id</i>	number of the ONU to be configured.
<i>onu-id</i>	The ONT ID to be configured. The value range is 1-256.
<i>wan-index</i>	wan index , the value range is 1-8.
<i>vlan-id</i>	Configure the management VLAN of the ONT. After configuration, the WAN connection only allows the configured VLAN data packets to pass

	through. The value range is 1-4094, of which 4077-4094 are occupied by the system and are unavailable.
<i>priority</i>	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, and the default value is 0.
untag	Untag mode, after configuration, the WAN connection can only pass packets without VLAN.
dhcp	Configure the IP v4 address to be obtained dynamically using DHCP. The default IPv4 address acquisition method is DHCP.
pppoe	Configure the WAN connection to PPPoE mode. username: User name, string length 1-63 password: User password, string length 1-63
static	Configure the IP v4 address as static. ip-addr: The configured static IP address in dotted decimal format. mask-addr: Specifies the subnet mask of the network segment interface, in dotted decimal notation. gateway-addr: Gateway IP address, in dotted decimal format. pri-dns: Configure the primary DNS server IP address. 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 dotted decimal. slave-dns: Configure the slave DNS server IP address in dotted decimal format.
v6	Configure the method for obtaining an IPv6 address. The default value is auto. auto: Automatically selects the IPv6 address acquisition method. slaac: Stateless address autoconfiguration, which can obtain IPv6 global unicast addresses without DHCPv6 server service. dhcpv6: Use the dhcpv6 protocol to obtain an IPv6 address. Dynamic Host Configuration Protocol for IPv6 is a network protocol used to allocate IPv6 addresses, prefixes, DNS and other configurations.
DNS	Configure the method for obtaining the DNS address. The default value is auto. auto: Automatically select the DNS address acquisition method. slaac: Stateless Address auto configuration. DHCPv6: Use the DHCPv6 protocol to obtain a DNS address.

【Configuration Case】

Case 1: On port 0/0/1, configure wan1 of ONT 5, vlan 11, protocol ipv4-ipv6, ipv4 protocol DHCP mode, ipoev6 mode default (address mode default atuo).

```
OLT(config- gpon-0/1 )# ont wan 1 5 1 vlan 11 ipv4-ipv6 dhcp v6
OLT(config- gpon-0/1 )#
```

Case 2: On port 0/0/1, configure wan1 of ONT 5, set the vlan id to 11, the vlan priority to 3, the protocol to ipv4-ipv6, the mode to pppoe, the username of the PPPoE account to username, the password to password, the v6 mode, and the default address mode to auto.

```
OLT(config-gpon-0/1)# ont wan 1 5 1 vlan 11 priority 3 ipv4-ipv6 pppoe username
username password password v6
OLT(config-gpon-0/1)#
```

16.1.3. ont wan ipv6

Command Syntax	ont wan <i>port-id onu-id wan-index</i> vlan (<i>vlan-id</i> [<i>priority priority</i>] untag) ipv6 [pppoe <i>username username password password</i>] v6 [auto slaac dhcipv6] [dns (auto slaac dhcipv6)]
Applicable View	GPON view
Function Description	This command is used to add or modify an IPv6 routing wan and configure the basic attributes of the routing wan. When adding an IPv6 routing wan, its optional attributes are the default options. When modifying an IPv6 routing wan, its optional attributes remain unchanged.
<i>port-id</i>	number of the ONU to be configured.
<i>onu-id</i>	The ONT ID to be configured. The value range is 1-256.
<i>wan-index</i>	wan index , the value range is 1-8.
<i>vlan-id</i>	Configure the management VLAN of the ONT. After configuration, the WAN connection only allows the configured VLAN data packets to pass through. The value range is 1-4094, of which 4077-4094 are occupied by the system and are unavailable.
<i>priority</i>	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, and the default value is 0.
untag	Untag mode, after configuration, the WAN connection can only pass packets without VLAN.
pppoe	Configure the WAN connection to PPPoE mode. username: User name, string length 1-63 password: User password, string length 1-63
v6	Configure the method for obtaining an IPv6 address. The default value is auto. auto: Automatically selects the IPv6 address acquisition method. slaac: Stateless address autoconfiguration, which can obtain IPv6 global unicast addresses without DHCPv6 server service.

	dhcipv6: Use the dhcipv6 protocol to obtain an IPv6 address. Dynamic Host Configuration Protocol for IPv6 is a network protocol used to allocate IPv6 addresses, prefixes, DNS and other configurations.
DNS	Configure the method for obtaining the DNS address. The default value is auto. auto: Automatically select the DNS address acquisition method. slaac: Stateless Address auto configuration. DHCPv6: Use the DHCPv6 protocol to obtain a DNS address.

【Configuration Case】

Case 1: On port 0/0/1, configure wan1 of ONT 5, set vlan to 11, set protocol to ipv6, and set v6 mode to default (address mode defaults to atuo).

```
OLT(config-gpon-0/1)# ont wan 1 5 1 vlan 11 ipv6 v6
OLT(config-gpon-0/1)#
```

Case 2: On port 0/0/1, configure wan1 of ONT 5, set the vlan id to 11, the vlan priority to 3, the protocol to ipv6, the mode to pppoe, the username of the PPPoE account to username, the password to password, the v6 mode, and the default address mode to atuo.

```
OLT(config-gpon-0/1)# ont wan 1 5 1 vlan 11 priority 3 ipv6 pppoe username username
password password v6
OLT(config-gpon-0/1)#
```

16.1.4. ont wan bridge

Command Syntax	ont wan <i>port-id</i> <i>onu-id</i> <i>wan-index</i> <i>vlan</i> (<i>vlan-id</i> [<i>priority</i> <i>priority</i>] <i>untag</i>) <i>bridge</i>
Applicable View	GPON view
Function Description	This command is used to add or modify a bridge WAN and configure the basic properties of the bridge WAN. When adding a bridge WAN, its optional properties are the default options. When modifying a bridge WAN, its optional properties remain unchanged.
<i>port-id</i>	number of the ONU to be configured.
<i>onu-id</i>	The ONT ID to be configured. The value range is 1-256.
<i>wan-index</i>	wan index , the value range is 1-8.
<i>vlan-id</i>	Configure the management VLAN of the ONT. After configuration, the WAN connection only allows the configured VLAN data packets to pass through. The value range is 1-4094, of which 4077-4094 are occupied by the system and are unavailable.
<i>priority</i>	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, and the default value is 0.

untag	Untag mode, after configuration, the WAN connection can only pass packets without VLAN.
bridge	Configure a bridged WAN.

【Configuration Case】

Case 1: On port 0/0/1, configure wan1 of ONT 5, vlan 11 , mode bridge.

```
OLT(config-gpon-0/ 1 )# ont wan 1 5 1 vlan 11 bridge
OLT(config-gpon-0/ 1 )#
```

16.1.5. ont wan option

Command Syntax	ont wan <i>port-id</i> <i>onu-id</i> <i>wan-index</i> option {<i>mtu</i> <i>mtu</i> <i>service-type</i> (internet other tr069-internet tr069-voice-internet voice-internet) igmp-proxy (<i>igmp-vlan-id</i> disable) binding {eth <i>eth-port-list</i> ssid <i>ssid-port-list</i> 5g-ssid <i>5G-ssid-port-list</i> } } ont wan <i>port-id</i> <i>onu-id</i> <i>wan-index</i> option {<i>mtu</i> <i>mtu</i> <i>service-type</i> (tr069 tr069-voice voice) }
Applicable View	GPON view
Function Description	This command is used to modify a routing WAN and configure the optional attributes of the routing WAN. If the configured routing WAN does not exist, this command fails to execute. At least one option must be selected in this command and they must be entered in order. If the option at the back is selected before the option at the front, the option at the front will no longer be selectable. If the binding parameter is selected, at least one type of port must be selected for binding; otherwise, the command execution fails. When the service type is tr069, voice, and tr069-voice, the multicast proxy and binding port configuration cannot be performed, and the options igmp-proxy and binding are no longer selectable.
<i>port-id</i>	number of the ONU to be configured.
<i>onu-id</i>	The ONT ID to be configured. The value range is 1-256.
<i>wan-index</i>	wan index , the value range is 1-8.
mtu	Maximum Transmission Unit. The size of MTU determines the maximum number of bytes that the sender can send at one time. If the MTU exceeds the maximum value that the receiver can bear, or exceeds the maximum value that a device on the transmission path can bear, it will cause the message to be fragmented or even discarded, increasing the burden of network transmission. In pppoe mode, the value range is 128-1492, and the default value is 1492; in static and dhcp modes, the value range is 576-1500, and the default value is 1500.
type	Service type, the default value is tr069-voice-internet. When the service type is tr069, voice and tr069-voice, you cannot bind the port and configure igmp-proxy.

igmp-proxy	Multicast proxy, which is disabled by default. igmp-vlan-id: Enable multicast proxy and set multicast VLAN. The value range of multicast VLAN is 1-4094, of which 4077-4094 are occupied by the system and are unavailable. disable: Disable the multicast proxy.
binding	WAN binding port, optional. eth-port-list: The bound eth port list. The port value range is 1-8 and the input format is 1-2,4. ssid-port-list: Bound ssid port list. The port value range is 1-8 and the input format is 1-2,4. 5G-ssid-port-list: bound 5G ssid port list, the port value range is 1-8, and the input format is 1-2,4.

【Configuration Case】

Case 1: Configure wan1 of ONT 5 under port 0/0/1 with service type tr069.

```
OLT(config-gpon-0/1)# ont wan 1 5 1 option service-type tr069
OLT(config-gpon-0/1)#
```

Case 2: On port 0/0/1, configure wan1 of ONT 5, set the service type to int ernet +tr069, enable multicast and set multicast vlan to 20, and bind lan1 and lan3 ports.

```
OLT(config-gpon-0/1)# ont wan 1 5 1 option service-type tr069-internet igmp-proxy 20
binding eth 1,3
OLT(config-gpon-0/1)#
```

16.1.6. show ont wan config

Command Syntax	show ont wan config <i>port-id onu-id</i>
Applicable View	GPON view
Function Description	This command is used to view the WAN configuration of a specified ONT device saved on the OLT.
<i>port-id</i>	number of the ONU to be configured.
<i>onu-id</i>	The ONT ID to be configured. The value range is 1-256.

【Configuration Case】

Case 1: Check the WAN configuration of ONT 1 on port 0/0/1 saved on the OLT.

```
OLT(config-gpon-0/1)# show ont wan config 1 1
```

```
-----
WAN ID           : 1
WAN Name         : --
Version          : IPv4
Connect mode     : route
Connect type     : Internet
VLAN mode        : tag
```

```

VLAN id          : 1
VLAN priority    : 3
IGMP proxy       : enable
MVLAN id         : 1
MTU              : 1500
DSP mode        : DHCP
bridge port binding : eth-1,
IPv4 address     : 192.168.0.1
IPv4 mask        : 255.255.255.0
IPv4 gateway     : 192.168.0.1
IPv4 primary DNS : 8.8.8.8
IPv4 secondary DNS : 114.114.114.114
-----
    
```

16.1.7. show ont wan status

Command Syntax	<code>show ont wan status port-id onu-id</code>
Applicable View	GPON view
Function Description	This command is used to view the WAN configuration of a specified ONU device.
<i>port-id</i>	number of the ONU to be configured.
<i>onu-id</i>	The ONT ID to be configured. The value range is 1-256.

【Configuration Case】

Case 1: Check the WAN configuration of ONT 1 under port 0/0/1.

```
OLT(config- gpon-0/1 )# show ont wan status 1 1
```

```

-----
WAN ID: 1
WAN Name          : 1_INTERNET_R_VID_
Version           : IPv6
Connection status  : enable
Connect mode      : route
Connect type      : Internet
VLAN mode         : untag
VLAN id           : --
VLAN priority     : --
IGMP proxy        : enable
MVLAN id          : --
MTU               : 1500
DSP mode          : DHCP
bridge mode       : --
bridge port binding : eth-1,
Automatically etht IPv6 address : dhcpv6
    
```

```

DHCPv6 prefix delegation      : disable
IPv6 address                  : --
IPv6 mask                     : --
IPv6 gateways                 : --
Automatically etht DNS address : slaac
IPv6 primary DNS              : -
IPv6 primary DNS              : -
-----

```

16.2 WAN Template Configuration

16.2.1. ont wan-profile

Command Syntax	ont wan-profile <i>port-id onu-id</i> (<i>profile-id profile-id</i> <i>profile-name profile-name</i>) no ont wan -profile <i>port-id onu-id</i>
Applicable View	GPON view
Function Description	ont wan -profile command is used to bind a wan profile to an ONU. The wan profile must already exist.
<i>port-id</i>	number of the ONU to be configured.
<i>onu-id</i>	The ONT ID to be configured. The value range is 1-256.
<i>profile-id</i>	ONT wan template number, used to identify a wan template, with a value range of 1 - 256.
<i>profile-name</i>	ONT WAN template name. The name length supports 1 to 64 characters.

【Configuration Case】

Case 1: Create wan template 1.

```

OLT(config)# ont-wan-profile gpon profile-id 1
OLT(config-ont-wanprofile-1)#

```

16.2.2. ont-wan-profile

Command Syntax	ont-wan-profile gpon { <i>profile-id profile-id</i> <i>profile-name profile-name</i> } no ont-wan-profile (<i>profile-id profile-id</i> <i>profile-name profile-name</i>)
Applicable View	config view
Function Description	ont- wan -profile command is used to add a new wan profile or enter an existing wan profile. The ont- wan -profile gpon command without any parameters automatically creates a new wan profile.

	no ont- wan -profile command is used to delete an unnecessary wan profile. If the GPON ONT wan profile has been bound to the ONT, it cannot be deleted.
<i>profile-id</i>	ONT wan template number, used to identify a wan template, the value range is 1 - 256. If not specified, the system automatically assigns the smallest free template number
<i>profile-name</i>	ONT wan profile name, the name length supports 1-64 characters. The default profile name is wan- profile_x , where "x" is replaced by the actual profile number.

【Configuration Case】

Case 1: Create wan template 1.

```
OLT(config)# ont-wan-profile gpon profile-id 1
OLT(config-ont-wanprofile-1)#
```

16.2.3. wan ipv4

Command Syntax	wan wan-index vlan (vlan-id [priority priority] untag) ipv4 (dhcp pppoe username username password password static ip ip-addr mask mask-addr gateway gateway-addr pri-dns pri-dns slave-dns slave-dns) no wan wan-index
Applicable View	WAN template view
Function Description	This command is used to add or modify an IPV4 routing wan and configure the basic properties of the routing wan. When adding an IPV4 routing wan, its optional properties are the default options. When modifying an IPV4 routing wan, its optional properties remain unchanged. The no wan command is used to delete the WAN configuration.
<i>wan-index</i>	wan index , the value range is 1-8.
<i>vlan-id</i>	Configure the management VLAN of the ONT. After configuration, the WAN connection only allows the configured VLAN data packets to pass through. The value range is 1-4094, of which 4077-4094 are occupied by the system and are unavailable.
<i>priority</i>	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, and the default value is 0.
untag	Untag mode, after configuration, the WAN connection can only pass packets without VLAN.
dhcp	Configure the IP v4 address to be obtained dynamically through DHCP.
pppoe	Configure the WAN connection to PPPoE mode.

	username: User name, string length 1-63 password: User password, string length 1-63
static	Configure the IP v4 address as static. ip-addr: The configured static IP address in dotted decimal format. mask-addr: Specifies the subnet mask of the network segment interface, in dotted decimal notation. gateway-addr: Gateway IP address, in dotted decimal format. pri-dns: Configure the primary DNS server IP address. 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 dotted decimal. slave-dns: Configure the slave DNS server IP address in dotted decimal format.

