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**AN5116-06B**

**Optical Line Terminal Equipment**

**CLI Reference**

**Version: B**

**Code: MN000001060**

**FiberHome Telecommunication Technologies Co., Ltd.**

**April 2013**



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# Preface

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## Related Documentation

Document	Description
<i>AN5116-06B Optical Line Terminal Equipment Documentation Guide</i>	Introduces the retrieval method, contents, releasing, reading approach, and suggestion feedback for the complete manual set for the AN5116-06B.
<i>AN5116-06B Optical Line Terminal Equipment Product Description</i>	Introduces functional features, application model, network management system and technical specifications of AN5116-06B. It aims to acquaint users with the equipment, its performance and technology applied, and provide users with technical support.
<i>AN5116-06B Optical Line Terminal Equipment Feature Description</i>	Introduces the key features supported by the AN5116-06B, including GPON / EPON access, GPON / EPON terminal management, VLAN, multicast, voice and safety; and introduces these functions in details in terms of definition, features, specification, principle description, references and so on.
<i>AN5116-06B Optical Line Terminal Equipment Hardware Description</i>	Introduces the appearance, structure, functions, technical specifications, and operating method for the AN5116-06B's cabinet, PDP, subrack, cards, cables and wires, facilitating users' mastery of the hardware features of the equipment.
<i>AN5116-06B Optical Line Terminal Equipment Installation Guide</i>	Introduces the overall installation and acceptance inspection procedures from unpacking inspection to power-on examination after the AN5116-06B equipment is delivered on site, and provides reference information (e.g. safety principles and wiring scheme of various interfaces) to guide users to install the equipment.
<i>AN5116-06B Optical Line Terminal Equipment Quick Installation Guide</i>	Mainly uses diagrams to introduce the installation method of AN5116-06B components such as the cabinet and subracks, and the connection and layout of cables and wires, aiming to guide the hardware installation engineer to install the equipment in a quick and normative way.

<b>Document</b>	<b>Description</b>
<i>AN5116-06B Optical Line Terminal Equipment EPON Configuration Guide</i>	Introduces the method for configuring the EPON services supported by the AN5116-06B via the ANM2000, such as basic configuration, voice service configuration, data service configuration, multicast service configuration, and software upgrade configuration, to guide users on start-up for various services and software upgrade.
<i>AN5116-06B Optical Line Terminal Equipment GPON Configuration Guide</i>	Introduces the method for configuring the GPON services supported by the AN5116-06B via the ANM2000, such as basic configuration, voice service configuration, data service configuration, multicast service configuration, and software upgrade configuration, to guide users on start-up for various services and software upgrade.
<i>AN5116-06B Optical Line Terminal Equipment Component Replacement</i>	Introduces the operation procedures for replacing the AN5116-06B's components, including preparations, precautions, early operations, operation process and subsequent operations, so as to guide users with the component replacement on the hardware.
<i>AN5116-06B Optical Line Terminal Equipment Routine Maintenance</i>	Introduces the daily, weekly, monthly, quarterly and annual routine maintenance operations on the AN5116-06B. Users are able to eliminate silent failures in the equipment operation process as early as possible via implementing the routine maintenance.
<i>AN5116-06B Optical Line Terminal Equipment Troubleshooting Guide</i>	Introduces the fault processing principles and methods of fault diagnosis and isolation for the AN5116-06B. Also discusses the typical fault cases of various EPON / GPON services. In case of complex issues, users can contact FiberHome for technical support according to the instructions in this document.
<i>AN5116-06B Optical Line Terminal Equipment GUI Reference</i>	Introduces the commands of equipment system and every card of the AN5116-06B on the ANM2000, including the function, parameter explanation, precautions and configuration example of every command, to help users master the operation of the AN5116-06B using the ANM2000.
<i>AN5116-06B Optical Line Terminal Equipment Alarm and Event Reference</i>	Introduces the AN5116-06B's alarm / event information, including alarm / event names, alarm / event levels, possible causes, effects on the system, and processing procedures, to guide users on effective alarm / event processing.

## Version

Version	Description
A	Initial version. Corresponds to the AN5116-06B with the version number GEPON V3.1.
B	Adds the commands related to the License functions, the identification mode of the universal ONUs, the alarm filtering, and the fan control. . Corresponds to the AN5116-06B with the version number V3.2.

## Intended Readers

This manual is intended for the following readers:

- ◆ Commissioning engineers
- ◆ Operation and maintenance engineers

To utilize this manual, these prerequisite skills are necessary:

- ◆ Access network technology
- ◆ EPON principle
- ◆ GPON principle
- ◆ Ethernet switching technology
- ◆ Computer network technology
- ◆ Basic operation methods for the command line network management system

# Conventions

## Terminology Conventions

Terminology	Convention
AN5116-06B	AN5116-06B Optical Line Terminal Equipment
ANM2000	FiberHome e-Fim ANM2000 Broadband Access Network Management System
EC4B	4×EPON-C Interface Card (Type B)
EC8B	8×EPON Interface Card
GC4B	4×GPON-B Interface Card (Type B)
GC8B	8×GPON_C Interface Card (Type B)
XG2B	2×Symmetric 10G EPON-C Interface Card (B)
C155A	1×STM-1 Optical Interface Card (CES Mode)
CE1B	32×E1 Interface Card (Type B)
PUBA	Public Card (Type A)
HSWA	Core Switch Card
HU1A	4×GE + 1×10GE Uplink Card
HU2A	2×GE + 2×10GE Optical Interface Uplink Card
GU6F	6×GE Optical Interface Uplink Card

## Symbol Conventions

Symbol	Meaning	Description
	Note	Important features or operation guide.
	Caution	Possible injury to persons or systems, or cause traffic interruption or loss.
	Warning	May cause severe bodily injuries.
	Jump	Jumps to another step.
	Cascading menu	Connects multi-level menu options.

<b>Symbol</b>	<b>Meaning</b>	<b>Description</b>
↔	Bidirectional service	The service signal is bidirectional.
→	Unidirectional service	The service signal is unidirectional.



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# 1 General Introduction to Command Line System

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The following introduces the authorization control, operation methods, and directory list of the command line system.

- Authority Control
- Syntax
- Intelligent Match
- Function Key
- Directory List

## 1.1 Authority Control

The AN5116-06B uses a hierarchical command line management system, which is easy to comprehend and operate. Users logging in the command line network management system are classified into common users and administrator users according to the access authorization they have obtained. Both types use their own independent passwords, which can be modified if required.

- ◆ The command prompt User> indicates that the system is currently in the common user mode. In this mode, users can only query system information.
- ◆ The command prompt Admin# indicates that the system is currently in the administrator user mode. In this mode, users can perform various system configurations for the equipment.

## 1.2 Syntax

The following introduces the command formats and argument types.

### 1.2.1 Command Format

The commands consist of a command name followed by an argument field.

A complete command comprises command name(s) and argument(s). A valid command may contain one or more command names and argument fields. An argument field consists of two parts: the flag and the argument. For an argument with a flag, enter the flag first, and then the argument; for an argument without flag, enter the argument only.

### 1.2.2 Argument Type

- ◆ Range of value

When the content in < > are two figures connected by a hyphen, it means that the value of the argument ranges between the two figures. For instance, <1-255> indicates that users can enter any integer that is no less than 1 and no more than 255. For example, 20 is a legal argument.

◆ IP address

When the content in < > is A.B.C.D., the argument is an IP address. For example, 192.168.8.80 is a valid IP address.

◆ Slot list / E1 link list / port list

- ▶ When the content in < > is e1list, the argument is an E1 link list. Enter the sequence numbers of E1 links to form the E1 link list.
- ▶ When the content in < > is slotlist, the argument is a slot list. Enter the sequence numbers of slots to form the slot list.
- ▶ When the content in < > is portlist, the argument is a port list. Enter **the sequence number of the slot for the card on which the port is located: the sequence number of the port** to form the port list.

All the aforesaid three lists can be expressed in the following three ways:

- ▶ Separate the values with a comma. For example, **1, 2, 3** stands for the cards in the slots 1, 2 and 3 or the E1 links 1, 2 and 3; **1:1, 1:3, 1:5 and 1:7** stands for the ports 1, 3, 5 and 7 of the card in slot 1.
- ▶ Connect the values with a hyphen to express sequential cards, E1 links or ports. For example, **1-3** stands for the cards in the slots 1 to 3 or the E1 links 1 to 3; **1:1-1:4** stands for the ports 1 to 4 of the card in slot 1.
- ▶ Combine the aforesaid two formats. For example, **1, 3-5** stands for the cards in the slot 1 and slots 3 to 5 or the E1 link 1 and E1 links 3 to 5; **1:1, 1:3-1:7** stands for the port 1 and ports 3 to 7 of the card in slot 1.

◆ Character string

When the content in < > is something else than the aforesaid, you may be required to enter a character string. For detailed information about this argument, type a question mark (?) in the angle bracket in the angle bracket. For instance, <name> means that you need to enter a character string as the name of a certain object.

## 1.3 Intelligent Match

The following introduces the operation methods of the intelligent match.

## 1.3.1 Abbreviated Command

Abbreviated command syntax allows users to type only the first one or several letters of a command, as long as they are unique and distinguishable from the first several letters of other commands. Under this condition, the CLI network management system can identify the abbreviated command as well, and users can press the <Enter> key directly to execute the command.

Example 1: Show the information on the CPU usage rate by entering an abbreviated command. The complete command is **show cpuusage**, and its abbreviated form is **show c**, as shown below.

```
Admin#show c
cpu usage: 2.57(%)
memory usage: 85.10(%)
Admin#
```

If the abbreviated command entered by users is the same as abbreviations of other commands, the CLI network management system will fail to identify it and give the corresponding notice.

Example 2: Access a directory whose name begins with an **s** under the device directory. Since two directories whose name begin with **ans** exist, the system will give the corresponding notice as follows:

```
Admin\device#cd s
% Ambiguous command.
Admin\device#
```

## 1.3.2 Question Mark <?>

The CLI network management system offers function key help. Entering a question mark (?) after an incomplete command keyword will display the help information (current available commands).