【Configuration Case】

Case 1: In WAN template 1 , configure wan1 's vlan to 11, protocol to ipv4 , and mode to DHCP.

```
OLT(config-ont-wanprofile-1)#wan 1 vlan 11 ipv4 dhcp
OLT(config-ont-wanprofile-1)#
```

Case 2: In WAN template 1 , configure wan1 's vlan id to 11, vlan priority to 3, protocol to ipv4, mode to pppoe, PPPoE account user name to username, password to password.

```
OLT(config-ont-wanprofile-1)# wan 1 vlan 11 priority 3 ipv4 pppoe username username
password password
OLT(config-ont-wanprofile-1)#
```

Case 3: Delete the WAN1 configuration in WAN template 1.

```
OLT(config- ont-wanprofile-1 )# no wan 1
OLT(config- ont-wanprofile-1 )#
```

16.2.4. wan ipv4-ipv6

Command Syntax	wan wan-index vlan (vlan-id [priority priority] untag) ipv4-ipv6 (dhcp pppoe username username password password static ip ip-addr mask mask-addr gateway gateway-addr pri-dns pri-dns slave-dns slave-dns) v6 [auto slaac dhcpv6] [dns (auto slaac dhcpv6)]
Applicable View	WAN template view
Function Description	This command is used to add or modify a dual-stack routing WAN and configure the basic attributes of the routing WAN. When adding a dual-stack routing WAN, its optional attributes are the default options. When modifying a dual-stack routing WAN, its optional attributes are the default options. Remain unchanged.
wan-index	wan index , the value range is 1-8.

<i>vlan-id</i>	Configure the management VLAN of the ONT. After configuration, the WAN connection only allows the configured VLAN data packets to pass through. The value range is 1-4094, of which 4077-4094 are occupied by the system and are unavailable.
<i>priority</i>	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, and the default value is 0.
untag	Untag mode, after configuration, the WAN connection can only pass packets without VLAN.
dhcp	Configure the IP v4 address to be obtained dynamically using DHCP. The default IPv4 address acquisition method is DHCP.
pppoe	Configure the WAN connection to PPPoE mode. username: User name, string length 1-63 password: User password, string length 1-63
static	Configure the IP v4 address as static. ip-addr: The configured static IP address in dotted decimal format. mask-addr: Specifies the subnet mask of the network segment interface, in dotted decimal notation. gateway-addr: Gateway IP address, in dotted decimal format. pri-dns: Configure the primary DNS server IP address. 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 dotted decimal. slave-dns: Configure the slave DNS server IP address in dotted decimal format.
v6	Configure the method for obtaining an IPv6 address. The default value is auto. auto: Automatically selects the IPv6 address acquisition method. slaac: Stateless address autoconfiguration, which can obtain IPv6 global unicast addresses without DHCPv6 server service. dhcpv6: Use the dhcpv6 protocol to obtain an IPv6 address. Dynamic Host Configuration Protocol for IPv6 is a network protocol used to allocate IPv6 addresses, prefixes, DNS and other configurations.
DNS	Configure the method for obtaining the DNS address. The default value is auto. auto: Automatically select the DNS address acquisition method. slaac: Stateless Address auto configuration. DHCPv6: Use the DHCPv6 protocol to obtain a DNS address.

【Configuration Case】

Case 1: In WAN template 1, configure WAN1 's VLAN to 11, the protocol to ipv4-ipv6, the ipv4 protocol to DHCP mode, and the ipoev6 mode to default (the address mode defaults to atuo).

```
OLT(config-ont-wanprofile-1)#wan 1 vlan 11 ipv4-ipv6 dhcp v6
OLT(config-ont-wanprofile-1)#
```

Case 2: In WAN template 1, configure WAN1 's vlan id to 11, vlan priority to 3, protocol to ipv4-ipv6, mode to pppoe, PPPoE account username to username, password to password, v6 mode, address mode to default auto.

```
OLT(config-ont-wanprofile-1)# wan 1 vlan 11 priority 3 ipv4-ipv6 pppoe username
username password password v6
OLT(config-ont-wanprofile-1)#
```

16.2.5. wan ipv6

Command Syntax	wan <i>wan-index</i> vlan (<i>vlan-id</i> [<i>priority</i> <i>priority</i>] untag) ipv6 [pppoe <i>username</i> <i>username</i> <i>password</i> <i>password</i>] v6 [auto slaac dhcpv6] [dns (auto slaac dhcpv6)]
Applicable View	WAN template view
Function Description	This command is used to add or modify an IPv6 routing wan and configure the basic attributes of the routing wan. When adding an IPv6 routing wan, its optional attributes are the default options. When modifying an IPv6 routing wan, its optional attributes remain unchanged.
<i>wan-index</i>	wan index , the value range is 1-8.
<i>vlan-id</i>	Configure the management VLAN of the ONT. After configuration, the WAN connection only allows the configured VLAN data packets to pass through. The value range is 1-4094, of which 4077-4094 are occupied by the system and are unavailable.
<i>priority</i>	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, and the default value is 0.
untag	Untag mode, after configuration, the WAN connection can only pass packets without VLAN.
pppoe	Configure the WAN connection to PPPoE mode. username: User name, string length 1-63 password: User password, string length 1-63
v6	Configure the method for obtaining an IPv6 address. The default value is auto. auto: Automatically selects the IPv6 address acquisition method. slaac: Stateless address autoconfiguration, which can obtain IPv6 global unicast addresses without DHCPv6 server service. dhcpv6: Use the dhcpv6 protocol to obtain an IPv6 address. Dynamic Host Configuration Protocol for IPv6 is a network protocol used to allocate IPv6 addresses, prefixes, DNS and other configurations.

DNS	Configure the method for obtaining the DNS address. The default value is auto. auto: Automatically select the DNS address acquisition method. slaac: Stateless Address auto configuration. DHCPv6: Use the DHCPv6 protocol to obtain a DNS address.
------------	---

【Configuration Case】

Case 1: In WAN template 1, configure WAN1 's VLAN to 11, the protocol to ipv6, and the v6 mode to default (the address mode defaults to atuo).

```
OLT(config-ont-wanprofile-1)#wan 1 vlan 11 ipv6 v6
OLT(config-ont-wanprofile-1)#
```

Case 2: In WAN template 1, configure WAN1 's VLAN ID to 11, VLAN priority to 3, protocol to ipv6, mode to pppoe, PPPoE account username to username, password to password, v6 mode, and address mode to atuo by default.

```
OLT(config-ont-wanprofile-1)# wan 1 vlan 11 priority 3 ipv6 pppoe username username
password password v6
OLT(config-ont-wanprofile-1)#
```

16.2.6. wan bridge

Command Syntax	wan wan-index vlan (vlan-id [priority priority] untag) bridge
Applicable View	WAN template view
Function Description	This command is used to add or modify an IPv6 routing wan and configure the basic attributes of the routing wan. When adding an IPv6 routing wan, its optional attributes are the default options. When modifying an IPv6 routing wan, its optional attributes remain unchanged.
<i>wan-index</i>	wan index , the value range is 1-8.
<i>vlan-id</i>	Configure the management VLAN of the ONT. After configuration, the WAN connection only allows the configured VLAN data packets to pass through. The value range is 1-4094, of which 4077-4094 are occupied by the system and are unavailable.
<i>priority</i>	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, and the default value is 0.
untag	Untag mode, after configuration, the WAN connection can only pass packets without VLAN.
bridge	Configure a bridged WAN.

【Configuration Case】

Case 1: In WAN template 1, configure WAN1 's VLAN to 11 and the mode to bridge.

```
OLT(config-ont-wanprofile-1)# wan 1 vlan 11 bridge
OLT(config-ont-wanprofile-1)#
```

16.2.7. wan option

Command Syntax	wan wan-index option {mtu mtu service-type (internet other tr069-internet tr069-voice-internet voice-internet) igmp-proxy (igmp-vlan-id disable) binding {eth eth-port-list ssid ssid-port-list 5g-ssid 5G-ssid-port-list} } wan wan-index option {mtu mtu service-type (tr069 tr069-voice voice) }
Applicable View	WAN template view
Function Description	This command is used to modify a routing WAN and configure the optional attributes of the routing WAN. If the configured routing WAN does not exist, this command fails to execute. At least one option must be selected in this command and they must be entered in order. If the option at the back is selected before the option at the front, the option at the front will no longer be selectable. If the binding parameter is selected, at least one type of port must be selected for binding; otherwise, the command execution fails. When the service type is tr069, voice, and tr069-voice, the multicast proxy and binding port configuration cannot be performed, and the options igmp-proxy and binding are no longer selectable.
<i>wan-index</i>	wan index , the value range is 1-8.
<i>mtu</i>	Maximum Transmission Unit. The size of MTU determines the maximum number of bytes that the sender can send at one time. If the MTU exceeds the maximum value that the receiver can bear, or exceeds the maximum value that a device on the transmission path can bear, it will cause the message to be fragmented or even discarded, increasing the burden of network transmission. In pppoe mode, the value range is 128-1492, and the default value is 1492; in static and dhcp modes, the value range is 576-1500, and the default value is 1500.
<i>type</i>	Service type, the default value is tr069-voice-internet. When the service type is tr069, voice and tr069-voice, you cannot bind the port and configure igmp-proxy.
<i>igmp-proxy</i>	Multicast proxy, which is disabled by default. igmp-vlan-id: Enable multicast proxy and set multicast VLAN. The value range of multicast VLAN is 1-4094, of which 4077-4094 are occupied by the system and are unavailable. disable: Disable the multicast proxy.
<i>binding</i>	WAN binding port, optional. eth-port-list: The bound eth port list. The port value range is 1-8 and the input format is 1-2,4. ssid-port-list: Bound ssid port list. The port value range is 1-8 and the input format is 1-2,4.

	5G-ssid-port-list: bound 5G ssid port list, the port value range is 1-8, and the input format is 1-2,4.
--	---

【Configuration Case】

Case 1: Configure the service type of wan1 as tr069 in WAN template 1.

```
OLT(config-ont-wanprofile-1)#wan 1 option service-type tr069
OLT(config-ont-wanprofile-1)#
```

Case 2: In WAN template 1, configure the service type of wan1 to be internet +tr069, enable multicast and set the multicast VLAN to 20, and bind lan1 and lan3 ports.

```
OLT(config-ont-wanprofile-1)#wan 1 option service-type tr069-internet igmp-proxy 20
binding eth 1,3
OLT(config-ont-wanprofile-1)#
```

16.2.8. show ont-wan-profile current

Command Syntax	show ont-wan-profile current
Applicable View	WAN template view
Function Description	This command is used to view the current WAN configuration of the WAN template.

【Configuration Case】

Case 1: View the current WAN configuration of wan template 1.

```
OLT(config-ont-wanprofile-1)# show ont-wan-profile current
-----
Profile-ID   : 1
Profile-name : wan-profile_1
Binding times: 0
-----
WAN ID       : 1
WAN Name     : --
Version      : IPv4/IPv6
Connection status : enable
Connect mode : route
Connect type : --
VLAN mode    : tag
VLAN id      : 10
VLAN priority : 0
IGMP proxy   : disable
MVLAN id     : --
MTU          : --
DSP mode     : PPPoE
bridge mode  : --
bridge port binding :
PPPoE service name :
```

```

PPPoE username      : 111111111122
PPPoE password      : 3333333333322
IPv4 address        : -
IPv4 mask           : -
IPv4 gateway        : -
IPv4 primary DNS    : -
IPv4 secondary DNS  : -
Automatically etht IPv6 address : slaac
DHCPv6 prefix delegation : enable
IPv6 address        : --
IPv6 mask           : --
IPv6 gateways       : --
Automatically etht DNS address : auto
IPv6 primary DNS    : -
IPv6 primary DNS    : -----

```

16.2.9. show ont-wan-profile gpon all

Command Syntax	<code>show ont-wan-profile gpon all</code>
Applicable View	config view, enable view
Function Description	This command is used to view brief information about all wan templates.

【Configuration Case】

Case 1: View brief information of all wan templates.

```

OLT(config)#show ont-wan-profile gpon all
-----
Profile-ID Profile-name Binding times
-----
1 wan-profile_1 0
-----
Total: 1

```

16.2.10. show ont-wan-profile gpon profile-id

Command Syntax	<code>show ont-wan-profile gpon (<i>profile-id profile-id</i> <i>profile-name profile-name</i>)</code>
Applicable View	config view, enable view
Function Description	This command is used to view the detailed configuration of the wan template.
<i>profile-id</i>	wan template number to be queried is used to identify a wan template and the value range is 1 - 256

profile-name

be queried. The name length supports 1-64 characters.

【Configuration Case】

Case 1: View the detailed WAN configuration of wan template 1.

```
OLT(config)# show ont-wan-profile gpon profile-id 1
```

```
-----
```

Profile-ID: 1

Profile-name: wan-profile_1

Binding times: 0

```
-----
```

WAN ID : 1

WAN Name : --

Version : IPv4/IPv6

Connection status : enable

Connect mode : route

Connect type : --

VLAN mode : tag

VLAN id : 10

VLAN priority : 0

IGMP proxy : disable

MVLAN id : --

MTU : --

DSP mode : PPPoE

bridge mode : --

bridge port binding :

PPPoE service name :

PPPoE username : 111111111122

PPPoE password : 33333333333322

IPv4 address : -

IPv4 mask : -

IPv4 gateway : -

IPv4 primary DNS : -

IPv4 secondary DNS : -

Automatically etht IPv6 address : slaac

DHCPv6 prefix delegation : enable

IPv6 address : --

IPv6 mask : --

IPv6 gateways : --

Automatically etht DNS address : auto

IPv6 primary DNS : -

IPv6 primary DNS : -----

17 WiFi Configuration

17.1.1. ont wifi

Command Syntax	<code>ont wifi port-id onu-id</code> <code>{band-steering 2.4g ssid-index 5g ssid-index }</code> <code>(disable enable ssid username[open password password</code> <code>authentication (wpa-psk wpa2-psk wpa2psk-wpa2psk)</code> <code>encryption(tkip aes tkip-aes)]* [broadcast {enable disable} user-</code> <code>limit number]*)</code> <code>no ont wifi port-id onu-id</code>
Applicable View	GPON view
Function Description	Configure basic Wi-Fi properties. ONU has default values at the factory, and OLT sends them to modify related parameters.
<i>port-id</i>	onu where the pon port id
<i>onu-id</i>	onu id value range 1-128
b and -s teering 2.4g 5g	WiFi bands 2.4g and 5g, and dual-band switch.
<i>ssid-index</i>	ssid index, value 1-4
<i>username</i>	SSID name, length 1-24
broadcast	Broadcast enable, enable: open disable: close
user-limit	Maximum number of users (0-128, 0 means no limit)
<i>password</i>	Password, length 8-63
authentication	Authentication method: wpa-psk, wpa2-psk, wpa2psk-wpa2psk
encryption	Encryption algorithm: tkip, aes, tkip-aes

【Configuration Case】

Case 1: On port 0/0/1, configure the ssid of ONT 5's wifi 5g ssid-index 1 to 11111111 and the password to 22222222.

```
OLT(config- gpon-0/1 )# ont wifi 1 5 5g 1 enable ssid 11111111 password 22222222

OLT(config- gpon-0/1 )#
```