Example 1: Type **s** after the prompt **Admin\vlan#**, and then enter **?**, all command words beginning with **s** will be displayed together with their meanings, as shown below:

```
Admin\vlan#s
show Show running system information
save Save system info to flash.
set Config system's setting.
Admin\vlan#s
```

In this example, three command words beginning with **s** exist under the directory `Admin\device#`: **set**, **save** and **show**. **Set** means setting the system parameters; **save** means saving current system information to flash; and **show** means showing current system information.

Users can also press the space key and enter **?** after typing a keyword to view the next keyword and meaning of the complete command.

Example 2: Enter **show** after the prompt `Admin\vlan#`, press the Space key, and then enter **?**, all commands beginning with **show** under this directory will be displayed together with their meanings, as shown below.

```
Admin\vlan#show
vlan_slot      slot bind vlan info.
history        Display the session command history.
oltqinq_domain Show olt domain information.
pvlan          Show pvlan information.
qinq_olt       Show OLT QinQ information.
qinq_profile   Show QinQ profile.
service        Show service information.
sub-vlan       Sub vlan.
super-vlan     Super vlan.
Admin\vlan#show
```

In this example, nine commands beginning with **show** exist under the directory `Admin\vlan#`.

### 1.3.3 The <Tab> Key

When users enter an abbreviated command (the first one or several letters of the command) and then press the <Tab> key, the CLI network management system will identify and complete the command. If identical abbreviations exist, all possible commands will be listed for users to choose.

## 1.4 Function Key

The following introduces the operation methods of function keys.

### 1.4.1 <Ctrl + P>

Using the <Ctrl + P> key combination, users can recall the most recent command. Pressing the keys for a second time will recall the second previous command.

### 1.4.2 The <↑> and <↓> Key

Pressing the <↑> key will recall the most recent command, and pressing the key again will recall the second previous command. When you have found the desired command, press the <Enter> key to execute the command.

You can also use the <↓> key to look downward for the desired command. Press the <Enter> key to execute the command when you have found the desired command.

## 1.5 Directory List

See Table 1-1 for the list of command line directories in the CLI network management system for the .

Table 1-1 List of Command Line Directories

Directory and Subdirectory		Prompt	Description
device	-	Admin\device#	Equipment configuration directory
	lACP	Admin\device\lACP#	LACP configuration directory
fdb		Admin\fdb#	FDB configuration directory
gpononu		Admin\gpononu#	GPON ONU configuration directory
gponlinecard		Admin\gponline#	Line card configuration directory
igmp		Admin\igmp#	Multicast configuration directory
ngn		Admin\ngn#	Voice configuration directory
qos		Admin\qos#	QoS configuration directory
service		Admin\service#	Service configuration directory
stp		Admin\stp#	STP configuration directory

Table 1-1 List of Command Line Directories (Continued)

Directory and Subdirectory		Prompt	Description
uplink		Admin\uplink#	Uplink card configuration directory
vlan		Admin\vlan#	VLAN configuration directory
epononu	-	Admin\epononu#	EPON ONU configuration directory
	data	Admin\epononu\data#	Data configuration directory
	voice	Admin\epononu\voice#	Voice configuration directory
	qinq	Admin\epononu\qinq#	QinQ configuration directory
tdm		Admin\tdm#	TDM service configuration directory
rip		Admin\rip#	RIP configuration directory
ospf		Admin\ospf#	OSPF configuration directory
route		Admin\route#	Route configuration directory



## 2 Common Command

---

The following introduces the functions, formats, parameters, and examples of various common commands.

- Switching between Directories
- Clearing Screen
- System Help Information
- Viewing All Commands
- Viewing Command History
- Exit
- Saving Configuration Data

## 2.1 Switching between Directories

### Command Function

This command is used to switch from the current directory to the root directory or another subdirectory.

### Command Format

```
cd  
[.|device|fdb|gpononu|gponlinecard|igmp|ngn|qos|service|stp|uplink|  
vlan|epononu|tdm|rip|ospf|route]
```

## Description

Parameter	Description	Attribute
[. device fdb  gpononu  gponlinecard  igmp ngn  qos service  stp uplink  vlan epononu  tdm rip  ospf route]	Directory. <ul style="list-style-type: none"> <li>◆ device: the device management subdirectory. This directory is used to control the switching between the bridge mode and the route mode as well as system configuration and port configuration, including port status' user attribute, port mirroring, port aggregation, and system time.</li> <li>◆ fdb: the FDB subdirectory. This directory is used to set the aging time for the MAC address.</li> <li>◆ gpononu: the GPON ONU subdirectory. This directory is used to manage the GPON ONU.</li> <li>◆ gponlinecard: the GPON line card subdirectory. This directory is used to manage the GPON.</li> <li>◆ igmp: the multicast management subdirectory. This directory is used to manage the multicast-related settings, including enabling / disabling the multicast snooping function and viewing multicast group status.</li> <li>◆ ngn: the voice management subdirectory. This directory is used to manage the configuration of voice services.</li> <li>◆ qos: the QoS management subdirectory. This directory is used to manage the access control list.</li> <li>◆ service: the service management subdirectory. This directory is used to manage service-related configurations, including Ping commands, Telnet services, upgrading card programs, configuration of SNMP common character strings and receiver of Trap messages.</li> <li>◆ stp: the spanning tree management subdirectory. This directory is used to manage configurations related to the Spanning Tree Protocol, including enabling / disabling the spanning tree, querying the status of the spanning tree at the port, and configuration of the port priority.</li> <li>◆ uplink: the uplink card subdirectory. This directory is used to manage the uplink card.</li> <li>◆ vlan: the VLAN management subdirectory. This directory is used to manage the VLAN-related configurations, including the configuration of the port-based VLAN and the 802.1q VLAN.</li> <li>◆ epononu: the EPONONU subdirectory. This directory is used to manage the EPONONU.</li> <li>◆ tdm: The TDM configuration subdirectory. This directory is used to configure the items relevant to the TDM card.</li> <li>◆ rip: the RIP management subdirectory. This directory is used to configure the RIP route protocol.</li> <li>◆ ospf: the OSPF management subdirectory. This directory is used to configure the OSPF route protocol.</li> <li>◆ route: the Route management subdirectory. This directory is used to configure the route.</li> </ul>	Compulsory

## Command Example

Switch from the QoS directory to the VLAN directory. After the command is executed, the command prompt changes from qos # to vlan # .

```
Admin\qos#cd vlan  
Admin\vlan#
```

## 2.2 Clearing Screen

### Command Function

This command is used to clear the current screen.

### Command Format

```
clear
```

### Command Example

Clear the current screen.

```
Admin\vlan#clear  
Admin\vlan#
```

## 2.3 System Help Information

### Command Function

This command is used to view the help information of the CLI network management system.

### Command Format

```
help
```

### Command example

View the help information of the system.

```
Admin\vlan#help  
AN5516 provides help feature as described below.
```

1. Anytime you need help, just press ? and don't press Enter, you can see each possible command argument and its description.
  2. You can also input "list" and then press Enter to execute this helpful command to view the list of commands you can use.
- ```
Admin\vlan#
```

## 2.4 Viewing All Commands

### Command Function

This command is used to view all commands under the current directory.

### Command Format

```
list
```

### Command Example

View all commands under the STP directory.

```
Admin\stp#list
cd
0.cd[..|device|fdb|gpononu|gponlinecard|igmp|ngn|qos|service|stp|
uplink|vlan|epononu|tdm|rip|ospf|route]
1. clear
2. help
3. list { <search_string>}*3
4. save {[synchronation]}*1
5. set rstp [enable|disable]
6. set rstp port <portlist> pathcost <1-200000000>
7. set rstp port <portlist> priority <0-240>
8. set rstp priority <0-65535>
9. show history
10. show rstp {port <portlist>}*1
Admin\stp#
```

## 2.5 Viewing Command History

### Command Function

This command is used to view all commands that have been executed in the CLI network management system after the current login. The incorrect commands will be displayed as well.

### Command Format

```
show history
```

### Command Example

View the command history.

```
Admin\stp# show history
```

```
a help cd stp list
```

```
Admin\stp#
```

## 2.6 Exit

### Command Function

This command is used to exit from the current directory and return to an upper directory or to log out directly.

### Command Format

- ◆ exit
- ◆ cd ..
- ◆ quit

### Command Example

- ◆ Exit from the current mode.

```
Admin#exit
```

```
User>
```

- ◆ Exit from the current directory and return to an upper directory. Remember that a space exists after cd.

```
Admin\vlan#cd ..
```

```
Admin#
```

- ◆ Log out from this login.

```
Admin#quit
```

```
Quit.
```

```
Disconnected.
```

```
Thanks for using our product.
```

```
Bye!
```

## 2.7 Saving Configuration Data

### Command Function

This command is used to save current configuration data, so that the data will not be lost in case of restart or power off of the computer.

### Command Format

```
save {configuration}*1
```

### Parameter Description

| Parameter             | Parameter Description                                                                                                                         | Parameter Property |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| {configuration}<br>*1 | Current configuration data. The configuration data can be saved as well with this command even if no value is entered here for the parameter. | Optional           |

### Command Example

Save the configuration data.

```
Admin#save
```

```
Trying save configuration to flash, please wait .....
```

```
Preparing configuration data to save...Done.
```

```
Starting write configuration data to flash...Done.
```

```
Configuration saved to flash successfully.
```

```
Admin#
```



# 3 Admin Directory Command

---

The following introduces the functions, formats, parameters, and examples of various commands under the Admin directory.

- Clearing System Logs
- Upgrading Software of the Standby Core Switch Card
- Upgrading System File and Importing Configuration File
- Clearing the Configuration Data
- Configuring the System Name
- Resetting
- Configuring Alarm on Power Supply
- Configuring Threshold Value for System Temperature
- Authorizing Cards
- Authorizing a Designated Card
- Deauthorizing
- Configuring the IP Address for Out-of-Band Management of Equipment
- Configuring Fan Speed Choices
- Configuring Automatic Fan Control Parameters in the Old Scheme
- Configuring Automatic Fan Control Parameters in the New Scheme
- Configuring System Log Function
- Configuring System Time
- Viewing Information on the IP Address for Out-of-Band Management of Equipment

- Viewing Fan Control Settings
- Viewing Fan Control Parameters in the Old Scheme
- Viewing Fan Control Parameters in the New Scheme
- Viewing Current Configuration Information
- Viewing the Start-up Configuration Information
- Viewing Information on System Log
- Viewing System Time
- Viewing System Cards
- Upgrading ONU Software
- Upgrading the Line Card Software
- Uploading Files in FTP Mode
- Viewing System Software and Hardware Version

## 3.1 Clearing System Logs

### Command Function

This command is used to clear system logs.

### Command Format

```
clear system log
```

### Command Example

Clear the system logs.

```
Admin# clear system log
```

```
Admin#
```

## 3.2 Upgrading Software of the Standby Core Switch Card

### Command Function

This command is used to download the system software from the FTP server to the core switch card in the FTP mode. When upgrading the core switch card, you can access the upgrade file on the FTP server by issuing the command of upgrading the system file, so as to upgrade the system software to the same version as that of the upgrade file.

### Command Format

```
download ftp backup <A.B.C.D> <username> <password> <filename>
```

## Parameter Description

| Parameter  | Description                                                                                                                | Attribute            |
|------------|----------------------------------------------------------------------------------------------------------------------------|----------------------|
| <A.B.C.D>  | The IP address of the FTP server                                                                                           | Compulsory parameter |
| <username> | The user name of the FTP server                                                                                            | Compulsory parameter |
| <password> | The user password of the FTP server                                                                                        | Compulsory parameter |
| <filename> | The name of the system file or the configuration file.<br>The maximum filename length is 20 characters (postfix included). | Compulsory           |

## Command Example

Upgrade the software of the standby core switch card. The IP address of the FTP server in which the system file is located is 10.92.20.223. The user name and password for login to the FTP server are both 1. The file name is hswx.bin.

```
Admin#download ftp backup 10.92.20.223 1 1 hswx.bin
This will need seconds of time, please wait...
Backup GSW update successfully, should reboot to take effect!
Admin#
```

## 3.3 Upgrading System File and Importing Configuration File

### Command function

This command is used to upgrade the system file, import the configuration file and upgrade the boot program. The command can also be used to obtain the file from a specified server, upgrade the card software or import the configuration file.

### Command format

```
download ftp { [system|config|script|ver_file|boot|hotfix] <A.B.C.D>
<username> <password> <filename>}*1
```

## Parameter description

| Parameter                                   | Parameter description                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Parameter Property   |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [system config script ver_file boot hotfix] | File type.<br><ul style="list-style-type: none"> <li>◆ system: the command is used to upgrade the system file.</li> <li>◆ config: the command is used to import the configuration file.</li> <li>◆ script: the command is used to import the script file.</li> <li>◆ ver_file: the command is used to import the version file.</li> <li>◆ boot: the command is used to upgrade the boot file.</li> <li>◆ hotfix: the command is used to upgrade the hotfix.</li> </ul> | Compulsory parameter |
| <A.B.C.D>                                   | The IP address of the FTP server                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compulsory parameter |
| <username>                                  | The username of the FTP server                                                                                                                                                                                                                                                                                                                                                                                                                                         | Compulsory parameter |
| <password>                                  | The user password of the FTP server                                                                                                                                                                                                                                                                                                                                                                                                                                    | Compulsory parameter |
| <filename>                                  | The name of the system file or the configuration file<br>The file name should not exceed 20 English characters in length (including the postfix).                                                                                                                                                                                                                                                                                                                      | Compulsory parameter |

## Command example

- ◆ Upgrade the system file.

The IP address of the FTP server in which the system file is located is 10.92.20.223. The user name and password for login to the FTP server are both 1. The system file name is hswx.bin.

```
Admin# download ftp system 10.92.20.223 1 1 hswx.bin
Trying download file from ftp server, please wait...
Successfully finished receiving file.
Trying write file to flash.....flash_flag = 1, size 3617564
Finished.
You've successfully download new image file
Now you can type reboot command to reboot system.
Admin#
```

- ◆ Import the configuration file.

The IP address of the FTP server in which the configuration file is located is 10.92.20.223. The user name and password for login to the FTP server are both 1. The configuration file name is config.txt.

```

Admin#download ftp config 10.92.20.223 1 1 config.txt
Trying download file from ftp server, please wait...
kkkkkk zCompress = 0 inlen = 15679 destlen = 2941
0x4fe2710 (tCli): flash_write: invalid file ID 0.
Successfully finished receiving file.
Trying write file to flash.....flash_flag = 4, size 2946
Finished.
You've successfully download new config file
Now you can type reboot command to reboot system.
Admin#

```

## 3.4 Clearing the Configuration Data

### Command Function

This command is used to clear all equipment configuration data saved in the FLASH memory. When this command is executed, the original equipment configuration data will be restored in the FLASH memory.



#### Caution:

After the FLASH configuration clearing command is executed, the equipment will restart automatically and restore to the factory default. Users should perform this command correctly.

### Command Format

```
erase {[startup-config]}*1
```

### Parameter Description

| Parameter            | Parameter Description                                        | Parameter Property |
|----------------------|--------------------------------------------------------------|--------------------|
| {[startup-config]}*1 | The configuration data saved after the equipment is powered. | Optional parameter |

### Command Example

Clear all the configuration data.

```
Admin#erase startup-config
Are you sure want to erase startup-config? [Y/N]Y
Trying erase all configuration from flash, please wait ..... finished.
Successfully erase all configuration info from flash.
Admin#
```

## 3.5 Configuring the System Name

### Command Function

This command is used to configure the name of the AN5116-06B system. When the configuration is completed, the former command prompt will be changed into the set system name.

### Command Format

```
hostname <hostname>
```

### Parameter Description

| Parameter  | Description                                                                                                                                                          | Attribute  |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <hostname> | The system name.<br>The digital numbers, letters, underlines or the combination of the three can be used. The system name should not exceed 16 characters in length. | Compulsory |

### Command Example

Set the name of the system to fiberhome.

```
Admin#hostname fiberhome
fiberhome#
```

## 3.6 Resetting

### Command Function

This command is used to reset a certain card or the entire system.

**Caution:**

This command can interrupt related services, so users should perform it correctly.

---

**Command Format**

```
reboot { [<1-26>|system|backup] } *1
```

**Parameter Description**

| Parameter | Parameter Description                                                                                                                                                 | Parameter Property |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| <1-26>    | Reset the card (other than the main switch card).<br>Enter the slot number for the card. If you enter no value after <b>reboot</b> , the entire system will be reset. | Optional parameter |
| system    | Reset the entire system.                                                                                                                                              | Optional parameter |
| backup    | Reset the standby core switch card.                                                                                                                                   | Optional parameter |

**Command Example**

Reset the card in slot 12.

```
Admin#reboot 12  
Admin#
```

## 3.7 Configuring Alarm on Power Supply

**Command Function**

This command is used to enable / disable the alarms on the power supply.

**Command Format**

```
set power_alarm enable <0-1>
```

## Parameter Description

| Parameter    | Parameter Description                                                                                                                                            | Parameter Property   |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| enable <0-1> | The function of alarms on the power supply.<br><ul style="list-style-type: none"> <li>◆ 0: Disables the function.</li> <li>◆ 1: Enables the function.</li> </ul> | Compulsory parameter |

## Command Example

Disable the alarms on power supply.

```
Admin# set power_alarm enable 0
```

```
Admin#
```

## 3.8 Configuring Threshold Value for System Temperature

### Command Function

This command is used to set the threshold value for the alarm on the system temperature.

### Command Format

```
set threshold temperature <30-85>
```

## Parameter Description

| Parameter           | Description                                                                                      | Attribute            |
|---------------------|--------------------------------------------------------------------------------------------------|----------------------|
| temperature <30-85> | Temperature.<br>The parameter value ranges between 30 and 85, and the unit is degree centigrade. | Compulsory parameter |

## Command Example

Set the threshold value for the system temperature to 85.

```
Admin# set threshold temperature 85
```

Admin#

## 3.9 Authorizing Cards

### Command Function

This command is used to authorize all cards.

### Command Format

```
set card_all_auth
```

### Command Example

Authorize all cards.

```
Admin#set card_all_auth  
Admin#
```

## 3.10 Authorizing a Designated Card

### Command Function

This command is used to authorize a designated card.

### Command Format

```
set card_auth slot <1-26> type [hswa|gc4b|gc8b|ec4b|ec8b|ec8a|xg2a|xg2b|  
c155a|ce1b|puba|gs8f|gu4e|gu4f|hu2p|hu1p|hu1a|hu2a|gu6e|gu6f|pwr|cio|  
fan]
```

## Description

| Parameter                                                                                                                                                           | Description                                       | Attribute  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------|
| slot <1-26>                                                                                                                                                         | Slot number.<br>The value ranges from 1 to 26.    | Compulsory |
| type [hswa   gc4b   gc8b   ec4b   ec8b   ec8a   xg2a   xg2b   c155a   ce1b   puba   gs8f   gu4e   gu4f   hu2p   hu1p   hu1a   hu2a   gu6e   gu6f   pwr   cio   fan] | Card type. The type of the card to be authorized. | Compulsory |

## Command Example

Authorize the EC8B card in slot 1.

```
Admin#set card_auth slot 1 type ec8b
```

```
set 1 slot as type ec8b.
```

```
Admin#
```

# 3.11 Deauthorizing

## Command Function

This command is used to deauthorize a designated card.

## Command Format

```
set card_unauth slot [<1-26>|all]
```

## Parameter Description

| Parameter         | Parameter Description                                                                                                                                                               | Parameter Property   |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-26> all] | Slot number<br><ul style="list-style-type: none"> <li>◆ &lt;1-26&gt;: Stands for the card to be deauthorized.</li> <li>◆ all: Means that all cards will be deauthorized.</li> </ul> | Compulsory parameter |

## Command Example

Deauthorize the card in slot 1.

```
Admin#set card_unauth slot 1
remove the card 1 authority ok!
Admin#
```

## 3.12 Configuring the IP Address for Out-of-Band Management of Equipment

### Command Function

This command is used to configure the IP address for out-of-band management of the equipment.