Case 2: On port 0/0/1, configure and disable Wi-Fi 2.4G SSID1 of ONT 5.

```
OLT(config- gpon-0/1 )# ont wifi 1 5 2.4g 1 disable

OLT(config- gpon-0/1 )#
```

Case 3: On port 0/0/1, configure ONT 5's WiFi dual-band unification to disable SSID broadcast, username is 11111111, password is 22222222, use wpa2-psk authentication and aes encryption algorithm, and the maximum number of users is 16.

```
OLT(config-gpon-
0/1)#ont wifi 1 5 band steering enable ssid11111111 password 22222222 authentication
wpa2-psk encryption aes broadcast disable user-limit 16
OLT(config-gpon-0/1)#
```

17.1.2. ont wifi advanced

Command Syntax	ont wifi <i>port-id</i> <i>onu-id</i> advanced (2.4g 5g) {mode MODE region REGION bandwidth (20 40 80 160 auto) channel CHANNEL wps (enable disable) sgi (enable disable) isolation (enable disable) power (100 70 50 35 15) wmm (enable disable)}
Applicable View	GPON view
Function Description	Configure the advanced configuration of WiFi in the 2.4G/5G frequency band. ONU has default values at the factory. OLT sends it to modify related parameters. Advanced configuration does not need to be configured.
<i>port-id</i>	onu where the pon port id
<i>onu-id</i>	onu id, value range is 1-128
MODE	Configure the working mode of the wireless network. The values are as follows: 2.4g: 802.11b 802.11g 802.11b/g 802.11n 802.11b/g/n 802.11ax 802.11b/g/n/ax; 5g: 802.11a 802.11n 802.11a/n 802.11ac 802.11n/ac 802.11a/n/ac 802.11ax 802.11a/n/ac/ax;
REGION	Country code. The values are as follows: arethntina colombia guatemala ecuador Chile Bolivia Peru mexico usa brazil Kazakhstan azerbaijan

	india philippines china ukraine russian Nepal iraq paraguay nicaragua
bandwidth	Configure the channel width occupied by wireless data transmission. The values are as follows: 2.4g: 20:20MHz 40: 40MHz auto 5g: 20:20MHz 40: 40MHz 80:80MHz 160:160MHz auto
CHANNEL	The channel of the wireless network, the values are as follows: 2.4g: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 5g: 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144, 149, 153, 157, 161, 165
power	Transmit power: 100% 70% 50% 35% 15%
sgi	sgi enable enable: disable: Close
wps	wps enable enable: disable: Close
Isolation	ssid isolation enable enable: disable: Close
wmm	wmm enable enable: disable: Close

【Configuration Case】

Case 1: On port 0/0/1, configure the Wi-Fi 2.4g mode of ONT 5 to 802.11n.

```
OLT(config- gpon-0/1 )# ont wifi 1 5 advanced 2.4g mode 802.11n
```

Case 2: On port 0/0/1, configure ONT 5's wifi 2.4g mode to 802.11n and bandwidth to 20Mhz.

```
OLT(config-gpon-0/1)# ont wifi 1 5 advanced 2.4g mode 802.11n bandwidth 20
```

17.1.3. show ont wifi

Command Syntax	show ont wifi config port-id onu-id
Applicable View	GPON view
Function Description	This command is used to view the WIFI configuration of the specified ONU device issued by the OLT.
<i>port-id</i>	onu where the pon port id
<i>onu-id</i>	onu id value range 1-128

Case 1: On port 0/0/5, the Wi-Fi configuration of ONT 1 is displayed.

```
OLT(config-gpon-0/1)# show ont wifi config 5 1
```

```
-----
Wifi Band      : band-steering
Wifi State     : --
Wifi Mode      : 802.11b
Wifi Channel Bandwidth : 20MHz
Channel ID     : Auto
Wifi Rate      : --
Tx Power       : 100%
Country Region : USA
Sgi Admin      : disable
Wps Admin      : disable
AP ISO        : disable
-----
```

```
-----
SSID  Status Max-user Broadcast Name      Key
      Admin
-----
```

```
1    enable 12    disable 55      --
-----
-----
```

17.1.4. ont wifi recovery

Command Syntax	ont wifi port-id onu-id recovery
Applicable View	GPON view

Function Description	This command is used to restore the onu wifi configuration to the default value.
<i>port-id</i>	onu where the pon port id
<i>onu-id</i>	onu id value range 1-128

Case 1: Restore the Wi-Fi configuration of ONT 1 to the default value on port 0/0/5.

```
OLT(config- gpon-0/1 )# ont wifi 5 1 recovery
OLT(config- gpon-0/1 )#
```

18 Log Management

18.1 Log Configuration and Query

18.1.1. logging buffer

Command Syntax	logging buffer (alert critical emerethncy error informational notice warning flush) no logging buffer
Applicable View	config view
Function Description	logging buffer command is used to set the logging level of a log file (buffer) and write the buffer file to a destination file. The no logging buffer command is used to cancel the buffer logging level set by the user and set the logging level back to the default value.
alert	Immediate action required (severity=1)
critical	Critical condition (severity=2)
emerethncy	System Unavailable (Severity=0)
error	Error condition (severity=3)
informational	Informational message (severity=6)
notice	Normal but significant condition (severity=5)
warning	Warning condition (severity=4)
flush	Save the buffer log file to the destination file

【Configuration Case】

Case 1: Configure the buffer log file logging level to level 1, and immediate action is required

```
OLT(config)# logging buffer alert
OLT(config)#
```

18.1.2. backup log-file

Command Syntax	backup log-file (ftp ftp- server-ip-address user-name user-password file-name tftp tftp- server-ip-address file-name)
Applicable View	enable view ,config view
Function Description	This command is used to manually save logs to an FTP server or a TFTP server.
<i>ftp- server-ip-address</i>	The IP address of the FTP server.

<i>user-name</i>	ftp login username.
<i>user-password</i>	FTP login password.
<i>file-name</i>	The name of the file used to save the log
<i>tftp-server-ip-address</i>	The IP address of the tftp server.

【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 back.

```
OLT(config)# backup log -file tftp 192.168.1.223 logback
Start backup log files
The backup is successful
OLT(config)#
```

18.1.3. erase log

Command Syntax	erase log
Applicable View	config view
Function Description	This command is used to clear all cached system logs.

【Configuration Case】

Case 1: Clear all cached system logs.

```
OLT(config)# erase log
Erase log successfully!
OLT(config)#
```

18.1.4. erase log file

Command Syntax	erase log file
Applicable View	enable view ,config view
Function Description	This command is used to clear all saved system log files.

【Configuration Case】

Case 1: Clear all saved system log files.

```
OLT(config)# erase log file
Erase log successfuled!
OLT(config)#
```

18.1.5. logging console

Command Syntax	logging console (alert critical emerethncy error informational notice warning) no logging console
Applicable View	config view
Function Description	The logging console command is used to set the logging level for the log file (console). no logging console command is used to cancel the logging level of the console set by the user and set the logging level back to the default value.
alert	Immediate action required (severity=1)
critical	Critical condition (severity=2)
emerethncy	System Unavailable (Severity=0)
error	Error condition (severity=3)
informational	Informational message (severity=6)
notice	Normal but significant condition (severity=5)
warning	Warning condition (severity=4)

【 Configuration Case 】

Case 1: Configure standard output (console) logging level to level 1, requiring immediate action.

```
OLT(config)# logging console alert
OLT(config)#
```

18.1.6. logging monitor

Command Syntax	logging monitor (alert critical emerethncy error informational notice warning) no logging monitor
Applicable View	config view
Function Description	The logging monitor command is used to set the logging level of the terminal (monitor). no logging monitor command is used to cancel the logging level of the terminal (monitor) set by the user and set the logging level back to the default value.
alert	Immediate action required (severity=1)
critical	Critical condition (severity=2)

emerethncy	System Unavailable (Severity=0)
error	Error condition (severity=3)
informational	Informational message (severity=6)
notice	Normal but significant condition (severity=5)
warning	Warning condition (severity=4)

【Configuration Case】

Case 1: Configure the terminal (monitor) logging level to level 1, and immediate action is required.

```
OLT(config)# logging monitor alert
OLT(config)#
```

18.1.7. show log

Command Syntax	show log (all operate logon)
Applicable View	config view
Function Description	This command is used to view the log.
all	View all logs.
operate	View the operation log.
logon	View the login log.

【Configuration Case】

Case 1:View operation logs.

```
OLT(config)# show log operate
%2024/06/28 01:04:42 OLT/5/CMD: [Console][unknown@unknown] cmd: show log all
%2024/06/28 01:04:14 OLT/5/CMD: [Console][unknown@unknown] cmd: no logging buffer
%2024/06/28 00:54:14 OLT/5/CMD: [Console][unknown@unknown] cmd: config
%2024/06/28 00:54:13 OLT/5/CMD: [Console][unknown@unknown] cmd: enable
%2024/06/28 00:18:21 OLT/5/CMD: [Console][unknown@unknown] failure cmd: syslog
OLT(config)#
```

18.1.8. show logging configure

Command Syntax	show logging configure
Applicable View	enable view
Function Description	This command is used to set the logging configuration.

【Configuration Case】

Case 1: Check the logging configuration.

```
OLT# show logging configure
Protocol name: ZEBRA
Syslog logging: level alert
Logfile logging: level alert
Console logging: level alert
Monitor logging: level alert
OLT#
```

18.1.9. show logging buffer

Command Syntax	show logging buffer [level modid size]
Applicable View	enable view
Function Description	This command is used to view the buffer log. You can filter the buffer log by different conditions. By default, the log record level of the log is informational message (info), the log module category is all, and the log length is 1024.
level	the logging level for viewing the buffer log. After setting, the log level that does not exceed the set level is viewed. The value range is 0-6, and the default is 6.
modid	Set the module category for viewing the buffer log. After setting, view the log of the corresponding module category. The value range is 0-31. The default is to view the log of all categories of modules.
size	Set the buffer length for viewing buffer logs. The value range is 1-1024, and the default is 1024.

【Configuration Case】

Case 1: Check the buffer log.

```
OLT# show logging buffer
OLT#
```

18.1.10. syslog

Command Syntax	syslog (enable disable)
Applicable View	config view
Function Description	This command is used to configure whether OLT logs are sent to the log server.
enable	OLT logs are 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 disable
OLT(config)#

18.1.11. syslog host

Command Syntax	syslog host <i>ip-address</i> [<i>port</i> <i>port-id</i>]
Applicable View	config view
Function Description	This command is used to configure the syslog server ip. When the device is running, a large amount of log information will be generated, and the storage space of the device itself is relatively limited. When you need to configure a log server to collect and store device logs, use this command. After successfully adding a syslog server, some important information of the device can be recorded on the host (also called the log server) through the Syslog mechanism.
<i>ip-address</i>	The IP address of the syslog server.
<i>port-id</i>	Syslog server port number.

【Configuration Case】

Case 1: Configure the log server IP address to 192.168.90.99.

config)# syslog host 192.168.90.99
OLT(config)#

18.1.12. syslog severity

Command Syntax	syslog severity (<i>alert</i> <i>critical</i> <i>emerethncy</i> <i>error</i> <i>informational</i> <i>notice</i> <i>warning</i>) no syslog severity
Applicable View	config view
Function Description	The syslog severity command is used to set the logging level of the system log. no syslog severity command is used to cancel the system log severity level set by the user and set the log severity level back to the default value.
<i>alert</i>	Immediate action required (severity=1)
<i>critical</i>	Critical condition (severity=2)
<i>emerethncy</i>	System Unavailable (Severity=0)

error	Error condition (severity=3)
informational	Informational message (severity=6)
notice	Normal but significant condition (severity=5)
warning	Warning condition (severity=4)

【Configuration Case】

Case 1: The logging level of the system log is configured to level 1, and immediate action is required.

```
OLT(config)# syslog severity alert
OLT(config)#
```

18.1.13. show syslog config

Command Syntax	show syslog config
Applicable View	config view
Function Description	View the settings of the syslog server.

【Configuration Case】

Case 1: Check the system log server configuration.

```
OLT(config)# show syslog config
syslog host 192.168.88.17
syslog enable
```

18.2 Automatic Backup Log

18.2.1. auto-backup log absolute-time

Command Syntax	auto-backup log absolute-time (enable <HH:MM> disable)
Applicable View	config view
Function Description	This command is used to switch the automatic log upload server at an absolute time.
<HH:MM>	Set the backup time in the format of <hours:minutes>

【Configuration Case】

Case 1: Turn on the switch for automatic log upload to the server at absolute time and set the time to 08:09.

```
OLT(config)# auto-backup log absolute-time enable 08: 09
OLT(config)#
```

18.2.2. auto-backup log interval-time

Command Syntax	auto-backup log interval-time (<i>enable interval disable</i>)
Applicable View	config view
Function Description	This command is used to switch the automatic log upload to the server at a periodic interval.
<i>interval</i>	<1-14400> The interval is from 1 minute to 10 days. The unit is minutes

【Configuration Case】

Case 1: Turn on the switch for automatic log upload to the server at intervals, and set the interval to 1 minute.

```
OLT(config)# auto-backup log interval-time enable 1
OLT(config)#
```

18.2.3. auto-backup log ftp

Command Syntax	auto-backup log ftp <i>ftp- server-ip-address user-name user-password file-name</i>
Applicable View	config view
Function Description	This command is used to set the FTP mode of automatic log upload server.
<i>ftp- server-ip-address</i>	The IP address of the FTP server.
<i>user-name</i>	ftp login username.
<i>user-password</i>	FTP login password.
<i>file-name</i>	The name of the file used to save the log

【Configuration Case】

Case 1: Automatically upload logs to the ftp server. The ftp server IP address is: 192.168.1.223, the user name is admin, the password is admin, and the file name is logback.

```
OLT(config)# auto-backup log ftp 192.168.1.223 admin admin logback
OLT(config)#
```

18.2.4. auto-backup log tftp

Command Syntax	auto-backup log tftp <i>tftp- server-ip-address file-name</i>
Applicable View	config view
Function Description	This command is used to set the automatic log upload server tftp mode.

<i>tftp-server-ip-address</i>	t The IP address of the ftp server.
<i>file-name</i>	The name of the file used to save the log

【Configuration Case】

Case 1: Automatically upload logs to the tftp server. The ftp server IP address is: 192.168.1.223, and the file name is logback.

```
OLT(config)# auto-backup log t ftp 192.168.1.223 logback
OLT(config)#
```

18.2.5. show auto-backup log config

Command Syntax	show auto-backup log config
Applicable View	config view
Function Description	This command is used to view the automatic upload log configuration.