### Command Format

```
set debugip <A.B.C.D> mask <A.B.C.D>
```

### Parameter Description

| Parameter        | Parameter Description                                           | Parameter Property   |
|------------------|-----------------------------------------------------------------|----------------------|
| debugip<A.B.C.D> | The IP address for out-of-band management.                      | Compulsory parameter |
| mask <A.B.C.D>   | Subnet mask. The subnet mask of the equipment to be configured. | Compulsory parameter |

### Command Example

Set the equipment IP address to 10.92.20.11, and the subnet mask to 255.255.0.0.

```
Admin#set debugip 10.92.20.11 mask 255.255.0.0
Admin#
```

## 3.13 Configuring Fan Speed Choices

### Command Function

This command is used to configure the fan control mode, the fan speed settings in the manual control mode, and the automatic control scheme.

## Command Format

```
set fanspeed mode <0-1> speed <0-7> scheme <0-1>
```

## Description

| Parameter   | Description                                                                                                                                                                                                                                                                                                                                                                                          | Attribute  |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| mode<0-1>   | The fan control mode.<br><ul style="list-style-type: none"> <li>◆ 0: automatic control mode.</li> <li>◆ 1: manual control mode.</li> </ul>                                                                                                                                                                                                                                                           | Compulsory |
| speed<0-7>  | The fan speed in the manual control mode.<br>The value ranges from 0 to 7.<br>In the automatic control mode, this parameter is invalid.                                                                                                                                                                                                                                                              | Compulsory |
| scheme<0-1> | The automatic control scheme.<br><ul style="list-style-type: none"> <li>◆ 0: the old scheme. See <a href="#">Configuring Automatic Fan Control Parameters in the Old Scheme</a> for the details.</li> <li>◆ 1: the new scheme. See <a href="#">Configuring Automatic Fan Control Parameters in the New Scheme</a> for the details.</li> </ul> In the manual control mode, this parameter is invalid. | Compulsory |

## Command Example

Configure the fan control mode as manual, and the fan speed as level 3.

```
Admin#set fanspeed mode 1 speed 3 scheme 0
Admin#
```

## 3.14 Configuring Automatic Fan Control Parameters in the Old Scheme

### Command Function

This command is used to configure automatic fan control parameters in the old scheme.

The old scheme is described as follows.

- ◆ When the current temperature is lower than the initial temperature, the fan speed is level 0.

- ◆ When the current temperature is equal to or higher than the initial temperature, the fan speed is determined as follows: the fan speed = the initial speed + (current temperature - initial temperature) / stepping value of temperature. The largest fan speed is level 7.

## Command Format

```
set fan_control_parameter <0-80> step <1-20> speed <0-7>
```

## Parameter Description

| Parameter   | Description                                                                                                                                                                                 | Attribute            |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| tem <0-80>  | The initial temperature.<br>The parameter value ranges between 0 and 80, and the unit is degree centigrade.                                                                                 | Compulsory parameter |
| step <1-20> | Stepping. Means the stepping of temperature for the fan rotation speed to be raised to a higher level.<br>The parameter value ranges between 1 and 20, and the unit is degree centigrade.   | Compulsory parameter |
| speed <0-7> | The initial rotation speed of the fan. The parameter is used to configure the initial rotation speed for the fan at the initial temperature.<br>The parameter value ranges between 0 and 7. | Compulsory parameter |

## Command Example

Configure the fan control parameters, setting the initial temperature to 30, the stepping to 5, and the initial rotation speed to 0.

```
Admin#set fan_control_parameter 30 step 5 speed 0
set fan control parameter OK.
Admin#
```

## 3.15 Configuring Automatic Fan Control Parameters in the New Scheme

### Command Function

This command is used to configure automatic fan control parameters in the new scheme.

The new scheme is described as follows.

- ◆ When the current temperature is higher than (preset operating temperature - modification value of the temperature), the fan speed will be raised for one level after every interval timeout, until the fan speed reaches level 7 or the temperature reaches the preset operating temperature.
- ◆ When the current temperature is lower than (preset operating temperature - modification value of the temperature - variation value of the temperature), the fan speed will be reduced for one level after every interval timeout, until the fan speed reaches level 0 or the temperature reaches the preset operating temperature.

## Command Format

```
set fan_sys_pra commtem <0-70> rangetem <3-6> modifytem <0-5>
```

## Parameter Description

| Parameter      | Description                                                                                                                                         | Attribute  |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| commtem<0-70>  | The preset operating temperature.<br>The parameter value ranges between 0 and 70, and the unit is degree centigrade.                                | Compulsory |
| rangetem<3-6>  | The variation value of the temperature.<br>The parameter value ranges between 3 and 6, and the unit is degree centigrade.                           | Compulsory |
| modifytem<0-5> | The modification value of the temperature.<br>The parameter value ranges between 0 and 5, and the unit is degree centigrade. Generally set it to 0. | Compulsory |

## Command Example

Configure the fan parameters as follows: The preset operating temperature is 50, the variation value of the temperature is 5, and the modification value of the temperature is 0.

```
Admin#set fan_sys_pra commtem 50 rangetem 5 modifytem 0
set fan control parameter OK.
Admin#
```

## 3.16 Configuring System Log Function

### Command Function

This command is used to enable / disable system logs.

### Command Format

```
set log [enable|disable] {priority<0-255>}*1
```

### Parameter Description

| Parameter               | Parameter Description                                                                                                                                                                                                                                                                   | Parameter Property   |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| log [enable disable]    | The enable / disable switch for logs.<br><ul style="list-style-type: none"> <li>◆ enable: Enables the log function.</li> <li>◆ disable: Disables the log function.</li> </ul>                                                                                                           | Compulsory parameter |
| {priority<0-255>}<br>*1 | The priority of logs to be recorded.<br><ul style="list-style-type: none"> <li>◆ 0: Records the logs generated from the task with the highest priority.</li> <li>◆ 255: Records the logs generated from all tasks with different priorities.</li> </ul> The value ranges from 0 to 255. | Optional parameter   |

### Command Example

Enable logs, and set the priority to 0.

```
Admin# set log enable priority 0
```

```
system log : enable
syslog record priority :0
```

```
Admin#
```

## 3.17 Configuring System Time

### Command Function

This command is used to configure the system time.

### Command Format

```
set time <1970-2100> <1-12> <1-31> <HH:MM:SS>
```

### Parameter Description

| Parameter   | Parameter Description                                                                                                                                                       | Parameter Property   |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <1970-2100> | The figure stands for the year.<br>The value ranges from 1970 to 2100.                                                                                                      | Compulsory parameter |
| <1-12>      | The figure stands for the month.<br>The value ranges from 1 to 12.                                                                                                          | Compulsory parameter |
| <1-31>      | The figure stands for the date.<br>The value ranges from 1 to 31.                                                                                                           | Compulsory parameter |
| <HH:MM:SS>  | The figures stand for the hour, minute and second respectively.<br><ul style="list-style-type: none"> <li>◆ HH: hour</li> <li>◆ MM: minute</li> <li>◆ SS: second</li> </ul> | Compulsory parameter |

### Command Example

Set the system time to 10(M)-11(D)-2011(Y), 16 (H): 02 (M) : 30 (S).

```
Admin#set time 2011 10 11 16:02:30
```

```
Admin#
```

## 3.18 Viewing Information on the IP Address for Out-of-Band Management of Equipment

### Command Function

This command is used to view information on the IP address for out-of-band management of the equipment.

## Command Format

```
show debugip
```

## Command Example

View the information on the IP address for out-of-band management of the equipment.

```
Admin#show debugip
Ethernet IP address : 10.92.244.200
Ethernet subnet mask : 255.255.0.0
MAC Address        : 00-0a-c2-20-7d-7d
Admin#
```

## Result Description

| Parameter            | Parameter Description                |
|----------------------|--------------------------------------|
| Ethernet IP address  | The IP address of the Ethernet       |
| Ethernet subnet mask | The subnet mask of the Ethernet      |
| MAC Address          | The physical address of the Ethernet |

# 3.19 Viewing Fan Control Settings

## Command Function

This command is used to view the fan control mode, the fan speed settings in the manual control mode, and the automatic control scheme.

## Command Format

```
show fan_contol_speed
```

## Command Example

View the fan control settings.

```
Admin#showfan_contol_speed
fan control mode>manual control fan speed, fan speed:3.
fan control scheme is old mode.
Admin#
```

## Result Description

| Parameter          | Parameter Description                    |
|--------------------|------------------------------------------|
| fan control mode   | The fan control mode                     |
| fan speed          | The fan speed in the manual control mode |
| fan control scheme | The automatic control scheme             |

## 3.20 Viewing Fan Control Parameters in the Old Scheme

### Command Function

This command is used to view fan control parameters in the old scheme.

### Command Format

```
showfan_contol_pra
```

### Command Example

View fan control parameters in the old scheme.

```
Admin#show fan_contol_pra
start temperature:30C, step:5C, fan start speed:0.
Admin#
```

## Result Description

| Parameter         | Parameter Description                  |
|-------------------|----------------------------------------|
| start temperature | The initial temperature.               |
| step              | Stepping.                              |
| fan start speed   | The initial rotation speed of the fan. |

## 3.21 Viewing Fan Control Parameters in the New Scheme

### Command Function

This command is used to view fan control parameters in the new scheme.

## Command Format

```
showfan_sys_pra
```

## Command Example

View fan control parameters in the new scheme.

```
Admin#showfan_sys_pra  
comm_temperature:50C, range_temperature:5C, modify_temperature:0C.  
Admin#
```

## Result Description

| Parameter          | Parameter Description                      |
|--------------------|--------------------------------------------|
| comm_temperature   | The preset operating temperature.          |
| range_temperature  | The variation value of the temperature.    |
| modify_temperature | The modification value of the temperature. |

# 3.22 Viewing Current Configuration Information

## Command Function

This command is used to view the current configuration information of the equipment.