【Configuration Case】

Case 1: Check the automatic upload log configuration.

```
OLT(config)# show auto-backup log config
auto-backup log ProtocolType: tftp
auto-backup log ip Server: 0:0:0:0
auto-backup log filename:
auto-backup log interval switch: off
auto-backup log interval: 86400 minutes
auto-backup log absolute time switch: off
auto-backup log absolute time: 00:00
OLT(config)#
```

18.2.6. no auto-backup

Command Syntax	no auto-backup (log configuration)
Applicable View	config view
Function Description	Disable automatic log backup or configuration function
log	Disable automatic backup log service
configuration	Disable automatic backup configuration service

【Configuration Case】

Case 1: Disable automatic backup to log server.

```
OLT (config)# show auto-backup log config
```

```
auto-backup log ProtocolType: tftp
auto-backup log ip Server: 192.168.80.171
auto-backup log filename: log
auto-backup log interval switch: on
auto-backup log interval: 14400 minutes
auto-backup log absolute time switch: off
auto-backup log absolute time: 00:00
OLT (config)# no auto-backup log
OLT (config)# show auto-backup log config
auto-backup log ProtocolType: tftp
auto-backup log ip Server: 0.0.0.0
auto-backup log filename:
auto-backup log interval switch: off
auto-backup log interval: 14400 minutes
auto-backup log absolute time switch: off
auto-backup log absolute time: 00:00
```

19 Alarm Management and Event Management

19.1 Alarm Management and Query

19.1.1. alarm alarmlevel

Command Syntax	<code>alarm alarmlevel alarmid alarmlevel</code>
Applicable View	config view
Function Description	This command is used to view historical alarm entries based on ports and slots.
<code>al alarmid</code>	Alarm number
<code>al alarmlevel</code>	Alarm level 0-3, 0-default, 1-critical, 2-error, 3-warning

【Configuration Case】

Case 1: Set the level of alarm number 100102 to error.

```
OLT(config)# alarm alarmlevel 100102 2
OLT(config)#
```

19.1.2. alarm history clear all

Command Syntax	<code>alarm history clear all</code>
Applicable View	config view
Function Description	This command is used to clear the history of all alarm entries.

【Configuration Case】

Case 1: Clear all alarm entry history.

```
OLT(config)# alarm history clear all
OLT(config)#
```

19.1.3. alarm jitter-interval

Command Syntax	<code>alarm jitter-interval < 0-60 ></code>
Applicable View	config view
Function Description	This command is used to configure the alarm anti-jitter period. When this command is executed, alarm jitter is enabled and the configured value takes effect. The system alarm will wait for an alarm anti-jitter period before being reported to the network management system. If the alarm status is restored during an alarm anti-jitter period, the alarm will not be reported to the network management system.

< 0-60 >	Alarm period value, the value range is 1-60 , the unit is seconds , 0 means disable
----------	---

【Configuration Case】

Case 1: Configure the alarm anti-jitter period to 3 seconds.

```
OLT(config)# alarm jitter-interval 3
OLT(config)#
```

19.1.4. alarm output all

Command Syntax	alarm output all (enable disable)
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 system; when disabled, all alarms are not allowed to be reported to the network management system. The default value is disable.
enable disable	enable: enable disable: disable

【Configuration Case】

Case 1: Disable the output of all alarms.

```
OLT(config)# alarm output all disable
OLT(config)#
```

19.1.5. alarm output detail

Command Syntax	alarm output detail (enable disable)
Applicable View	config view
Function Description	This command is used to enable or disable the output of detailed alarm information. When enabled, detailed alarm information is output; when disabled, simple alarm information is output. The default value is off.
enable disable	enable: Enable the output of detailed alarm information disable: Disable the output of detailed alarm information

【Configuration Case】

Case 1: Disable the alarm output detail function.

```
OLT(config)# alarm output detail disable
OLT(config)#
```

19.1.6. alarm report

Command Syntax	alarm report <i>port-list switch</i>
Applicable View	GPON view
Function Description	This command is used to enable or disable the alarm reporting function.
<i>port-list</i>	The port list to be configured has a value range of 1-16 and a format of 1,6-7,8.
<i>switch</i>	enable: enable disable:disable

【Configuration Case】

Case 1: Disable the alarm reporting function of the gpon 1 port.

```
OLT(config- gpon-0/1 )# alarm report 1 disable
OLT(config- gpon-0/1 )#
```

19.1.7. show alarm alarmlevel list

Command Syntax	show alarm list alarmlevel <i>alarmlevel list</i>
Applicable View	config view
Function Description	This command is used to query basic alarm information using the alarm severity.
<i>al armlevel</i>	Alarm level 1-3, 1-critical, 2-error, 3-warning

【Configuration Case】

Case 1: Check the alarm level of error.

```
OLT (config)# show alarm alarmlevel 2 list
-----
AlarmId Output Level Def Level Name
100102 Yes Err Err The board reset
100105 Yes Err Err The fan is abnormal
100107 Yes Err Err The device power fault
100205 Yes Err Err Rogue Onu detected
100307 Yes Err Err The performance statistics value exceeds the warning
threshold
100308 Yes Err Err The performance statistics value lower than the warning
threshold
100401 Yes Err Err The Ethernet port loop detected
1000201 Yes Err Err Loss of signal(LOS)
1000202 Yes Err Err The backbone fiber on the port in Type B protection group
is broken or the expected optical signal is not detected
1000203 Yes Err Err This transceiver is not adapted,The default type will be used
```

```

1000204  Yes  Err  Err  The RX received power of the optical port is higher than the
alarm upper threshold or lower than the alarm lower threshold
1000205  Yes  Err  Err  The TX output power of the optical port is higher than the
alarm upper threshold or lower than the alarm lower threshold
1000206  Yes  Err  Err  The bias current of the optical port is higher than the alarm
upper threshold or lower than the alarm lower threshold
1000207  Yes  Err  Err  The voltage of the optical port is higher than the upper
alarm threshold or lower than the alarm lower threshold
1000208  Yes  Err  Err  The temperature of the optical port is higher than the alarm
upper threshold or lower than the alarm lower threshold
1000501  Yes  Err  Err  Loss of signal for ONU(LOSi)
1000502  Yes  Err  Err  Loss of frame for ONU(LOFi)
1000507  Yes  Err  Err  ONU does not react correctly after deactive or disable(DFi)
1000510  Yes  Err  Err  The ONT Rx power exceeds the low alarm threshold
1000511  Yes  Err  Err  The ONT Rx power exceeds the high alarm threshold
1000512  Yes  Err  Err  The ONT Tx power exceeds the low alarm threshold
1000513  Yes  Err  Err  The ONT Tx power exceeds the high alarm threshold
1000517  Yes  Err  Err  The ONT bias current exceeds the alarm threshold
1000519  Yes  Err  Err  The ONT volt age exceeds the alarm threshold
1000521  Yes  Err  Err  The ONT temperature exceeds the alarm threshold
-----

```

19.1.8. show alarm active alarmlevel

Command Syntax	<code>show alarm active alarmlevel <i>alarmlevel</i> [detail]</code>
Applicable View	config view
Function Description	This command is used to view the current alarm items according to the alarm level.
detail	Alarm item details
<i>al armlevel</i>	Alarm level 1-3, 1-critical, 2-error, 3-warning

【Configuration Case】

Case 1: Check active alarm entries with error level.

```

OLT (config)# show alarm active alarmlevel 2
-----
AlarmId Time Level Instance Name
-----
100105 2001-05-31 01:39:28 Err Board: 0/0 The fan is abnormal
total number: 1
OLT (config)#

```

19.1.9. show alarm active alarmparameter

Command Syntax	<code>show alarm active alarmparameter (eth gpon) F/S/P [detail]</code> <code>show alarm active alarmparameter board F/S [detail]</code>
Applicable View	config view
Function Description	This command is used to view the current alarm entries based on ports and slots.
detail	Alarm item details
F/S/P	Port number (for example, 0/0/1)
(eth gpon)	Query port type

【Configuration Case】

Case 1: View the current alarm data of gpon port 1.

```
OLT(config)# show alarm active alarmparameter gpon 0/1/1
-----
AlarmId Time Level Instance Name
-----
1000203 2001-05-31 01:59:27 Err PON 0/0/1 This transceiver is not adapted,The default
type will be used
total number: 1
OLT(config)#
```

19.1.10. show alarm active all

Command Syntax	OLT(config)# <code>show alarm active all [detail]</code>
Applicable View	config view
Function Description	This command is used to view alarm entries.
detail	Alarm item details

【Configuration Case】

Case 1: View active alarm entries.

```
OLT(config)# show alarm active all
-----
AlarmId Time Instance Name
-----
1000203 2018-06-23 20:26:33 PON 0/0/5 This transceiver is not adapted,The default type
will be used
1000211 2018-06-23 20:27:33 PON 0/0/5 The bias current of the optical port is higher
than the warning upper threshold or lower than the warning lower threshold
```

```

1000524 2018-06-23 20:26:53 PON 0/0/5 ONU: 5 The ONT CATV Rx power exceeds the
alarm threshold
1000526 2018-06-23 20:26:53 PON 0/0/5 ONU: 5 The ONT CATV Tx power exceeds the
alarm threshold
1000528 2018-06-23 20:26:53 PON 0/0/5 ONU: 5 The ONT CATV voltage exceeds the
alarm threshold
1000530 2018-06-23 20:26:53 PON 0/0/5 ONU: 5 The ONT CATV temperature exceeds the
alarm threshold
Total number: 6
OLT(config)#

```

19.1.11. show alarm history alarmlevel

Command Syntax	<code>show alarm history alarmlevel <i>alarmlevel</i> [detail]</code>
Applicable View	config view
Function Description	This command is used to view the history of alarm entries based on the alarm level.
detail	Alarm item details
alarmlevel	Alarm level 1-3, 1-critical, 2-error, 3-warning

【Configuration Case】

Case 1: View the alarm history records of the error level.

```

OLT (config)# show alarm history alarmlevel 2
-----
AlarmId Time Level Instance Name
-----
total number: 0
OLT (config)#

```

19.1.12. show alarm history alarmparameter

Command Syntax	<code>show alarm history alarmparameter (eth gpon) <i>F/S/P</i> [detail]</code> <code>show alarm history alarmparameter board <i>F/S</i> [detail]</code>
Applicable View	config view
Function Description	This command is used to view historical alarm entries based on ports and slots.
detail	Alarm item details
<i>F/S/P</i>	Port number (for example, 0/0/1)
(eth gpon)	Query port type

【Configuration Case】

Case 1: View the historical alarm data of gpon port 1.

```
OLT(config)# show alarm history alarmparameter gpon 0/1/1
-----
AlarmId Time Level Instance Name
-----
1000203 2001-05-31 01:59:27 Err PON 0/0/1 This transceiver is not adapted,The default
type will be used
total number: 1
OLT(config)#
```

19.1.13. show alarm history all

Command Syntax	show alarm history all [detail]
Applicable View	config view
Function Description	This command is used to view the history of alarm entries.
detail	Alarm item details

【Configuration Case】

Case 1: View all alarm history records.

```
OLT(config)# show alarm history all
-----
AlarmId Time Instance Name
-----
1000201 2018-06-24 18:05:15 PON 0/0/5 Loss of signal(LOS)
total number: 1
OLT(config)#
```

19.1.14. show alarm list

Command Syntax	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 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 transceiver
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 acknowledeth 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)#
    
```

19.2 Event Management and Query

19.2.1. event eventlevel

Command Syntax	event eventlevel eventid eventlevel
Applicable View	config view
Function Description	This command is used to set the event level.
<i>eventid</i>	Event Number
<i>eventlevel</i>	Event level 0-3, 0-default, 1-critical, 2-error, 3-warning

【Configuration Case】

Case 1: Set the event number 1100201 level to error.

```

OLT(config)# alarm alarmlevel 1100201 2
OLT(config)#
    
```

19.2.2. event history clear all

Command Syntax	event history clear all
Applicable View	config view

Function Description	This command is used to clear the basic information of all events.
-----------------------------	--

【Configuration Case】

Case 1: Clear the basic information of all events.

```
OLT(config)# event history clear all
OLT(config)#
```

19.2.3. event output all

Command Syntax	event output all (enable disable)
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 enable, all events can be output in the command line; otherwise, the opposite is true. The default value is disable.
enable disable	enable: enable disable: disabled

【Configuration Case】

Case 1: Disable all event output functions.

```
OLT(config)# event output all disable
OLT(config)#
```

19.2.4. event output detail

Command Syntax	event output detail (enable disable)
Applicable View	config view
Function Description	This command is used to set the switch of the event detailed information output function. When the status is on, the event can output detailed information on the command line; when it is off, only simple event information is output. The default value is off.
enable disable	enable: Enable the event detailed information output function disable: Disable the event detailed information output function

【Configuration Case】

Case 1: Enable the event output detailed information function.

```
OLT(config)# event output detail enable
OLT(config)#
```

19.2.5. event report

Command Syntax	event report <i>port-list</i> (enable disable)
Applicable View	GPON view /eth view
Function Description	This command is used to set the event reporting switch.
<i>port-list</i>	Specifies the port for switch event reporting
enable disable	enable:Enable disable:disable

【Configuration Case】

Case 1: Enable the gpon 1 port event reporting function.

```
OLT(config- gpon-0/1 )# event report 1 disable
OLT(config- gpon-0/1 )#
```

19.2.6. show event eventlevel list

Command Syntax	show event list eventlevel <i>eventlevel list</i>
Applicable View	config view
Function Description	This command is used to query basic event information using event level.
<i>eventlevel</i>	Event level 1-3, 1-critical, 2-error, 3-warning

【Configuration Case】

Case 1: Check the event records with error level.

```
OLT(config)# show event eventlevel 2 list
-----
EventId Output Level Def Level Name
113001 Yes Err Warning The ONT online
1100101 Yes Err Warning Pon drv connection succeeded
-----
```

19.2.7. show event history eventlevel

Command Syntax	show event history eventlevel <i>eventlevel</i> [detail]
Applicable View	config view
Function Description	This command is used to view the history of event entries based on event levels.

detail	Event entry details
eventlevel	Event level 1-3, 1-critical, 2-error, 3-warning

【Configuration Case】

Case 1: View the alarm history records of the error level.

OLT (config)# show event history event level 2

EventId Time Level Instance Name

total number: 0
OLT (config)#

19.2.8. show event history eventparameter

Command Syntax	show event history eventparameter (eth gpon) F/S/P [detail] show event history eventparameter board F/S [detail]
Applicable View	config view
Function Description	This command is used to view historical event entries based on ports and slots.
detail	Event entry details
F/S/P	Port number (for example, 0/0/1)
(eth gpon)	Query port type

【Configuration Case】

Case 1: View the historical event data of gpon port 1.

OLT(config)# show event history eventparameter gpon 0/1/1

EventId Time Level Instance Name

1100201 2001-05-31 01:59:26 Warning PON 0/0/1 Sfp plugethd
1100202 2001-05-31 01:59:19 Warning PON 0/0/1 Sfp unplugethd
1100201 2001-05-31 01:58:07 Warning PON 0/0/1 Sfp plugethd
Total number: 3
OLT(config)#

19.2.9. show event history all

Command Syntax	show event history all [detail]
Applicable View	config view
Function Description	This command is used to view the historical information of events.

detail	Event entry details
------------------------	---------------------

【Configuration Case】

Case 1: View the historical information of an event.

```
OLT(config)# show event history all
```

```
-----
AlarmId Time Instance Name
-----
```

```
total number: 0
```

```
OLT(config)#
```

19.2.10. show event list

Command Syntax	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 Warning Pon Drv connection Device fail
```

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

20 iptable Access Control

20.1 Iptable Default Access Rules

20.1.1. service default policy

Command Syntax	<code>service default policy (deny permit)</code>
Applicable View	enable view, config view
Function Description	This command is used to set the default access rule of iptable. The default access rule is the rule with the lowest priority in iptable access rules. If no other access rules can match the IP connection request, the default access rule will match it. It can be modified but not deleted. Other iptable rules can be created, modified and deleted.
deny	When the default access rule of iptable is deny, it means that the firewall denies all IP connections by default. By configuring other iptable permit access rules together, the whitelist function can be implemented.
permit	When the default access rule of iptable is permit, it means that the firewall passes all IP connections by default. By configuring other iptable deny access rules together, the blacklist function can be implemented.