## Command Format

```
show running-config
```

## Command Example

View the current configuration information of the equipment. In this example, only the beginning part and the result of the command are provided.

```
Admin#show running-configAdmin#show running-config!WOS system config  
file-----  
cli debug off  
set auto_save disable  
set reboot_hook cli  
!dba rule profile config-----  
set dba_rule_profile 0 de_rule_single 1 1 0 000000000000 4
```

```
set dba_rule_profile 1 de_rule_multi1 2 1 7 0 3 2 7 3 2
set dba_rule_profile 2 de_rule_multi2 2 1 7 4 3 2 7 5 2
set dba_rule_profile 3 de_rule_multi3 2 1 7 6 3 2 7 7 2
!switch rule profile config-----
!dba sla profile config-----
set dba_sla_profile 0 de_sla_single 640 1000000 0 1 5 1 640
  1000000 1 5 mode Normal
set dba_sla_profile 1 de_sla_multi1 0 1000000 0 65535 6 2 640
1000000 1 5 mode Normal
set dba_sla_profile 2 de_sla_multi2 640 1000000 0 1 5 1 640
  1000000 1 5 mode Normal
set dba_sla_profile 3 de_sla_multi3 5000 5000 0 0 65535 0 640
  1000000 1 5 mode Normal
!dba config profile config-----
set dba_config_profile 0 de_dba_single 1 1 0 0
set dba_config_profile 1 de_dba_multi 3 1 1 1 2 2 2 3 3 3
!onu prfile showrun-----
!onu prfile showrun end-----
set card_auth slot 9 type hswa
set card_auth slot 10 type hswa
set card_auth slot 12 type ec4b
set card_auth slot 14 type gc8b
set card_auth slot 20 type gu6f
!pon protect group config-----
set snmp_time_cfg interval 3600 serv_addr 10.94.20.241
set auto_upgrade_flag enable
. . . . .
!route config -----
!route config end -----
!dhcp config -----
!dhcp config end!-----
!access list config -----
!access list config end!-----
!arp proxy access list config -----
!arp proxy access list config end!-----
!rip config -----
!rip config end!-----
!ospf config -----
!ospf config end!-----
!ospf config end!-----
!end of config -----
Admin#
```

## 3.23 Viewing the Start-up Configuration Information

### Command Function

This command is used to view the configuration information of the equipment when it is started up.

### Command Format

```
show startup-config
```

### Command Example

View the configuration information of the equipment when it is started up.

```
Admin#show startup-configAdmin# show startup-config!WOS system config
file-----
cli debug off
set auto_save disable
set reboot_hook cli
!dba rule profile config-----
set dba_rule_profile 0 de_rule_single 1 1 0 000000000000 4
set dba_rule_profile 1 de_rule_multi1 2 1 7 0 3 2 7 3 2
set dba_rule_profile 2 de_rule_multi2 2 1 7 4 3 2 7 5 2
set dba_rule_profile 3 de_rule_multi3 2 1 7 6 3 2 7 7 2
!dba sla profile config-----
set dba_sla_profile 0 de_sla_single 640 1000000 0 1 5 1 640
1000000 1 5 mode Normal
set dba_sla_profile 1 de_sla_multi1 0 1000000 0 65535 6 2 640
1000000 1 5 mode Normal
set dba_sla_profile 2 de_sla_multi2 640 1000000 0 1 5 1 640
1000000 1 5 mode Normal
set dba_sla_profile 3 de_sla_multi3 5000 5000 0 0 65535 0 640
1000000 1 5 mode Normal
!dba config profile config-----
set dba_config_profile 0 de_dba_single 1 1 0 0
set dba_config_profile 1 de_dba_multi 3 1 1 1 2 2 2 3 3 3
!onu prfile showrun-----
!onu prfile showrun end
.....!end of config -----
!System configuration saved from--
!User Name : GEPON
```

```

!Address : console
!Through : Cli
!End-----
Admin#

```

## 3.24 Viewing Information on System Log

### Command Function

This command is used to view the information on current system logs, including the system log switch, priority of system logs to be recorded, and automatic uploading switch.

### Command Format

```
show syslog info
```

### Command Example

View related information on system logs.

```

Admin# show syslog info

***** show system log info *****
system log : enable
system log record priority :255
auto upload : disable

Admin#

```

### Result Description

| Parameter                  | Parameter Description                        |
|----------------------------|----------------------------------------------|
| system log                 | The enable / disable switch for system logs. |
| system log record priority | The priority of system logs to be recorded.  |
| auto upload                | The automatic uploading switch.              |

## 3.25 Viewing System Time

### Command Function

This command is used to view the current system time and how long the system has been running.

### Command Format

```
show time
```

### Command Example

View the current system time.

```
Admin#show time
Current Date is 2011-10-11
Current Time is 16:03:50
System running time is 0 day 07:30:05
Admin#
```

### Result Description

| Parameter           | Description              |
|---------------------|--------------------------|
| Current Date        | The current date.        |
| Current Time        | The current time.        |
| System running time | The system running time. |

## 3.26 Viewing System Cards

### Command Function

This command is used to view the types and statuses of all cards in the current system.

### Command Format

```
showcard
```

## Command Example

View the types and statuses of all cards in the current system.

```
Admin# showcard
```

```
-----AN5116-06B-----
CARD  EXIST  CONFIG  DETECT  DETAIL
1    ---   ---    ---    ---
2    ---   ---    ---    ---
3    ---   ---    ---    ---
4    ---   ---    ---    ---
5    ---   ---    ---    ---
6    ---   ---    ---    ---
7    ---   ---    ---    ---
8    ---   ---    ---    ---
9    YES  HSWA   HSWA   MATCH/M
10   YES  HSWA   HSWA   MATCH/S
11   YES  C155A  C155A  MATCH
12   ---   ---    ---    ---
13   ---   ---    ---    ---
14   YES  GC8B   GC8B   MATCH
15   ---   ---    ---    ---
16   ---   ---    ---    ---
19   ---   ---    ---    ---
20   YES  GU6F   GU6F   MATCH
21   YES  FAN    FAN    MATCH
22   YES  ---    POWER  NO_MATCH
23   YES  ---    POWER  NO_MATCH
-----
```

Current temperature is 44 C.

Power 1 is ON.

FAN 1 is not online, FAN 2 is not online, FAN 3 is not online.

```
Admin#
```

## Result Description

| Parameter | Description                      |
|-----------|----------------------------------|
| CARD      | The slot number for the card.    |
| EXIST     | Whether the card is present.     |
| CONFIG    | The type of the card authorized. |

| Parameter | Description                                                                    |
|-----------|--------------------------------------------------------------------------------|
| DETECT    | The type of the card detected.                                                 |
| DETAIL    | Whether the type of the card authorized matches the type of the card detected. |

## 3.27 Upgrading ONU Software

### Command Function

This command is used to upgrade the ONU software, including the ONU\_CPU software, ONU firmware and IAD software.

### Command Format

```
upgrade [onu_cpu|onu_firmware|iad] slot <1-18> pon <ponno> onu <onulist> <A.
B.C.D> <username> <pass> <filename>
```

### Parameter Description

| Parameter                  | Parameter Description                                                                                                                                                                                          | Parameter Property   |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [onu_cpu onu_firmware iad] | The options to be updated.<br><ul style="list-style-type: none"> <li>◆ onu_cpu: the ONU_CPU software.</li> <li>◆ onu_firmware: the ONU firmware.</li> <li>◆ iad: the voice interface card software.</li> </ul> | Compulsory parameter |
| slot <1-18>                | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                     | Compulsory parameter |
| pon <ponno>                | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                   | Compulsory parameter |
| onu <onulist>              | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                               | Compulsory parameter |
| <A.B.C.D>                  | The IP address of the FTP server.                                                                                                                                                                              | Compulsory parameter |
| <username>                 | The user name of the FTP server.                                                                                                                                                                               | Compulsory parameter |
| <pass>                     | The password of the FTP server.                                                                                                                                                                                | Compulsory parameter |
| <filename>                 | The FTP file name.                                                                                                                                                                                             | Compulsory parameter |

## Command Example

Upgrade the ONU\_CPU file. The slot number corresponding to the ONU is 14; the PON interface number is 1; the IP address of the FTP is 10.92.20.223; the user name and the password for the FTP are both 1; and the FTP file name is gcxb.gz.

```
Admin#upgrade onu_cpu slot 14 pon 1 onu 1 10.92.20.223 1 1 gcxb.gz
ldu_upgrade_batch >>>> now
upgrade success
Admin#
```

## 3.28 Upgrading the Line Card Software

### Command Function

This command is used to upgrade the software of line cards, including the GC8B, GC4B, EC4B, EC8B, XG2B, CE1B, C155A, and PUBA cards.

### Command Format

```
upgrade xdu <A.B.C.D> <username> <password> <filename> <slotlist>
```

### Parameter Description

| Parameter  | Parameter Description             | Parameter Property   |
|------------|-----------------------------------|----------------------|
| <A.B.C.D>  | The IP address of the FTP server. | Compulsory parameter |
| <username> | The user name of the FTP server.  | Compulsory parameter |
| <password> | The password of the FTP server.   | Compulsory parameter |
| <filename> | The FTP file name.                | Compulsory parameter |
| <slotlist> | Slot number.                      | Compulsory parameter |

### Command Example

Upgrade the software of the GC8B card. The IP address of the FTP is 10.92.20.223; the FTP user name and password are both 1; the FTP file name is gcxb.gz; and the slot number is 14.

```
Admin#upgrade xdu 10.92.20.223 1 1 gcxb.gz 14
AAAAAAAAAAAAAAAAAAAA macro LDU_SLOT_NUM 18
AAAAAAAAAAAAAAAAAAAA3 ret = ldu_parse (slotlist) 0
It will take a few minutes, just waiting please .....
```

```

AAAAAAAAAAAAAAAAAAAA5 LDU_SLOT_NUM 18
AAAAAAAAAAAAAAAAAAAA6 strlen(fname) 7
card at slot 14 upgrade successfully, need rebooting to take effect!
upgrade success
Admin#

```

## 3.29 Uploading Files in FTP Mode

### Command Function

This command is used to upload designated system software, configuration files or multicast logs from the active core switch card to the FTP server in the FTP mode.

### Command Format

```

upload ftp [system|config|showrun|igmplog|syslog|ver_file] <A.B.C.D>
<username> <password> <filename>

```

### Parameter Description

| Parameter                                       | Parameter Description                                                                                                                                                                                                                                                                                                                                       | Parameter Property   |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [system config showrun igmplog syslog ver_file] | The object to be uploaded.<br><ul style="list-style-type: none"> <li>◆ system: the system file.</li> <li>◆ config: the configuration file saved in the Flash.</li> <li>◆ showrun: the configuration file in the running memory.</li> <li>◆ igmplog: the multicast log.</li> <li>◆ syslog: the system log.</li> <li>◆ ver_file: the version file.</li> </ul> | Compulsory parameter |
| <A.B.C.D>                                       | The IP address of the FTP server.                                                                                                                                                                                                                                                                                                                           | Compulsory parameter |
| <username>                                      | The user name of the FTP server.                                                                                                                                                                                                                                                                                                                            | Compulsory parameter |
| <password>                                      | The password of the FTP server.                                                                                                                                                                                                                                                                                                                             | Compulsory parameter |
| <filename>                                      | The FTP file name.                                                                                                                                                                                                                                                                                                                                          | Compulsory parameter |

### Command example

Upload the configuration file hswx.bin to the FTP server. The IP address of the current FTP server is 10.92.20.223; the user name and password are both 1.

```

Admin#upload ftp config 10.92.20.223 1 1 hswx.bin
Trying upload file to ftp server, please wait...