【Configuration Case】

Case 1: Set the default access rule of iptables to allow all IP connections.

```
OLT(config)# service default policy permit
OLT(config)#
```

20.1.2. show service default policy

Command Syntax	<code>show service default policy</code>
Applicable View	enable view, config view
Function Description	This command is used to view the default access rules of iptables.

【Configuration Case】

Case 1: View the current default access rules of iptable.

```
OLT(config)# show service default policy
```

```
-----
Service Default Policy: PERMIT
-----
```

20.2 Iptable Access Rule Settings

20.2.1. service

Command Syntax	<code>service (telnet ssh http https snmp) (</code> <code>add rule range A.B.C.D to A.B.C.D (permit deny) </code> <code>insert rule rule-id range A.B.C.D to A.B.C.D (permit deny) </code> <code>delete rule rule-id </code> <code>modify rule rule-id (range A.B.C.D to A.B.C.D (permit deny)) </code> <code>rule clear)</code>
Applicable View	enable view, config view
Function Description	This command is used to add, delete, modify and query iptable access rules. The iptable access rules are used to configure whether IP addresses within the ip range are allowed to pass through the firewall.
<code>telnet ssh http https snmp</code>	Device login method. Different device login methods can be configured with their own firewall rules. Each device login method has a separate table in the device to store firewall rules.
<code>add insert delete modify</code>	Add, delete, modify and query firewall rules for specific device login methods.
<code>clear</code>	Clear all firewall rules for the specific device login method.
<code>rule-id</code>	The rule number of the firewall rule used to specify the login method of a specific device. The value range is 1-10. This number uniquely corresponds to an iptable access rule number.
<code>range</code>	IP range used to configure access rules.
<code>ABCD</code>	IP address in dotted decimal format, used to specify the start and end IP addresses of an IP range.
<code>permit</code>	Allow IP addresses within the IP range to pass through the firewall
<code>deny</code>	Deny IP addresses within the IP range from passing through the firewall

【Configuration Case】

Case 1: Add an access rule for the telnet device login method to allow IP addresses from 192.168.1.1 to 192.168.1.10 to pass through the firewall.

```
OLT(config)# service telnet add rule range 192.168.1.1 to 192.168.1.10 permit
OLT(config)#
```

20.2.2. how to service

Command Syntax	<code>show service (telnet ssh http https snmp) rule</code>
Applicable View	enable view, config view

Function Description	This command is used to view the firewall access rules for a specific login method.
telnet ssh http https snmp	Device login method. Different device login methods can be configured with their own firewall rules.

【Configuration Case】

Case 1: Check the firewall rules for telnet device login.

```
OLT(config)# show service telnet rule
-----
index iptable-index  start-ip end-ip action
-----
1 5 192.168.1.1 192.168.1.10 PERMIT
-----
service telnet total rules num: 1
-----
OLT(config)#
```

20.3 Login Method Control

20.3.1. service

Command Syntax	service (telnet ssh http https snmp) (enable service - port disable)
Applicable View	enable view, config view
Function Description	This command is used to enable different device login modes.
telnet ssh http https snmp	Device login method.
enable	Enable specific device login methods.
service - port	Configure the port number used by the specific device login method.
disable	Prohibit specific device login methods.

【Configuration Case】

Case 1: Enable ssh device login and configure the port number used by ssh device login to be 27.

```
OLT(config)# service ssh enable 27
OLT(config)#
```

20.3.2. show service

Command Syntax	show service status
Applicable View	enable view, config view

Function Description	This command is used to enable different device login modes.
-----------------------------	--

【Configuration Case】

Case 1: Check the device login mode status.

<pre>OLT(config)# show service status ----- SERVICE PORT DEFAULT PORT STATUS telnet 23 23 enable ssh 27 22 enable http 80 80 enable https 443 443 enable snmp 161 161 disable -----</pre>

20.3.3. telnet

Command Syntax	<code>telnet A.B.C.D { service - port }</code>
Applicable View	enable view, config view
Function Description	This command is used to log in to the device remotely using telnet.
<i>ABCD</i>	Remote device IP address.
<i>service - port</i>	Configure the port number used by the specific device login method.

【Configuration Case】

Case 1: Use telnet to remotely log in to 192.168.90.113.

<pre>OLT(config)# telnet 192.168.90.113 User Access Verification</pre>

21 lldp Protocol

21.1.1. lldp enable

Command Syntax	lldp (enable disable) lldp port (eth pon) F/S PORTLIST (enable disable)
Applicable View	config view
Function Description	Enable or disable the LLDP function. By default, LLDP is disabled globally. After enabling it globally, the port is enabled by default.
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1
enable	Enable LLDP.
disable	Disable LLDP protocol

【Configuration Case】

Case 1: Enabling LLDP globally.

```
OLT(config)# lldp enable
OLT(config)#
```

Case 2: Disable LLDP function on uplink port ETH1.

```
OLT(config)# lldp port eth 0/0 1 disable
OLT(config)#
```

21.1.2. lldp timer reinit-delay

Command Syntax	lldp timer reinit-delay delay no lldp timer reinit-delay
Applicable View	config view
Function Description	Configuring the LLDP interface initialization delay
<i>delay</i>	Range <1-10>, unit s. The default delay time is 2s

【Configuration Case】

Case 1: Configure the function initialization delay time to 10s.

```
OLT (config)# lldp timer reinit-delay 10
OLT (config)#
```

21.1.3. lldp timer tx-interval

Command Syntax	lldp timer tx-interval interval no lldp timer tx-interval
-----------------------	--

Applicable View	config view
Function Description	Configure the LLDP message sending interval
<i>interval</i>	Range < 5-32768 >, unit s. The default delay time is 30s.

【Configuration Case】

Case 1: Configure the lldp message sending period to 10s.

```
OLT(config)# lldp timer tx-interval 10
```

21.1.4. lldp timer tx-delay

Command Syntax	<i>lldp timer tx-delay delay</i> <i>no lldp timer tx-delay</i>
Applicable View	config view
Function Description	Configuring the minimum delay for sending LLDP packets
<i>delay</i>	Range <1-8192> , unit s. The default delay time is 2s.

【Configuration Case】

Case 1: Configure the minimum delay for sending lldp packets to 5s.

```
OLT(config)# lldp timer tx-delay 5
```

```
OLT(config)#
```

21.1.5. lldp notification-interval

Command Syntax	<i>lldp notification-interval interval</i> <i>no lldp notification-interval</i>
Applicable View	config view
Function Description	Configure the minimum delay time for LLDP to report alarms
<i>interval</i>	Range < 5-3600 >, unit s. The default delay time is 5s.
<i>interval-time</i>	Cycle time, interval time to back up logs to the server

【Configuration Case】

Case 1: Configure the alarm delay time to 10s.

```
OLT(config)# lldp timer notification-interval 10
```

```
OLT(config)#
```

21.1.6. lldp hold-multiply

Command Syntax	<i>lldp hold-multipleliter value</i> <i>no lldp hold-multiply</i>
-----------------------	--

Applicable View	config view
Function Description	Configure the survival coefficient of LLDP packets. Survival time = survival coefficient * sending period
<i>value</i>	The range is <2-10>. The default delay time is 4.

【Configuration Case】

Case 1: Configure the survival time coefficient to 2.

```
OLT(config)# lldp hold-multiplier 2
OLT(config)#
```

21.1.7. lldp fast-count

Command Syntax	lldp fast-count <i>count</i> no lldp fast-count
Applicable View	config view
Function Description	Configure the number of LLDP packets that can be quickly sent
<i>count</i>	Range <1-8> ,. The default delay time is 3.

【Configuration Case】

Case 1: Configure the number of fast-sending messages to 5.

```
OLT(config)# lldp fast-count 5
OLT(config)#
```

21.1.8. lldp port admin-status

Command Syntax	lldp port (eth pon) F/S PORTLIST admin-status (disable txrx tx rx)
Applicable View	config view
Function Description	Configure the port's working mode, the default is txrx mode
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1
disable	Enable the LLDP alarm function on the interface.
txrx	Disable the LLDP alarm function on the interface.
tx	Only send LLDP messages but do not receive them.
rx	Only receive LLDP messages but do not send them.

【Configuration Case】

Case 1: Configure the uplink port eth 1 LLDP working mode to tx.

```
OLT(config)# lldp port eth 0/0 1 admin-status tx
OLT(config)#
```

21.1.9. lldp port notification

Command Syntax	lldp port (eth pon) F/S PORTLIST notification (enable disable)
Applicable View	config view
Function Description	Configure the LLDP alarm function of the port. Disabled by default
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1
enable	Enable the LLDP alarm function on the interface.
disable	Disable the LLDP alarm function on the interface.

【Configuration Case】

Case 1:Configure the eth 1 LLDP alarm function on the upstream port.

```
OLT(config)# lldp port eth 0/0 1 notification enable
OLT(config)#
```

21.1.10. lldp port tlv-enable basic-tlv

Command Syntax	lldp port (eth pon) F/S PORTLIST tlv-enable basic-tlv (all port-description system-name system-description system-capabilities management-address) no lldp port (eth pon) F/S PORTLIST tlv-enable basic-tlv (all port-description system-name system-description system-capabilities management-address)
Applicable View	config view
Function Description	Configure the LLDP message basic-tlv type to send packets of tlv, by default all basic-tlv types are published
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1
all	Specifies all options of the basic-tlv type.
port-description	Description of the port.

system-name	The name of the device.
system-description	Description of the system.
system-capabilities	The main functions of the system and the functions that have been enabled.
management-address	Management address, and the interface number and OID (Object Identifier) corresponding to the address.

【Configuration Case】

Case 1: Configure uplink port eth 1 to publish LLDP packets of basic-tlv all types.

```
OLT(config)# lldp port eth 0/0 1 tlv-enable basic-tlv all
OLT(config)#
```

21.1.11. lldp port tlv-enable dot1-tlv

Command Syntax	lldp port (eth pon) F/S PORTLIST tlv-enable dolt1-tlv (all port-vlan-id protocol-vlan-id vlan-name) no lldp port (eth pon) F/S PORTLIST tlv-enable basic-tlv (all port-vlan-id protocol-vlan-id vlan-name)
Applicable View	config view
Function Description	Configure the LLDP message dolt1-tlv type to be sent as a tlv. By default, all dolt1-tlv types are sent.
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1
all	Specifies all options of the basic-tlv type.
port-vlan-id	Port VLAN ID.
protocol-vlan-id	Port protocol VLAN ID.
vlan-name	Name of the VLAN to which the port belongs.

【Configuration Case】

Case 1: Configure the uplink port eth 1 to publish LLDP packets of dot1-tlv all types.

```
OLT(config)# lldp port eth 0/0 1 tlv-enable dot1 -tlv all
OLT(config)#
```

21.1.12. lldp port tlv-enable dot3-tlv

Command Syntax	<code>lldp port (eth pon) F/S PORTLIST tlv-enable dolt1-tlv (all mac-physic power link-aggregation max-frame-size)</code> <code>no lldp port (eth pon) F/S PORTLIST tlv-enable blasic-tlv (all mac-physic power link-aggregation max-frame-size)</code>
Applicable View	config view
Function Description	Configure the LLDP message dolt3-tlv type to be sent as tlv. By default, all dolt3-tlv types are published.
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1
all	Specifies all options of the basic-tlv type.
mac-physic	The speed and duplex status of the port, whether the port supports auto-negotiation, whether the auto-negotiation function is enabled, and the current speed and duplex status.
power	The power supply capability of the port, such as whether it supports PoE and whether it is a power supply device or a powered device.
link-aggregation	Name of the VLAN to which the port belongs.
max-frame-size	The maximum frame length supported by the port is taken from the port's maximum transmission unit MTU.

【Configuration Case】

Case 1: Configure the uplink port eth 1 to publish LLDP packets of dot3-tlv all types.

```
OLT(config)# lldp port eth 0/0 1 tlv-enable dot3 -tlv all
OLT(config)#
```

21.1.13. show lldp configuration

Command Syntax	<code>show lldp configuration</code>
Applicable View	config view
Function Description	View LLDP configuration

【Configuration Case】

Case 1:View LLDP configuration information

```
OLT(config)# show lldp configuration
-----
LLDP agent          : Nearest-bridge
```

Global status of LLDP	: Enable		
Fast count	:	3	
Reinit delay	:	2	
Hold multiplier	:	4	
Transmit interval	:	10	
Transmit delay	:	2	
Notification interval	:	5	
Port	Enable	AdminStatus	NotificationStatus

gpon0/0/1	Yes	txrx	No
gpon0/0/2	Yes	txrx	No
gpon0/0/3	Yes	txrx	No
gpon0/0/4	Yes	txrx	No
eth0/0/1	Yes	txrx	No
eth0/0/2	Yes	rx	No
eth0/0/3	Yes	txrx	No
eth0/0/4	Yes	txrx	No
xe0/0/1	Yes	txrx	No
xe0/0/2	Yes	txrx	No
lag1	Yes	tx	Yes
OLT(config)#			

21.1.14. show lldp tlv-config

Command Syntax	<code>show lldp tlv-config port (eth pon)F/S/P</code>
Applicable View	config view
Function Description	Check the LLDP port tlv configuration information

【Configuration Case】

Case 1: Check the LLDP tlv configuration information of the uplink port eth 2.

OLT(config)# show lldp tlv-config port eth 0/0/2

LLDP tlv-config of eth 0/0/2:
NAME STATUS DEFAULT

Basic optional TLV:
Port Description TLV YES YES
System Name TLV YES YES
System Description TLV YES YES
System Capabilities TLV YES YES
Management Address TLV YES YES

```

IEEE 802.1 extend TLV:
Port VLAN ID TLV          YES    YES
Port And Protocol VLAN ID TLV  YES    YES
VLAN Name TLV             YES    YES

IEEE 802.3 extend TLV:
MAC-Physic TLV           YES    YES
Power via MDI TLV        YES    YES
Link Aggregation TLV     YES    YES
Maximum Frame Size TLV   YES    YES
OLT(config)#
    
```

21.1.15. show lldp local-info

Command Syntax	show lldp local-info show lldp local-info port (eth pon) F/S/P
Applicable View	config view
Function Description	View device information

【Configuration Case】

Case 1: View device information.

```

OLT(config)# show lldp local-info
-----
Global LLDP local-information:

Chassis ID: E0:67:B3:7B:00:94/MAC address
System name      : OLT
System description : GPON OLT
System capabilities supported: bridge, Router
System capabilities enabled : bridge, Router
    
```

Case 2:View the information of eth 2 on the upstream port.

```

OLT(config)# show lldp local-info port eth 0/0/2
-----
Port ID subtype      : Interface name
Port ID              : eth0/0/2
Port description     : eth0/0/2

Management address type : All802
Management address     : E0:67:B3:7B:00:94
Management address interface type: Unknow
Management address interface ID : 0
Management address OID : 0

Port VLAN ID(PVID)   : 1
    
```

```

Port and protocol VLAN ID(PPVID) : 0
Port and protocol VLAN supported : No
Port and protocol VLAN enabled : No
VLAN Name :

Auto-negotiation supported : Yes
Auto-negotiation enabled : Yes
OperMau : speed(1000)/duplex(Full)
PoE supported : No
Link aggregation supported : Yes
Link aggregation enabled : No
Maximum frame Size : 1526
    
```

21.1.16. show lldp neighbor-info

Command Syntax	<code>show lldp neighbor-info all</code> <code>show lldp neighbor-info port (eth pon) F/S/P</code>
Applicable View	config view
Function Description	View neighbor information of LLDP device

【Configuration Case】

Case 1: View all neighbor information of the device.

```

OLT(config)# show lldp neighbor-info all
-----
LLDP neighbor-information of eth 0/0/2:

Neighbor: 1
ChassisID/subtype: 00:0E:C6:38:65:B8 /MAC address
PortID/subtype: 00:0E:C6:38:65:B8 /MAC address
Capabilities: UnKnow
Expired time: 3601s
    
```

Case 2: View neighbor information of uplink port eth 2.

```

OLT(config)# show lldp neighbor-info port eth 0/0/2
-----
eth0/0/2 has 1 neighbors

Neighbor index : 1
Chassis ID type : MAC address
Chassis ID : 00:0E:C6:38:65:B8
Port ID type : MAC address
Port ID : 00:0E:C6:38:65:B8
Port description :
    
```

```

System name          :
System description    :
System capabilities supported : UnKnow
System capabilities enabled : UnKnow
Management address type : Other
Management address    :
Management address interface type:
Management address interface ID : 0
Management address OID : 0
Expired time          : 3601s

Port VLAN ID(PVID)    : 0
Port and protocol VLAN ID(PPVID) : 0
Port and protocol VLAN supported : NO
Port and protocol VLAN enabled : NO
VLAN Name             :

Auto-negotiation supported : YES
Auto-negotiation enabled   : YES
OperMau                 : speed(0)/duplex(Unknown)

Power port class        : PD
PSE power supported      : NO
PSE power enabled        : NO
PSE pairs control ability : NO
Power pairs             :
Port power classification : class0

Link aggregation supported : NO
Link aggregation enabled   : NO
Aggregation port ID       : 0
Maximum frame Size        : 0
-----
OLT(config)#
    
```

21.1.17. show lldp statistics

Command Syntax	show lldp statistics show lldp statistics port (eth pon) F/S/P
Applicable View	config view
Function Description	Check LLDP packet statistics

【Configuration Case】

Case 1: Viewing LLDP packet statistics of a device.

```
OLT(config)# show lldp statistics
```

```
-----
LLDP statistics global information:
```

```
The current number of LLDP neighbors: 1
```

```
LLDP neighbors inserted      : 2
```

```
LLDP neighbors deleted      : 1
```

```
LLDP neighbors dropped       : 0
```

```
LLDP neighbors aged out     : 0
-----
```

Case 2:View LLDP message statistics information of eth 2 on the upstream port.

```
OLT(config)# show lldp statistics port eth 0/0/2
```

```
-----
LLDP statistics Information of eth0/0/2:
```

```
Number of neighbors          : 1
```

```
LLDP frames transmitted      : 921
```

```
LLDP frames received         : 18
```

```
LLDP frames discarded        : 0
```

```
LLDP error frames           : 0
```

```
LLDP TLVs discarded          : 0
```

```
LLDP TLVs unrecognized       : 18
```

```
LLDP neighbor information aged out : 0
-----
```

```
OLT(config)#
```

21.1.18. rest lldp neighbor-info

Command Syntax	rest lldp neighbor-info rest lldp neighbor-info port (eth pon) F/S/P
Applicable View	config view
Function Description	Clear LLDP neighbor information

【Configuration Case】

Case 1: Clearing LLDP packet statistics of the device.

```
OLT(config)# reset lldp neighbor-info
```

```
OLT(config)#
```

Case 2: Clear LLDP message statistics for uplink port eth 2.

```
OLT(config)# reset lldp neighbor-info port eth 0/0/2
```

```
OLT(config)#
```

21.1.19. rest lldp statistics

Command Syntax	<code>rest lldp statistics</code> <code>rest lldp statistics port (eth pon) F/S/P</code>
Applicable View	config view
Function Description	Clear LLDP packet statistics

【Configuration Case】

Case 1: Clearing LLDP packet statistics of the device.

```
OLT(config)# reset lldp statistics
OLT(config)#
```

Case 2: Clear LLDP message statistics for uplink port eth 2.

```
OLT(config)# reset lldp statistics port eth 0/0/2
OLT(config)#
```

22 Qos

22.1 Dot1p Mapping Template

22.2.1. dot1p-mapping-table

Command Syntax	dot1p-mapping-table {table-id <1-31> table-name table-name } no dot1p-mapping-table {table-id <1-31> table-name table-name }
Applicable View	config view
Function Description	dot1p-mapping-table command is used to add a new dot1p mapping template or enter an existing dot1p mapping template. no dot1p-mapping-table command is used to delete an unnecessary dot1p-mapping-table template. The bound dot1p -mapping-table template cannot be deleted. If you need to delete it , you need to unbind it first.
<1-31>	Template id, value range is 1-31
table-name	Template name, length is 1-32

【Configuration Case】

Case 1: Create a Dot1p mapping template with template id 1.

```
OLT (config)# dot1p-mapping-table table-id 1
OLT (config-dot1p-mapping-table-1)#
```

22.2.2. dot1p cos-queue

Command Syntax	dot1p <0-7> cos-queue <0-7>
Applicable View	dot1p-mapping-table view
Function Description	Modify the priority mapping configuration of the Dot1p mapping template
<0-7>	Dot1p priority, value range is 0-7
<0-7>	Queue, value range is 0-7

【Configuration Case】

Case 1: Modify the configuration of the Dot1p mapping template, and the packets with dot1p priority 2 enter queue 3.

```
OLT (config-dot1p-mapping-table-2)# dot1p 2 cos-queue 3
```

22.2.3. show dot1p-mapping-table

Command Syntax	show dot1p-mapping-table {table-id <1-31> table-name table-name } show dot1p-mapping-table all
-----------------------	---

	<code>show dot1p-mapping-table current</code>
Applicable View	config view
Function Description	View the current template configuration
<code><1-31></code>	Template id, value range is 1-31
<code>table-name</code>	Template name , length is 1-32

【Configuration Case】

Case 1: View the template configuration of the Dot1p mapping template with template ID 0.

```
AX1700(config)# show dot1p-mapping-table table-id 0

-----

Dot1p mapping table ID: 0
Dot1p mapping table name: default-dot1p-mapping-table
Binding times: 10

-----

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

-----
```

22.2 Dscp Mapping Template

22.2.4. dscp-mapping-table

Command Syntax	<code>dscp-mapping-table {table-id <1-31> table-name table-name}</code> <code>no dscp-mapping-table {table-id <1-31> table-name table -name }</code>
Applicable View	config view
Function Description	dscp-mapping-table command is used to add a new dscp mapping template or enter an existing dscp mapping template. no dscp-mapping-table command is used to delete an unnecessary dscp-mapping-table template. A bound dscp-mapping-table template cannot be deleted. If you need to delete it , you need to unbind it first.

<1-31>	Template id, value range is 1-31
table-name	Template name , length is 1-32

【Configuration Case】

Case 1: Create a DSCP mapping template with template ID 6.

```
OLT (config)# dscp-mapping-table table-id 6
OLT (config-dscp-mapping-table-6)#
```

22.2.5. dscp cos-queue

Command Syntax	dscp <0-63> cos-queue <0-7>
Applicable View	dscp-mapping-table view
Function Description	Configuring Priority Mapping for a DSCP Mapping Template
<0-63>	Priority, value range is 0-63
<0-7>	Queue priority, value range is 0-7

【Configuration Case】

Case 1: Modify the DSCP mapping template so that packets with priority 36 enter queue 2.

```
OLT(config-dscp-mapping-table-6)# dscp 36 cos-queue 2
```

22.2.6. show dscp-mapping-table

Command Syntax	show dscp-mapping-table {table-id <1-31> table-name table-name } show dscp-mapping-table all
Applicable View	config view
Function Description	View dscp template configuration
<1-31>	Template id, value range is 1-31
table-name	Template name , length is 1-32

【Configuration Case】

Case 1: View the template configuration of the DSCP mapping template with template ID 0.

```
AX1700(config)# show dscp-mapping-table table-id 0

-----

Dscp mapping table ID: 0
Dscp mapping table name: default-dscp-mapping-table
Binding times: 10

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

Priority Cos

0	0
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	1
9	1
10	1
11	1
12	1
13	1
14	1
15	1
16	2
17	2
18	2
19	2
20	2
21	2
22	2
23	2
24	3
25	3
26	3
27	3
28	3
29	3
30	3
31	3
32	4
33	4
34	4
35	4
36	4
37	4
38	4
39	4
40	5
41	5
42	5
43	5

```

44      5
45      5
46      5
47      5
48      6
49      6
50      6
51      6
52      6
53      6
54      6
55      6
56      7
57      7
58      7
59      7
60      7
61      7
62      7
63      7

```

```

-----
AX1700(config)#

```

22.3 Queue Scheduling Template

22.3.1. qos-scheduler-profile

Command Syntax	qos-scheduler-profile {profile-id <1-31> profile-name <i>profile-name</i>} no qos-scheduler-profile (profile-id <1-31> profile-name <i>profile-name</i>)
Applicable View	config view
Function Description	The qos-scheduler-profile command is used to add a new qos scheduling queue template or enter an existing qos scheduling queue template. The qos-scheduler-profile command is used without any parameters to automatically create a new qos-scheduler-profile template. The no qos-scheduler-profile command is used to delete an unnecessary qos-scheduler-profile template. The bound qos-scheduler-profile template cannot be deleted. If you need to delete it , you need to unbind it first.
<1-31>	Qos scheduling template number, the value range is 1-31. If not specified, the system automatically assigns the smallest free template number.
<i>profile -name</i>	the Qos scheduling profile can be 1 to 32 characters long. If not specified, the system automatically uses the default name "qos-

	scheduler-profile_x", where "x" is the number of the Qos scheduling profile.
--	--

【Configuration Case】

Case 1: Create a queue template with template id 1.

OLT (config)# qos-scheduler-profile profile-id 1
OLT (config-qos-scheduler-profile-1)#

Case 2: Delete the queue template with template ID 1.

OLT (config)# no qos-scheduler-profile profile-id 1

22.3.2. queue-scheduler

Command Syntax	queue-scheduler <0-7> mode (pq lpq) [bandwidth cir <1-1000000> pir <1-1000000>] queue-scheduler <0-7> mode (pq lpq) bandwidth pir <1-1000000> queue-scheduler <0-7> mode wfq weight <1-100> [bandwidth cir <1-1000000> pir <1-1000000>] queue-scheduler <0-7> mode wfq weight <1-100> bandwidth pir <1-1000000>
Applicable View	qos-scheduler-profile view
Function Description	The queue-scheduler command is used to configure the system's queue scheduling mode. Strict priority queue scheduling mode (PQ). When this mode is applied, queues are strictly scheduled according to the priority of the queue. Only when there is no data in the high-priority queue will data be extracted from the low-priority queue.. Weighted Fair Queuing (WFQ) scheduling mode. When this mode is used, a weight needs to be configured for the queue (the weight indicates the proportion of resources obtained), so that the queue can obtain a certain bandwidth according to the proportion, and the priority of the applied queue cannot be higher than that of the PQ mode queue. Low priority bandwidth queue scheduling mode (LPQ). When this mode is applied, the queue priority must not be higher than the queues in other modes, and the queue will be allocated the remaining bandwidth mode.
<0-7>	queue id, the value range is 0-7
cir	Queue guaranteed information rate, the value range is 1 -1000000 , the unit is Kbps
pir	The maximum information rate of the queue, the value range is 1-1000000 , the unit is Kbps
<1-100>	The weight value of the queue configuration, ranging from 1 to 100

【Configuration Case】

Case 1: Configure queue 2 to lpq mode.

```
OLT (config-qos-scheduler-profile-1)# queue-scheduler 2 lpq
```

Case 2: Configure queue 3 to work in pq mode and set the maximum bandwidth to 1024 kbps.

```
OLT (config-qos-scheduler-profile-1)# queue-scheduler 3 pq bandwidth pir 1024
```

22.3.3. show qos-scheduler-profile

Command Syntax	show qos-scheduler-profile current show qos-scheduler-profile (profile-id <1-31> profile-name <i>profile - name</i>) show qos-scheduler-profile all
Applicable View	qos-scheduler-profile view
Function Description	This command is used to view the qos-scheduler-profile template configuration.
<1-31>	qos-scheduler-profile template number, the value range is 1-31 , you can view specific qos-scheduler-profile template information by template number
<i>profile -name</i>	qos-scheduler-profile template name, string length range 1-32, you can view specific qos-scheduler-profile template information through the template name
all	You can view all current qos-scheduler-profile template information
current	You can view the current qos-scheduler-profile template information

【Configuration Case】

Case 1: View the current template configuration.

```
OLT(config)# show qos-scheduler-profile profile-id 1
-----
Qos scheduler profile ID: 1
Qos scheduler profile name: qos-scheduler-profile_1
Binding times    : 0
-----
Queue Id  Mode  Cir   Pir   Weight
0    LPQ   0     0     0
1    LPQ   0     0     0
2    LPQ   0     0     0
3    LPQ   0     0     0
4    LPQ   0     0     0
5    LPQ   0     0     0
6    WFQ   0     0    20
7    PQ   1000  10000  0
-----
```

Case 2: View all queue templates.

```
OLT (config)# show qos-scheduler-profile all
```

```
-----
Profile-Index Bind-times Profile-Name
-----
```

```
1 0 qos-scheduler-profile_1
-----
```

22.4 Port Configuration

22.4.1. qos- mapping port to dscp-mapping-table

Command Syntax	qos-mapping port <i>PORTID</i> to dscp-mapping-table {table-id <1-31> table-name <i>table-name</i>} no qos-mapping port <i>PORTID</i> to dscp-mapping-table qos-mapping to dscp-mapping-table {table-id <1-31> table-name <i>table-name</i>} no qos-mapping to dscp-mapping-table
Applicable View	eth/ pon view
Function Description	Port binding dscp-mapping-table template. no qos-mapping port <i>PORTID</i> to dscp-mapping-table is used to unbind the port from the dscp-mapping-table template, that is, to modify the port binding to the default dscp-mapping-table template 0.
<i>PORTID</i>	Port number. The gpon port is configured by slot, so there is no need to configure the port number.
<1-31>	Template id, value range is 1-31
<i>table-name</i>	Template name , length is 1-32

【 Configuration Case 】

Case 1: Bind the dscp mapping template with template ID 3 to the eth1 port.