```

```

Successfully finished upload file.
Finished.
You've successfully upload config file.
Admin#

```

## 3.30 Viewing System Software and Hardware Version

### Command Function

This command is used to view the information on the software and hardware versions of the card in each slot.

### Command Format

```
version
```

### Command Example

```

Admin#version
-----
CARD   HARDVER   SOFEVER
 1     -----
 2     -----
 3     -----
 4     -----
 5     -----
 6     -----
 7     -----
 8     -----
 9  WKE2.115.331R1A  RP0500
10  WKE2.115.331R1A  RP0402
11     -----
12     -----
13     -----
14  WKE2.200.012R1C  RP0500
15     -----
16     -----
17     -----
18     -----
19     -----
20  WKE2.170.855R1A  RP0200
Admin#

```

## Result Description

| Parameter | Parameter Description |
|-----------|-----------------------|
| CARD      | The card number.      |
| HARDVER   | The hardware version. |
| SOFEVER   | The software version  |

# 4 TDM Directory Command

---

The following introduces the functions, formats, parameters, and examples of various commands under the TDM directory.

- Deleting the E1 Service on ONU
- Configuring E1 Service for ONU
- Configuring System Clock Mode for the TDM Card
- Configuring the Clock Recovery Mode for the TDM Card
- Viewing E1 Service of ONU
- Viewing the System Clock Mode of the TDM Card
- Viewing the Clock Recovery Mode of the TDM Card

## 4.1 Deleting the E1 Service on ONU

### Command Function

This command is used to delete the E1 service that has been configured on the ONU.

### Command Format

```
del e1_service slot [<1-8>|<11-18>] link <1-8> onu <1-128> e1 <elist>
```

### Parameter Description

| Parameter            | Parameter Description                                                                                                                                                                                                                                                                                                                                              | Parameter Property   |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | The slot number for the PON interface card.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                                                          | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                                                                                                                       | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                                                                                                                   | Compulsory parameter |
| e1 <elist>           | The E1 port list.<br>The port list can be entered in the following three forms: <ul style="list-style-type: none"> <li>◆ Select one by one: Select the ports one by one, e.g. 1, 2, 3, 4.</li> <li>◆ Select multiple ones: Select multiple ports at a time, e.g. 1-4.</li> <li>◆ Select all: Enter <b>all</b> to select all the E1 ports under the ONU.</li> </ul> | Compulsory parameter |

### Command Example

Delete the mapping between the E1 port of the ONU and the E1 port of the TDM card.

```
Admin\tdm#del e1_service slot 5 link 1 onu 1 e1 1
del_onu_e1_service_cmd_fun 1 ok!
Admin\tdm#
```

## 4.2 Configuring E1 Service for ONU

### Command Function

This command is used to configure the E1 service for an ONU.

### Command Format

```
set e1_service slot [<1-8>|<11-18>] link <1-8> onu <1-128> e1 <1-4> tdm [<1-8>|<11-18>] e1 <1-63> {remjit <4-64> lcljit <4-64>}*1
```

### Parameter Description

| Parameter                          | Parameter Description                                                                                                                                                                                         | Parameter Property   |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]               | The slot number for the PON interface card.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                     | Compulsory parameter |
| link <1-8>                         | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                  | Compulsory parameter |
| onu <1-128>                        | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                              | Compulsory parameter |
| e1 <1-4>                           | The E1 port number.<br>The value ranges from 1 to 4.                                                                                                                                                          | Compulsory parameter |
| tdm [<1-8> <11-18>]                | The slot number for the TDM card.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                               | Compulsory parameter |
| e1 <1-63>                          | The E1 sequence number on the TDM card.<br>◆ The CE1B card corresponds to at most 32 E1 physical ports.<br>◆ The C155A card corresponds to at most 63 E1 timeslots.<br>The value ranges from 1 to 63.         | Compulsory parameter |
| {remjit <4-64><br>lcljit <4-64>}*1 | The remote buffer and the buffer at the central office.<br>◆ remjit <4-64>: remote buffer; the value ranges from 4 to 64.<br>◆ cljit <4-64>: the buffer at the central office; the value ranges from 4 to 64. | Optional parameter   |

### Command Example

Set up the mapping between the first E1 port on the ONU with the authorization number 1 under number 1 PON port in Slot 5 and the first E1 port on the TDM card in Slot 2.

```
Admin\tdm#set e1_service slot 5 link 1 onu 1 e1 1 tdm 2 e1 1
```

```
set_onu_e1_service_cmd_fun ok!
Admin\tdm#
```

## 4.3 Configuring System Clock Mode for the TDM Card

### Command Function

This command is used to configure the system clock mode for the TMD card.

### Command Format

```
set tdm_clock_mode slot [<1-8>|<11-18>] source [internal|extclock1|
extclock2|e1_recovery|opt_recovery|sysclock|auto]
```

### Parameter Description

| Parameter                                                                    | Parameter Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Parameter Property   |
|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]                                                         | The slot number for the TDM card.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Compulsory parameter |
| source [internal extclock1 extclock2 e1_recovery opt_recovery sysclock auto] | Synchronization reference source <ul style="list-style-type: none"> <li>◆ internal: internal synchronization reference source</li> <li>◆ extclock1: external synchronization reference source 1</li> <li>◆ extclock2: external synchronization reference source 2</li> <li>◆ e1_recovery: the clock signal extracted from the E1 signal</li> <li>◆ opt_recovery: the clock signal recovered from the optical interface</li> <li>◆ sysclock: the system clock</li> <li>◆ auto: automatic</li> </ul> The default value is the internal synchronization reference source. | Compulsory parameter |

### Command Example

Set the synchronization reference source of the TDM card to the external synchronization reference source 1.

```
Admin\tdm#set tdm_clock_mode slot 2 source extclock1
set tdm system clock mode ok!
Admin\tdm#
```

## 4.4 Configuring the Clock Recovery Mode for the TDM Card

### Command Function

This command is used to configure the clock recovery mode for the TDM card.

### Command Format

```
set tdm_recovery_mode slot [<1-8>|<11-18>] mode [adaptive|loopback|
differential|enhance]
```

### Parameter Description

| Parameter                                     | Parameter Description                                                                                                                                                                                                                                                                                                                                        | Parameter Property   |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]                          | The slot number for the TDM card.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                                                              | Compulsory parameter |
| mode [adaptive loopback differential enhance] | Recovery mode.<br><ul style="list-style-type: none"> <li>◆ adaptive: the self-adaptive mode</li> <li>◆ loopback: the loopback mode</li> <li>◆ differential: the differential mode</li> <li>◆ enhance: the enhanced mode</li> </ul> When setting the clock recovery mode for the TDM card, make sure that no E1 service has been configured for the TDM card. | Compulsory parameter |

### Command Example

- ◆ If the E1 service has been configured, the system will give the prompt as follows:

```
Admin\tdm#set tdm_rec slot 2 mode loopback
[ ERR -703 ] Tdm E1 is configured!
Admin\tdm#
```

- ◆ When no E1 service has been configured, you can configure the clock recovery mode normally. This example is to set the clock recovery mode to the loopback mode.

```
Admin\tdm#set tdm_rec slot 2 mode loopback
set tdm clock recovery mode ok!
Admin\tdm#
```

## 4.5 Viewing E1 Service of ONU

### Command Function

This command is used to view the mapping relationship between the E1 port that has already been configured on the ONU and the E1 port on the TDM card.

### Command Format

```
show e1_service slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The PON port number.<br>The value ranges from 1 to 8.            | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

### Command Example

View the mapping relationship between the first E1 port on the ONU with the authorization number of 1 at number 1 PON port in Slot 5 and the E1 port on the TDM card .

```
Admin\tdm#show e1_service slot 5 link 1 onu 1
SLOT=5, PON=1, ONU=1, ITEM=1
ONU_E1 TDM_SLOT TDM_E1
-----
      1      2      1
Admin\tdm#
```

### Result Description

| Parameter | Parameter Description             |
|-----------|-----------------------------------|
| ONU_E1    | The E1 port of the ONU.           |
| TDM_SLOT  | The slot number for the TDM card. |
| TDM_E1    | The E1 port of the TDM card.      |

## 4.6 Viewing the System Clock Mode of the TDM Card

### Command Function

This command is used to view the system clock mode of the TMD card.

### Command Format

```
show tdm_clock_mode slot [<1-8>|<11-18>]
```

### Parameter Description

| Parameter            | Parameter Description                                                           | Parameter Property   |
|----------------------|---------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | The slot number for the TDM card.<br>The value ranges from 1 to 8 and 11 to 18. | Compulsory parameter |

### Command Example

View the system clock mode of the TDM card in slot 7.

```
Admin\tdm#show tdm_clock_mode slot 7
System Clock Mode : extclock1
Admin\tdm#
```

### Result Description

| Parameter         | Parameter Description |
|-------------------|-----------------------|
| System Clock Mode | System clock mode.    |

## 4.7 Viewing the Clock Recovery Mode of the TDM Card

### Command Function

This command is used to view the clock recovery mode of the TDM card.

### Command Format

```
show tdm_recovery_mode slot [<1-8>|<11-18>]
```

## Parameter Description

| Parameter   | Parameter Description                                                          | Parameter Property   |
|-------------|--------------------------------------------------------------------------------|----------------------|
| slot <1-18> | The slot number for the TDM card<br>The value ranges from 1 to 8 and 11 to 18. | Compulsory parameter |

## Command Example

View the clock recovery mode of the TDM card in slot 2.