```
O LT(config- eth-0/0 )# qos-mapping port 1 to dscp-mapping-table table-id 3
```

22.4.2. qos- mapping port to dot1p-mapping-table

Command Syntax	qos-mapping port <i>PORTID</i> to dot1p-mapping-table {table-id <1-31> table-name <i>table-name</i>} no qos-mapping port <i>PORTID</i> to dot1p-mapping-table qos-mapping to dot1p-mapping-table {table-id <1-31> table-name <i>table-name</i>} no qos-mapping to dot1p-mapping-table
Applicable View	eth/pon view

Function Description	Bind the port to the dot1p-mapping-table template. no qos-mapping port PORTID to dot1p-mapping-table is used to unbind the port from the dot1p-mapping-table template, that is, to change the port binding to the default dot1p-mapping-table template 0.
<i>PORTID</i>	Port number. The gpon port is configured by slot, so there is no need to configure the port number.
<1-31>	Template id, value range is 1-31
<i>table-name</i>	Template name , length is 1-32

【Configuration Case】

Case 1: Bind the dot1p mapping template with template ID 3 to the eth1 port

```
OLT(config- eth-0/0 )# qos-mapping port 1 to dot1p-mapping-table table-id 3
```

22.4.3. qos-remark dscp

Command Syntax	qos-remark port <i>PORTID</i> dscp remark (enable disable) qos-remark dscp remark (enable disable)
Applicable View	eth/pon view
Function Description	Port dscp remark switch
<i>PORTID</i>	The port number to be checked. The gpon port is configured by slot, so no port number needs to be configured.
(enable disable)	enable: Enable dscp remark disable: disable dscp remark

【Configuration Case】

Case 1: The dscp remark switch of eth 1 port is set to enable.

```
OLT(config- eth-0/0 )# qos-remark port 1 dscp remark enable
```

22.4.4. qos- remark dot1p

Command Syntax	qos-remark port <i>PORTID</i> dot1p remark (enable disable) qos-remark dot1p remark (enable disable)
Applicable View	eth/pon view
Function Description	Port dscp remark switch
<i>PORTID</i>	The port number to be checked. The gpon port is configured by slot, so no port number needs to be configured.
(enable disable)	enable: Enable dscp remark disable: disable dscp remark

【Configuration Case】

Case 1: The dot1p remark switch of eth1 port is set to disable.

```
OLT(config- eth-0/0 )# qos-remark port 1 dot1p remark disable
```

22.4.5. port trust -mode

Command Syntax	port PORTID trust-mode (dot1p dscp both) port trust-mode (dot1p dscp both)
Applicable View	eth/pon view
Function Description	Port trust mode configuration , gpon port is slot configuration, no port number configuration is required
PORTID	Port Number
(dot1p dscp both)	Dot1p: When the trust mode is dot1p, the port in the incoming direction will map the dot1p priority of the message to the corresponding internal priority according to the dot1p priority carried by the message and the dot1p priority mapping table bound to the port, and enter the specified queue. If the message is a message without vlan untag, the message will be mapped to the internal priority of priority 0 according to the configuration in the dot1p priority mapping table bound to the port, and enter the specified queue. DSCP: When the trust mode is SCP, the port in the incoming direction will map the SCP priority of the message to the corresponding internal priority according to the SCP priority carried by the message and the SCP priority mapping table bound to the port, and enter the specified queue. Both: When the trust mode is both, if the dscp mapping template bound to the port is valid, the port in the incoming direction will map the message according to the dscp priority carried by the message and the dscp priority mapping table bound to the port; if the dscp mapping template bound to the port is 0 (invalid dscp mapping template), the message in the incoming direction will be mapped according to the internal priority of the dot1p mapping template bound to the port. The port trusts dot1p priority by default.

【Configuration Case】

Case 1: Change the trust mode of ETH1 port to both.

```
OLT(config- eth-0/0 )# port 1 trust-mode both
```

22.4.6. show port PORTID qos

Command Syntax	show port PORTID qos config
Applicable View	eth/pon view

Function Description	Check the port QoS configuration
PORTID	The port number to be checked

【Configuration Case】

Case 1: Check the QoS configuration of eth1 port.

```
OLT(config- eth-0/0 )# show port 1 qos config
```

```
-----
Port: eth 0/0/1
Dot1p mapping table ID: 3
Dscp mapping table ID: 3
Port trust mode: Both
Dot1p remark switch: disable
Dscp remark switch: enable
Qos Profile ID: 0
-----
```

23 PPPoe

23.1.1. show pppoe agent config

Command Syntax	<code>show pppoe agent config</code>
Applicable View	config view
Function Description	Used to query the global configuration of pppoe

【Configuration Case】

Case 1: Query the global configuration of PPPoE.

```

AX1700(config)# show pppoe agent config
-----
PPPOE agent status: Disable
PPPOE agent policy: replace
PPPOE agent format: default
-----
Index: 1 Name: default type: hex
CircuitId: vlan(2 bytes)slot(1 byte)ponid(1 byte)onuid(1 byte)
RemotId: oltmac(6 bytes)
-----
Index: 2 Name: common type: hex
CircuitId: vlan(2 bytes)slot(1 byte)ponid(1 byte)
RemotId: oltmac(6 bytes)
-----
Index: 3 Name: extend type: ascii
CircuitId: hostname-chassis-slot-ponid-gemid-onuid
RemotId:
-----
Switch pppoe Snooping status: Enable
-----
      Port      Trusted
-----
      gpon 0/1/1  Untrust
gpon 0/1/2  Untrust
      gpon 0/1/3  Untrust
      gpon 0/1/4  Untrust
      gpon 0/1/5  Untrust
      gpon 0/1/6  Untrust
      gpon 0/1/7  Untrust
      gpon 0/1/8  Untrust
      eth 0/0/1   Untrust
      eth 0/0/2   Untrust
      eth 0/0/3   Untrust
      eth 0/0/4   Untrust

```

```
lag1 Untrust
```

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

23.1.2. pppoe agent (enable | disable)

Command Syntax	pppoe agent (enable disable)
Applicable View	config view
Function Description	Used to enable the pppoe plus proxy function
(enable disable)	enable: Enable the PPPoE plus function disable: disable the PPPoE plus function

【Configuration Case】

Case 1: Used to enable the PPPoE plus function.

```
OLT(config)# pppoe agent enable  
OLT(config)#
```

23.1.3. pppoe agent policy

Command Syntax	pppoe agent policy (drop keep replace)
Applicable View	config view
Function Description	Used to configure the PPPoE Plus message processing strategy. By default, the replace strategy is used.
(drop keep replace)	drop: directly discard the PPPoE message with Option 82 keep: forward the PPPoE packets with Option 82 as is replace: replace Option 82 in the original PPPoE message and then forward it

【Configuration Case】

Case 1: Configure the PPPoE message processing policy to discard.

```
OLT(config)# pppoe agent policy drop  
OLT(config)#
```

23.1.4. show pppoe agent format all

Command Syntax	show pppoe agent format all
Applicable View	config view
Function Description	Used to query PPPoE to view the circuit-id and remote-id format information of the global configuration

【Configuration Case】

Case 1: View the circuit-id and remote-id formats of the global configuration.

```
OLT(config)# show pppoe agent format all

-----

Index: 1 Name: defalut type: hex
CircuitId: vlan(2 bytes)slot(1 byte)ponid(1 byte)onuid(1 byte)
Remoteld: oltmac(6 bytes)

-----

Index: 2 Name: common type: hex
CircuitId: vlan(2 bytes)slot(1 byte)ponid(1 byte)
Remoteld: oltmac(6 bytes)

-----

Index: 3 Name: extend type: ascii
CircuitId: hostname-chassis-slot-ponid-gemidonuid
Remoteld:

-----
```

23.1.5. pppoe agent format user-define

Command Syntax	pppoe agent format user-defined FORMATNAME (ascii hex) {cid CIRCUITID rid REMOTEID} no pppoe agent format user-define FORMATNAME
Applicable View	config view
Function Description	This command is used to add user-defined format items.
FORMATNAME	User-defined format item name
hex asci i	hex: option82 field data is filled in hex format asci i: option82 field data is filled in ascill format
circuit-id/ remote-id	A string consisting of defined keywords and slashes and/or single quotes as delimiters. Keywords: hostname, oltmac, vlan, chassis, frame, slot, poind, gemid, onusn. Format: "vlan/slot/ponid/onuid/ ' 88rr4 ' " (double quotes are used for strings with spaces), vlan/slot2/ponid4/ounid4/ ' 88r4 ' /, length is 1-128

【Configuration Case】

Case 1: Add a user1 name, a custom format filled with field data in hexadecimal format, cid content is vlan+ponid+onuid, and rid content is oltmac.

```
OLT(config)# pppoe agent format user-define user1 hex cid vlan/ponid/onuid rid oltmac
OLT(config)#
```

Case 2: Delete the user-defined format user1.

```
OLT(config)# no pppoe agent format user-define user1
```

23.1.6. pppoe agent format FORMATNAME

Command Syntax	<code>pppoe agent format (default common extend)</code> <code>no pppoe agent format</code>
Applicable View	config view
Function Description	Configure the format of the information field added to the PPPoE message. By default, the device adds the information field of circuit-id and remote-id in the format of default to the PPPoE message.
<code>default common extend</code>	default: vlan+slot+ponid+onuid common: vlan+slot+ponid extend: hostname-chassis-slot-ponid-gemid-onuid

【Configuration Case】

Case 1: The configuration information field is filled in the format of vlan + slot + ponid.

```
OLT(config)#pppoe agent format common
OLT(config)#
```

23.1.7. pppoe agent (trust | untrust) port

Command Syntax	<code>pppoe agent (trust untrust) port (eth pon) F/S port-list</code> <code>pppoe agent (trust untrust) port lag PORTID</code>
Applicable View	config view
Function Description	This command is used to configure the PPPoE snooping trusted port.
<code>(trust untrust)</code>	trust: Trust port untrust: untrusted port
<code>eth lag</code>	<code>eth</code> : Uplink port <code>lag</code> : aggregation group
<code>F/S</code>	The port slot number to be configured , in the format of 0/0.
<code>port-list</code>	The port list to be configured has a value range of 1-16 and a format of 1,6-7,8.
<code>PORTID</code>	The aggregation group ID to be configured. The value range is 1-8.

【Configuration Case】

Case 1: Configure uplink eth port 1-2 as a trusted port.

```
OLT(config)# pppoe snooping trust port eth 0/0 1-2
```

Case 2: Configure aggregate port 1 as a trusted port.

```
OLT(config)#pppoe snooping trust port lag 1
```

24 MSTP

24.1.1. stp (enable|disable)

Command Syntax	stp (enable disable) stp port eth <i>F/S</i> <i>PORTLIST</i> (enable disable) stp port lag <1-8>(enable disable)
Applicable View	config view
Function Description	This command is used to enable or disable the spanning tree function globally or on a port. All configurations related to the spanning tree protocol take effect only when the spanning tree protocol is enabled globally and on the port. The function is disabled.
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1
enable disable	enable: Enable the MSTP function disable: Disable the MSTP function

【Configuration Case】

Case 1: Enable the MSTP function on the specified port eth 0/0 1.

```
OLT(config) # stp port eth 0/0 1 enable
```

```
OLT(config) #
```

24.1.2. stp mode

Command Syntax	stp mode (mstp rstp stp)
Applicable View	config view
Function Description	This command is used to configure the spanning tree protocol working mode of a switching device.

【Configuration Case】

Case 1: Configure the spanning tree protocol working mode of the switching device to mstp.

```
OLT(config) # stp mode mstp
```

```
OLT(config) #
```

24.1.3. stp priority

Command Syntax	OLT(config)# stp [instance <instance-id>] priority <priority-id>
Applicable View	config view

Function Description	This command is used to configure the priority of a switching device in a specified spanning tree protocol.
instance-id	Specifies the spanning tree instance ID, which ranges from 0 to 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.

```
OLT(config) # stp instance 5 priority 4096
```

```
OLT(config) #
```

24.1.4. stp timer forward-delay

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 a switching device.
time-value	The specified Forward-Delay time value ranges from 4 to 30

【Configuration Case】

Case 1: Configure the Forward-Delay time of the switching device to 19.

```
OLT(config) # stp timer forward-delay 19
```

```
OLT(config) #
```

24.1.5. stp timer hello

Command Syntax	OLT(config)# stp timer hello <time-value>
Applicable View	config view
Function Description	This command is used to configure the interval for a switching device to send BPDUs, that is, the time value of the Hello Timer.
time-value	The specified switching device sends BPDU interval value, the value range is 1-10

【Configuration Case】

Case 1: Configure the switching device to send BPDUs at an interval of 6 seconds.

```
OLT(config) # stp timer hello 6
```

```
OLT(config) #
```

24.1.6. stp timer max- age

Command Syntax	OLT(config)# stp timer max-age <time-value>
Applicable View	config view
Function Description	This command is used to configure the BPDU aging time on the switching device port, that is, the time value of the Max age timer.
time-value	BPDU aging time value on the specified switch port, the value range is 6-40

【Configuration Case】

Case 1: Configure the BPDU aging time on the switching device port to 21.

```
OLT(config) # stp timer max-age 21

OLT(config) #
```

24.1.7. stp max-hops

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 hops in a spanning tree within an MST region.
hops-value	The specified maximum hop value ranges from 6 to 40.

【Configuration Case】

Case 1: Configure the maximum number of hops in the spanning tree within the MST region to 24.

```
OLT(config) # stp max-hops 24

OLT(config) #
```

24.1.8. stp transmit-limit

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) #
```

24.1.9. stp bpdu-protection (enable|disable)

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 to prevent forged configuration messages from maliciously attacking the device and causing network oscillation. When the BPDU protection function is successfully enabled, the system will close some ports according to the configuration messages, thereby protecting the ports from attacks. By default, BPDU guard is disabled on a device.
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) #
```

24.1.10. stp bpdu-filter (enable|disable)

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 on the edge port of the device. By default, a port is a non-BPDU filter port.
enable disable	enable: Enable the BPDU filter function on the edge port of the device. disable: Disable the BPDU filter function on the edge port of the device.

【Configuration Case】

Case 1: Enable the BPDU filter function on the edge port of the device.

```
OLT(config) # stp bpdu-filter enable
```

```
OLT(config) #
```

24.1.11. stp recovery interval

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 ranges from 30 to 86400.

【Configuration Case】

Case 1: The configuration error timeout recovery time is 40s.

```
OLT(config) # stp recovery interval 40

OLT(config) #
```

24.1.12. stp region-configuration

Command Syntax	OLT(config)# stp region-configuration
Applicable View	config view
Function Description	This command is used to enter the MST region view.

【Configuration Case】

Case 1: Enter the MST region view.

```
OLT(config)# stp region-configuration

OLT(stp-region)#
```

24.1.13. stp pathcost-standard

Command Syntax	stp pathcost-standard {dot1d dot1t legacy}
Applicable View	config view
Function Description	This command is used to set the path cost calculation standard. When the path calculation standard is inconsistent across the network , and you need to make the device's path cost calculation standard consistent with the entire network's path calculation standard, use this command. After the path cost calculation standard is set, the path cost is calculated using the set standard.
dot1d	Specifies that the path cost calculation method is the IEEE 802.1d-1998 standard method. Use this parameter when you need to set the device's network path calculation standard to IEEE 802.1D.

dot1t	Specifies that the path cost calculation method is the IEEE 802.1t standard method. Use this parameter when you need to set the device's network path calculation standard to IEEE 802.1t.
legacy	Specifies the Huawei calculation method for path cost values. Use this parameter when you need to set the device's network path calculation standard 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) #
```

24.1.14. region-name

Command Syntax	OLT(stp-region)# region-name <name>
Applicable View	mst view
Function Description	This command is used to configure the MST region name of a switching device.
name	Specifies the MST region name of the switching device.

【Configuration Case】

Case 1: Configure the MST domain name of the switching device to huawei.

```
OLT(stp-region) # region-name huawei

OLT(stp-region) #
```

24.1.15. revision-level

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 a switching device.
level	Specifies the MSTP revision level of the switching device. The value range is 0-65535.