```
Admin\tdm#show tdm_recovery_mode slot 2  
Clock Recovery Mode : loopback  
Admin\tdm#
```

## Result Description

| Parameter           | Parameter Description |
|---------------------|-----------------------|
| Clock Recovery Mode | Clock recovery mode.  |

# 5 Device Directory Command

---

The following introduces the functions, formats, parameters, and examples of various commands under the Device directory.

- Disabling Urgent / Non-urgent Alarms of the Cabinet Top Indicator LEDs
- Viewing Information on the Uplink Port
- Configuring Performance Classification Switch
- Configuring the Threshold for the Line Card CPU / Memory Utilization Ratio
- Configuring the Alarm Thresholds for the OLT Optical Module
- Configuring User Defined Alarms for the PUBA Card
- Viewing the Threshold for the Line Card CPU / Memory Utilization Ratio
- Forced Switch
- Disabling Uplink Port Broadcast / Multicast / Unknown Packet Suppression
- Enabling Uplink Port Broadcast / Multicast / Unknown Packet Suppression
- Showing Port Broadcast / Multicast / Unknown Packet Suppression
- Configuring System Slot Separation
- Configuring the Trunk Group Aggregation Mode
- Configuring Reference Factors for the System Trunk Group
- Configuring System Trunk Group
- Deleting the Trunk Group
- Configuring the Link Recovery Mode for the Dual-Uplink Protection Group
- Configuring Dual-Uplink Protection Group

- Deleting Dual-Uplink Protection Group
- Configuring the Uplink Card Protection Mode
- Enabling / Disabling Uplink Port
- Configuring Basic Attribute of Uplink Port
- Configuring the Interface Mode for the Uplink Port
- Configuring the Learning Function for the Uplink Port
- Enabling / Disabling the Priority Function of Uplink Port
- Configuring the Priority of Uplink Port
- Configuring WAN / LAN Mode for Uplink Port
- Viewing System Trunk Group
- Viewing Reference Factors for the System Trunk Group
- Viewing the Dual-Uplink Protection Group
- Viewing the Uplink Card Protection Mode
- Viewing Working Mode of PON Port
- Viewing Compensation for OLT Optical Power
- Viewing the Voice Switch Status
- Viewing Traffic Rate Limit
- Viewing the ON / OFF Status of Legal ONU MAC Addresses
- Configuring the Working Mode of the PON Port
- Configuring the OLT Optical Power Compensation Value
- Configuring the Voice Switch
- Configuring Traffic Rate Limit

- Configuring Legal ONU MAC Address Switch
- Adding / Deleting Bandwidth Profile
- Viewing Bandwidth Profile
- Binding Bandwidth Profile to ONU
- Viewing Bandwidth Profile Bound to ONU
- Adding Threshold Profile
- Viewing the Threshold Profile
- Deleting Threshold Profile
- Creating Alarm Filtering Profile
- Setting Alarm Filtering Profile Property
- Binding Alarm Filtering Profile
- Deleting Alarm Filtering Profile
- Setting Default Alarm Filtering Property
- Setting ONU Type Alarm Filtering Profiles
- Applying ONU Type Alarm Filtering Profiles
- Viewing ONU Type Alarm Filtering Profiles
- Clearing ONU Type Alarm Filtering Profiles

## 5.1 Disabling Urgent / Non-urgent Alarms of the Cabinet Top Indicator LEDs

### Command function

This command is used to disable urgent / non-urgent alarms of the cabinet top indicator LEDs.

### Command Format

```
set current alarm [urgent|noturgent] disable
```

### Parameter Description

| Parameter          | Parameter Description                                                                                          | Parameter Property   |
|--------------------|----------------------------------------------------------------------------------------------------------------|----------------------|
| [urgent noturgent] | <ul style="list-style-type: none"><li>◆ urgent: urgent alarms</li><li>◆ noturgent: non-urgent alarms</li></ul> | Compulsory Parameter |

### Command Example

Disable non-urgent alarms of the cabinet top indicator LEDs.

```
Admin\device#set current alarm noturgent disable
Admin\device#
```

## 5.2 Viewing Information on the Uplink Port

### Command Function

This command is used to view the information on the uplink port.

### Command Format

```
show port [<portlist>|all] {[configuration|stats]}*1
```

## Parameter Description

| Parameter                 | Parameter Description                                                                                                                                                                                      | Parameter Property   |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [<portlist> all]          | <ul style="list-style-type: none"> <li>◆ &lt;portlist&gt;: the uplink port number.</li> <li>◆ all: all the uplink ports.</li> </ul>                                                                        | Compulsory parameter |
| {[configuration stats]}*1 | <ul style="list-style-type: none"> <li>◆ configuration: configuration information</li> <li>◆ stats: data information</li> </ul> <p>The default setting for this item is the configuration information.</p> | Optional parameter   |

## Command Example

View the information on the 19:1 uplink port.

```
Admin\device# show port 19:1
```

```
-----
port:<19:1> 's Configuration Information
Link state      : Up      Port state      : Enabled
AutoNegotiation : On
Speed           : 100M
Duplex          : Full
Learning        : Enabled
Port VLAN ID    : 4088    Port VLAN name   :
PriEn           : Off     PriValue         : 0
interface mode  : SERDES
-----
```

```
Admin\device#
```

## Result Description

| Parameter       | Parameter Description                              |
|-----------------|----------------------------------------------------|
| Link state      | Link status.                                       |
| Port state      | Whether the uplink port is enabled.                |
| AutoNegotiation | Auto-negotiation of the port.                      |
| Speed           | Port rate.                                         |
| Duplex          | Data communication mode of the port.               |
| Learning        | The status of port address learning being enabled. |

| Parameter      | Parameter Description                 |
|----------------|---------------------------------------|
| Port VLAN ID   | The VLAN ID of the port.              |
| Port VLAN name | The name of the port VLAN.            |
| PriEn          | The status of priority being enabled. |
| PriValue       | The priority value.                   |
| interface mode | The interface mode.                   |

## 5.3 Configuring Performance Classification Switch

### Command Function

This command is used to configure the performance classification switch, and is supported by the EPON line card and ONU only.

### Command Format

```
set epon perfswitch slot <1-18> pon <> onu <> type [port|opt|env|usage]
statistics [enable|disable]
```

### Parameter Description

| Parameter   | Description                                                                                                                                                               | Attribute  |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| slot <1-18> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                | Compulsory |
| pon <>      | The number of the PON port.<br>The value can be set to 1 to 8, or 65535 (set this value to 65535 when you are configuring the OLT performance classification switch).     | Compulsory |
| onu <>      | The ONU authorization number.<br>The value can be set to 1 to 128, or 65535 (set this value to 65535 when you are configuring the OLT performance classification switch). | Compulsory |

| Parameter                   | Description                                                                                                                                                                                                                                                 | Attribute  |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| type [port opt env usage]   | Performance type<br><ul style="list-style-type: none"> <li>◆ port: port performance statistics</li> <li>◆ opt: detection of optical module parameters</li> <li>◆ env: environmental monitoring switch</li> <li>◆ usage: memory utilization ratio</li> </ul> | Compulsory |
| statistics [enable disable] | The status of being enabled / disabled<br><ul style="list-style-type: none"> <li>◆ enable: Enables the function.</li> <li>◆ disable: Disables the function.</li> </ul>                                                                                      | Compulsory |

### Command Example

Set the performance type for the ONU with the authorization number 1 under number 1 PON port in slot 12 to port performance statistics, and enable the performance statistics.

```
Admin\device# set epon perfswitch slot 12 pon 1 onu 1 type port statistics enable
```

```
Admin\device#
```

## 5.4 Configuring the Threshold for the Line Card CPU / Memory Utilization Ratio

### Command Function

This command is used to set the threshold for the line card CPU / memory utilization ratio.

### Command Format

```
set epon slot <1-18> cpu_thresh <> memory_thresh <>
```

## Parameter Description

| Parameter        | Parameter Description                                                            | Parameter Property   |
|------------------|----------------------------------------------------------------------------------|----------------------|
| slot <1-18>      | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                       | Compulsory parameter |
| cpu_thresh <>    | The threshold for CPU utilization ratio.<br>The value ranges from 0 to 10000.    | Compulsory parameter |
| memory_thresh <> | The threshold for memory utilization ratio.<br>The value ranges from 0 to 10000. | Compulsory parameter |

## Command example

Set the threshold for the CPU utilization ratio of the line card in slot 12 to 6000, and set the memory utilization ratio of the line card to 8000.

```
Admin\device#set epon slot 12 cpu_thresh 6000 memory_thresh 8000
Admin\device#
```

## 5.5 Configuring the Alarm Thresholds for the OLT Optical Module

### Command Function

This command is used to set the alarm thresholds for the OLT optical module, including the thresholds for temperature, voltage, bias current, Tx optical power and Rx optical power.

### Command Format

```
set olt optthresh <max_temp> <min_temp> <max_voltage> <min_voltage>
<max_current> <min_current> <max_txpower> <min_txpower> <max_rxpower>
<min_rxpower>
```

## Parameter Description

| Parameter     | Description                                                                                                                                              | Attribute            |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <max_temp>    | The alarm threshold for maximum temperature<br>The value ranges between -4000 and 100000; the unit is degree centigrade; and the default value is 10000. | Compulsory parameter |
| <min_temp>    | The alarm threshold for minimum temperature<br>The value ranges between -4000 and 100000; the unit is degree centigrade; and the default value is -4000. | Compulsory parameter |
| <max_voltage> | The alarm threshold for maximum voltage<br>The value ranges between 300 and 360; the unit is voltage; and the default value is 360.                      | Compulsory parameter |
| <min_voltage> | The alarm threshold for minimum voltage<br>The value ranges between 300 and 360; the unit is voltage; and the default value is 300.                      | Compulsory parameter |
| <max_current> | The alarm threshold for maximum bias current<br>The value ranges between 0 and 1000; the unit is milliampere; and the default value is 1000.             | Compulsory parameter |
| <min_current> | The alarm threshold for minimum bias current<br>The value ranges between 0 and 1000; the unit is milliampere; and the default value is 0.                | Compulsory parameter |
| <max_txpower> | The alarm threshold for maximum Tx optical power<br>The value ranges between -400 and 1000; the unit is dBm; and the default value is 1000.              | Compulsory parameter |
| <min_txpower> | The alarm threshold for minimum Tx optical power<br>The value ranges between -400 and 1000; the unit is dBm; and the default value is -400.              | Compulsory parameter |
| <max_rxpower> | The alarm threshold for maximum Rx optical power<br>The value ranges between -3200 and -100; the unit is dBm; and the default value is -100.             | Compulsory parameter |
| <min_rxpower> | The alarm threshold for minimum Rx optical power<br>The value ranges between -3200 and -100; the unit is dBm; and the default value is -3200.            | Compulsory parameter |

## Command Example

Set the alarm thresholds as follows: the maximum temperature threshold to 10000, the minimum temperature threshold to -4000, the maximum voltage threshold to 360, the minimum voltage threshold to 300, the maximum bias current threshold to 1000, the minimum bias current threshold to 0, the maximum Tx optical power threshold to 800, the minimum Tx optical power threshold to 0, the maximum Rx optical power threshold to -500, and the minimum Rx optical power threshold to -3200.