【Configuration Case】

Case 1: Configure the MSTP revision level of the switching device to 65535.

```
OLT( stp-region ) # revision-level 65535

OLT(stp-region) #
```

24.1.16. instance vlan

Command Syntax	OLT(stp-region)# instance <instance-id> vlan <vlan-list>
Applicable View	mst view
Function Description	This command is used to map a specified VLAN to a specified spanning tree instance.
instance-id	Specifies the spanning tree instance ID, which ranges from 0 to 7.
vlan-list	VLAN ID, the value is 1-4094. The format can be 1, 11-27, 100

【Configuration Case】

Case 1: Map VLAN 1 to spanning tree instance 7.

OLT(stp-region) # instance 7 vlan 1

OLT(stp-region) #

24.1.17. stp port cost

Command Syntax	stp port eth <i>F/S</i> <i>PORTLIST</i> [instance <instance-id>] cost <cost-value> stp port lag <1-8>[instance <instance-id>] cost <cost-value>
Applicable View	config view
Function Description	This command is used to configure the port path cost of a specified port on a specified spanning tree.
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1
instance-id	Specifies the spanning tree instance ID, which ranges from 0 to 7.
cost-value	Specifies the path cost of the port. The value range is 1-200000000

【Configuration Case】

Case 1: Configure the port path cost of the specified port eth 0/0 1 on instance 3 to 2000.

OLT(config) # stp port eth 0/0 1 instance 3 cost 2000

OLT(config) #

24.1.18. stp port port-priority

Command Syntax	stp port eth <i>F/S</i> <i>PORTLIST</i> [instance <instance-id>] port-priority <priority-id> stp port lag <1-8> [instance <instance-id>] port-priority <priority-id>
Applicable View	config view

Function Description	This command is used to configure the port priority in a 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 spanning tree calculation process, the port with a higher priority will be selected as the root port under the same conditions. After you set the port priority in a specified spanning tree instance, the device will use the set priority as the basis for selecting the root port.
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1
instance-id	Specifies the spanning tree instance ID, which ranges from 0 to 7.
priority-id	Priority, the value range is 0-240

【Configuration Case】

Case 1: Set the priority of port eth 0/0 1 in instance 3 to 32.

```
OLT( config ) # stp port eth 0/0 1 instance 3 port-priority 32

OLT( config ) #
```

24.1.19. stp port edged-port

Command Syntax	stp port eth <i>F/S</i> <i>PORTLIST</i> edged-port {enable disable} stp port eth <i>F/S</i> <i>PORTLIST</i> auto-edged no stp port eth <i>F/S</i> <i>PORTLIST</i> auto-edged stp port lag <1-8> edged-port {enable disable} stp port lag <1-8> auto-edged no stp port lag <1-8> 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. This command is used when the port needs to be quickly migrated to the forwarding state and the network security can be guaranteed. For ports directly connected to terminals, the port should be Set as edge port and enable BPDU (bridge Protocol Data Unit) protection function. After setting the current Ethernet port as edge port, the device will not receive configuration messages sent by other bridge devices.
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1
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 eth 0/0 1 as an edge port.

```
OLT( config ) # stp port eth 0/0 1 edged-port enable
OLT( config ) #
```

24.1.20. stp port point-to-point

Command Syntax	stp port eth <i>F/S PORTLIST</i> point-to-point {force-true force-false auto} no stp port eth <i>F/S PORTLIST</i> point-to-point stp port lag <1-8> point-to-point {force-true force-false auto} no stp port lag <1-8> 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. This command is used when you need to configure whether the link is a point-to-point link in order to control the Ethernet port state switching time. After setting the link connected to the current Ethernet port as a point-to-point link, the specified Ethernet port sends a fast migration request. If the Ethernet port meets the point-to-point link requirement, fast migration can be performed.
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1
force-true	Specifies that the link connected to the current port is a point-to-point link.
force-false	Indicates that the link connected to the current port is not a point-to-point link.
auto	Indicates that the spanning tree protocol automatically detects whether the link connected to the port is a point-to-point link.

【Configuration Case】

Case 1: Set the link connected to the current Ethernet port eth 0/0 1 to a point-to-point link.

```
OLT( config ) # stp port eth 0/0 1 point-to-point force-true
OLT( config ) #
```

24.1.21. stp port bpdu-protection

Command Syntax	stp port eth <i>F/S PORTLIST</i> bpdu-protection {enable disable} stp port lag <1-8> bpdu-protection {enable disable}
Applicable View	config view
Function Description	This command is used to enable or disable the BPDU protection function of the edge port. By default, BPDU guard is disabled on a device.

<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1
enable disable	enable: Enable the edge port BPDU protection function disable: Disable the edge port BPDU protection function

【Configuration Case】

Case 1: Enable the edge port BPDU protection function on port eth 0/0 1.

```
OLT( config ) # stp port eth 0/0 1 bpdu-protection enable
```

```
OLT( config ) #
```

24.1.22. stp port mCheck

Command Syntax	stp port eth <i>F/S</i> <i>PORTLIST</i> mcheck stp port lag <1-8> mcheck
Applicable View	config view
Function Description	This command is used to manually set the mCheck variable, thereby forcing 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 the MSTP mode.
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1

【Configuration Case】

Case 1: Perform the mCheck operation on port eth 0/0 1 to enable it to work in MSTP mode.

```
OLT(config)# stp port eth 0/0 1 mcheck
```

```
OLT(config)#
```

24.1.23. stp port restricted-role

Command Syntax	stp port eth <i>F/S</i> <i>PORTLIST</i> restricted-role no stp port eth <i>F/S</i> <i>PORTLIST</i> restricted-role stp port lag <1-8>restricted-role no stp port lag <1-8> restricted-role
Applicable View	config view
Function Description	stp The port restricted-role command is used to configure whether a port is a restricted-role port. After a port is configured as a restricted-role port, it will not be selected as the root port of the CIST or any MSTI

	even if it has the best spanning tree priority vector. After a root port is elected, such a port is selected as a backup port. no stp port restricted-role is used to restore the port to the default configuration. The default is to disable the restricted-role mode.
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1

【Configuration Case】

Case 1: Configure port eth 0/0 1 as a role-restricted port.

```
OLT( config ) # stp port eth 0/0 1 restricted-role

OLT( config ) #
```

24.1.24. stp port restricted-tcn

Command Syntax	stp port eth <i>F/S</i> <i>PORTLIST</i> restricted-tcn no stp port eth <i>F/S</i> <i>PORTLIST</i> restricted-tcn stp port lag <1-8> restricted-tcn no stp port lag <1-8> 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 receiving a TCN topology change notification, the port will not propagate the received topology change notification and topology change to other ports. no stp port restricted- tcn is used to restore the port to the default configuration. By default, TCN restricted mode is disabled.
<i>F/S</i>	OLT slot number, for example, 0/0
<i>PORTLIST</i>	List of ports to be configured, in the format of 1-2, 3:2, 4:1

【Configuration Case】

Case 1: Configure port eth 0/0 1 as a TCN restricted port.

```
OLT( config ) # stp port eth 0/0 1 restricted-tcn

OLT( config ) #
```

24.1.25. show stp

Command Syntax	show stp [instance <instance-id>] show stp port eth <i>F/S/P</i>
Applicable View	config view

Function Description	This command is used to query the detailed information of MSTP (Multiple Spanning Tree Protocol). Based on the status and statistics of MSTP, you can analyze and maintain the network topology.
instance-id	Specifies the spanning tree instance ID, which ranges from 0 to 7.
F/S/P	Port number, such as 0/0/1

【Configuration Case】

Case 1: Query the detailed information 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 ) #
```

24.1.26. show stp region-configuration

Command Syntax	show stp region-configuration
Applicable View	config view
Function Description	This command is used to query the configuration information of the MSTP region.

【Configuration Case】

Case 1: Query the configuration information of the MSTP region.

```
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 ) #
```

25 PON Protection

25.1 force-switch

Command Syntax	force-switch port F/S/P to F/S/P no force-switch
Applicable View	protect-group view
Function Description	The force-switch port command is used to control the protection switching of the protection group. After using this command, the switching will occur regardless of whether the specified target member is normal. The no force-switch port command is used to cancel forced switching. Using this command will clear the forced switching operation for the protection group that has been set with forced switching.
<i>F/S/P</i>	Protection group member port, members can only be PON ports, format is 0/0/x

【Configuration Case】

Case 1: Forced switchover of port 0/0/5 to 0/0/8.

```
AX1700-MB140 (config-protect-group_1)# force-switch port 0/0/5 to 0/0/8
AX1700-MB140 (config-protect-group_1)#
```

Case 2: Canceling forced switching

```
AX1700-MB140 (config-protect-group_1)# no force-switch
AX1700-MB140 (config-protect-group_1)#
```

25.2 manual-switch

Command Syntax	manual-switch port F/S/P to F/S/P no manual switch
Applicable View	protect-group view
Function Description	The manual-switch port command is used to control the protection switching of the protection group. Manual switching can be successfully performed only when the specified switching destination member is normal. The no manual-switch port command is used to cancel manual switching. Using this command will clear the manual switching operation for the protection group that has undergone manual switching.
<i>F/S/P</i>	Protection group member port, members can only be PON ports, format is 0/0/x

【Configuration Case】

Case 1: Manually switch ports 0/0/5 to 0/0/8.

```
AX1700-MB140 (config-protect-group_1)# manual-switch port 0/0/5 to 0/0/8
```

```
AX1700-MB140 (config-protect-group_1)#
```

Case 2: Canceling manual switching

```
AX1700-MB140 (config-protect-group_1)# no manual-switch
AX1700-MB140 (config-protect-group_1)#
```

25.3 protect-group

Command Syntax	protect-group {group-id <0-31> group-name <i>GROUP-NAME</i> } no protect-group group-id <0-31> no protect-group group-name <i>GROUP-NAME</i>
Applicable View	config view
Function Description	The protect-group command is used to create a protection group. no protect-group command is used to delete a protection group. A protection group cannot be deleted if it has members.
<0-31>	Protection group id , the value range is 0-31
<i>GROUP-NAME</i>	Protection group name. The name length is 1-64. The default value is protect-group- <i>groupid</i>

【Configuration Case】

Case 1: Create a protection group with id 1.

```
AX1700-MB140 (config)# protect-group group-id 1
AX1700-MB140 (config-protect-group_1)#
```

25.4 protect-group enable

Command Syntax	protect-group (<i>enable/disable</i>)
Applicable View	protect-group view
Function Description	This command is used to enable or disable a protection group. A protection group is disabled by default and can only be enabled when all members in the protection group are complete.
<i>enable/disable</i>	enable: Enable the PON protection function of the protection group disable: disable the PON protection function of the protection group

【Configuration Case】

Case 1: Enable the protection group with id 1.

```
AX1700-MB140 (config-protect-group_1)# protect-group enable
AX1700-MB140 (config-protect-group_1)#
```

25.5 protect-group member

Command Syntax	protect-group member port F/S/P role (work protect) no protect-group member port F/S/P
Applicable View	protect-group view
Function Description	The protect-group member port command is used to configure protection group members and specify member roles. A protection group can only have one work member and one protect member. The work member is in the active state, and the protect member is in the standby state. When a work member fails, services are switched to the protect member. no protect-group member port command is used to remove a port from a protection group.
<i>F/S/P</i>	Protection group member port, members can only be PON ports, format is 0/x/x
work protect	Protection group member type

【Configuration Case】

Case 1: Add port gpon 0/1/1 as a member of protection group work.

```
AX1700-MB140 (config-protect-group_1)# protect-group member port 0/0/1 role work
AX1700-MB140 (config-protect-group_1)#
```

25.6 reversion

Command Syntax	reversion (enable disable)
Applicable View	protect-group view
Function Description	This command is used to configure the protection group recovery switch to enable or disable. The protection group recovery switch is disabled by default.
<i>enable disable</i>	enable: Enable the protection group recovery switch disable: disable the recovery switch of the protection group

【Configuration Case】

Case 1: Enable the protection group recovery switch.

```
AX1700-MB140 (config-protect-group_1)# reversion enable
AX1700-MB140 (config-protect-group_1)#
```

25.7 reversion time

Command Syntax	<code>reversion time seconds</code> <code>no reversion time</code>
Applicable View	protect-group view
Function Description	The reversion time command is used to set the recovery waiting time of the protection group. The default recovery time is 720s. no reversion time restores the protection group's recovery waiting time to the default recovery time.
<code>seconds</code>	Protection group recovery time, the value range is <1-1440>, the default value is 720

【Configuration Case】

Case 1: Configure the recovery waiting time of the protection group to 100.

```
AX1700-MB140 (config-protect-group_1)# reversion time 100
AX1700-MB140 (config-protect-group_1)#
```

25.8 show protect-group

Command Syntax	<code>show protect-group group-id <0-31></code> <code>show protect-group group-name GROUP-NAME</code> <code>show protect-group all</code>
Applicable View	config view, protect-group view
Function Description	The show protect-group group-id command is used to display the protection group information by group ID. The show protect-group group-name command is used to display the protection group information by group name. The show protect-group all command is used to display information about all protection groups.
<code><0-31></code>	Protection group id , the value range is 0-31
<code>GROUP-NAME</code>	Protection group name. The name length is 1-64.

【Configuration Case】

Case 1: Display information about protection group 1.

```
AX1700-MB140 (config-protect-group_1)# show protect-group group-id 1
-----
Group ID   : 1
Group Name : protect-group_1
Protect Target : Port of GPON uni
Work Mode  : timedelay
Admin State : enable
Reversion  : enable
Reversion Time(s): 100
```

Reversion Remain Time(s): -

Member	Role	Operation	State
gpon 0/1/5	work	none	active
gpon 0/1/8	protect	none	standby

Standby Member Status: unready(signal detect failed)
AX1700-MB140 (config-protect-group_1)#

Case 2: Display information about all protection groups.

AX1700-MB140 (config)# show protect-group all

Group ID: 0
Group Name: protect-group_0
Admin State: disable

Member Role Operation State

Group ID : 1
Group Name : protect-group_1
Admin State : enable

Member	Role	Operation	State
gpon 0/1/5	work	none	active
gpon 0/1/8	protect	none	standby

Total: 2

AX1700-MB140(config)#

26 Slot Management

26.1 board add

Command Syntax	<code>board add <1-2> CARDTYPE</code> <code>board auto add <1-2></code> <code>board delete <1-2></code>
Applicable View	config view
Function Description	The board add command is used to add a board to the OLT. The board delete command is used to delete an olt board.
<1-2>	The slot ID of the board
CARDTYPE	Board Type: AX1700-MB220 AX1700-GP16 AX1700-GP08 AX1700-XC08 AX1700-GP04 and other types

【Configuration Case】

Case 1: Add AX1700-MB220 card to slot 1.

```
AX1700-MB140(config)# board add 1 AX1700-MB220
AX1700-MB140(config)#
```

26.2 board enable

Command Syntax	<code>board (enable disable) <1-2></code>
Applicable View	config view
Function Description	The board enable command enables the board in the slot. The board disable command disables the board in the slot.
<1-2>	The slot ID of the board

【Configuration Case】

Case 1: Enable the card in slot 1.

```
AX1700-MB140(config)# board enable 1
AX1700-MB140(config)#
```

26.3 board reset

Command Syntax	<code>board reset <1-2></code>
Applicable View	config view

Function Description	This command restarts the card in the slot.
<1-2>	The slot ID of the board

【Configuration Case】

Case 1: Restart the card in slot 1.

```
AX1700-MB140(config)# board reset 1
AX1700-MB140(config)#
```



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