```
Admin\device#set olt optthresh 10000 -4000 360 300 1000 0 800 0 -500 -3200
Admin\device#
```

## 5.6 Configuring User Defined Alarms for the PUBA Card

### Command Function

This command is used to configure user defined alarms for the PUBA card.

### Command Format

```
set puba user_defined_alarm{interface_num <1-14> alarm_condition <0-1> }*1
```

### Parameter Description

| Parameter             | Parameter Description                                                                      | Parameter Property   |
|-----------------------|--------------------------------------------------------------------------------------------|----------------------|
| interface_num <1-14>  | The sequence number of the user defined alarm interfaces<br>The value ranges from 1 to 14. | Compulsory parameter |
| alarm_condition <0-1> | Conditions for triggering the alarm<br>◆ 0: low level<br>◆ 1: high level                   | Compulsory parameter |

### Command Example

Set the sequence number of the user defined alarm interface on the PUBA card to 1, and set the conditions for triggering the alarm to high level.

```
Admin\device#set puba user_defined_alarm interface_num 1 alarm_condition 1
Admin\device#
```

## 5.7 Viewing the Threshold for the Line Card CPU / Memory Utilization Ratio

### Command Function

This command is used to view the threshold for the line card CPU / memory utilization ratio.

### Command Format

```
show epon slot <1-18> cpu_memory_thresh
```

### Parameter Description

| Parameter   | Parameter Description                                                       | Parameter Property   |
|-------------|-----------------------------------------------------------------------------|----------------------|
| slot <1-18> | The slot number for the card.<br>The value ranges from 1 to 8 and 11 to 18. | Compulsory parameter |

### Command Example

View the threshold for the CPU / memory utilization ratio of the line card in slot 12.

```
Admin\device#show epon slot 12 cpu_memory_thresh
slot 12:  cpu thresh : 6000  mem thresh : 8000
Admin\device#
```

### Result Description

| Parameter  | Parameter Description                                                |
|------------|----------------------------------------------------------------------|
| slot       | Slot number.                                                         |
| cpu thresh | The threshold for the CPU utilization ratio; 6000 stands for 60%.    |
| mem thresh | The threshold for the memory utilization ratio; 8000 stands for 80%. |

## 5.8 Forced Switch

### Command Function

This command is used to perform forced switch between the active and standby core switch cards. Generally, the command of forced switch between the active and standby core switch cards is executed when you are going to replace the active core switch card or upgrade the software of the active core switch card.



#### Note:

Before executing this command, you should first conduct the **save** command to save the configuration.

---

### Command Format

```
force switch
```

### Command Example

Implement forced switch of the number 9 card and the number 10 card.

```
Admin\device#force switch
Admin\device#
```

## 5.9 Disabling Uplink Port Broadcast / Multicast / Unknown Packet Suppression

### Command Function

This command is used to disable the packet suppression at an uplink port. The parameters concerned include the port number and packet type.

### Command Format

```
set control uplink port <portlist> [broadcast|multicast|unknown|all]
disable
```

## Parameter Description

| Parameter                         | Parameter Description                                                                                                               | Parameter Property   |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <portlist>                        | The number of the uplink port.                                                                                                      | Compulsory parameter |
| [broadcast multicast unknown all] | Packet type<br>◆ broadcast: broadcast packets<br>◆ multicast: multicast packets<br>◆ unknown: unknown packets<br>◆ all: all packets | Compulsory parameter |

## Command Example

Disable the broadcast packet suppression at the 19:1 port.

```
Admin\device#set control uplink port 19:1 broadcast disable
Admin\device#
```

## 5.10 Enabling Uplink Port Broadcast / Multicast / Unknown Packet Suppression

### Command Function

This command is used to enable the packet suppression at an uplink port. The related parameters include the port number, packet type and number of packets suppressed. The switch chip in the core switch card is used to suppress the broadcast packets, multicast packets and unknown packets sent to the CPU port, so as to ensure the normal work of the CPU.

The uplink port packet suppression refers to the function of suppressing downlink broadcast packets, multicast packets and unknown packets. Once the multicast packets are suppressed, the multicast service will be interrupted as well.

### Command Format

```
set control uplink port <portlist> [broadcast|multicast|unknown|all] enable
limit <1-262142>
```

## Parameter Description

| Parameter                         | Parameter Description                                                                                                                                                                                        | Parameter Property   |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <portlist>                        | The number of the uplink port.                                                                                                                                                                               | Compulsory parameter |
| [broadcast multicast unknown all] | Packet type.<br><ul style="list-style-type: none"> <li>◆ broadcast: broadcast packets.</li> <li>◆ multicast: multicast packets.</li> <li>◆ unknown: unknown packets.</li> <li>◆ all: all packets.</li> </ul> | Compulsory parameter |
| limit <1-262142>                  | Rate limit, i.e. the number of data packets passing through the uplink port in a second.<br>The value ranges between 1 and 262142; the unit is packet / second; and the default value is 150.                | Compulsory parameter |

## Command Example

Enable the broadcast packet suppression at the 19:1 port; set the rate limit to 64 packets / second.

```
Admin\device#set control uplink port 19:1 broadcast enable limit 64
Admin\device#
```

## 5.11 Showing Port Broadcast / Multicast / Unknown Packet Suppression

### Command function

This command is used to show the packet suppression information of the port, including the packet type, the state of packet suppression being enabled and rate limit.

### Command format

```
show control port all [broadcast|multicast|unknown|all]
```

## Parameter description

| Parameter                         | Parameter description                                                                                                               | Parameter Property   |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [broadcast multicast unknown all] | Packet type<br>◆ broadcast: broadcast packets<br>◆ multicast: multicast packets<br>◆ unknown: unknown packets<br>◆ all: all packets | Compulsory parameter |

## Command example

Show the information on suppression of all types of packets.

```
Admin\device#show control port all all
uplik port :19:1 broadcast packet control :enable limit :64 pps
uplik port :19:1 multicast packet control :enable limit :100 pps
uplik port :19:1 unknown packet control :enable limit :100 pps
uplik port :19:2 broadcast packet control :enable limit :100 pps
uplik port :19:2 multicast packet control :enable limit :100 pps
uplik port :19:2 unknown packet control :enable limit :100 pps
uplik port :19:3 broadcast packet control :enable limit :100 pps
uplik port :19:3 multicast packet control :enable limit :100 pps
uplik port :19:3 unknown packet control :enable limit :100 pps
uplik port :19:4 broadcast packet control :enable limit :100 pps
uplik port :19:4 multicast packet control :enable limit :100 pps
uplik port :19:4 unknown packet control :enable limit :100 pps
uplik port :19:5 broadcast packet control :enable limit :100 pps
uplik port :19:5 multicast packet control :enable limit :100 pps
uplik port :19:5 unknown packet control :enable limit :100 pps
uplik port :19:6 broadcast packet control :enable limit :100 pps
uplik port :19:6 multicast packet control :enable limit :100 pps
uplik port :19:6 unknown packet control :enable limit :100 pps
uplik port :20:1 broadcast packet control :enable limit :100 pps
uplik port :20:1 multicast packet control :enable limit :100 pps
uplik port :20:1 unknown packet control :enable limit :100 pps
uplik port :20:2 broadcast packet control :enable limit :100 pps
uplik port :20:2 multicast packet control :enable limit :100 pps
uplik port :20:2 unknown packet control :enable limit :100 pps
uplik port :20:3 broadcast packet control :enable limit :100 pps
uplik port :20:3 multicast packet control :enable limit :100 pps
uplik port :20:3 unknown packet control :enable limit :100 pps
uplik port :20:4 broadcast packet control :enable limit :100 pps
uplik port :20:4 multicast packet control :enable limit :100 pps
```

```

uplik port :20:4 unknown packet control :enable limit :100 pps
uplik port :20:5 multicast packet control :enable limit :100 pps
uplik port :20:5 unknown packet control :enable limit :100 pps
uplik port :20:6 broadcast packet control :enable limit :100 pps
uplik port :20:6 multicast packet control :enable limit :100 pps
uplik port :20:6 unknown packet control :enable limit :100 pps
Admin\device#

```

## Result description

| Parameter                | Parameter description         |
|--------------------------|-------------------------------|
| uplik port               | The number of the uplink port |
| broadcast packet control | Broadcast packet suppression  |
| multicast packet control | Multicast packet suppression  |
| unknown packet control   | Unknown packet suppression    |
| limit                    | rate limit                    |

## 5.12 Configuring System Slot Separation

### Command Function

This command is used to enable / disable the system slot separation.

### Command Format

```
set slot_separate [enable|disable] {[multicast_disable]}*1
```

### Parameter Description

| Parameter                         | Parameter Description                                                                    | Parameter Property   |
|-----------------------------------|------------------------------------------------------------------------------------------|----------------------|
| slot_separate<br>[enable disable] | Slot separation.<br>◆ enable: Enables the function.<br>◆ disable: Disables the function. | Compulsory parameter |
| {[multicast_<br>disable]}         | Multicast separation.                                                                    | Optional parameter   |

### Command Example

Configure the system slot separation.

```
Admin\device# set slot_separate enable
```

```
Successfully enable slot separate.
```

```
Admin\device#
```

## 5.13 Configuring the Trunk Group Aggregation Mode

### Command Function

This command is used to configure the Trunk group aggregation mode.

### Command Format

```
set trunking groupno <1-6> mode [static|lacp]
```

### Parameter Description

| Parameter          | Parameter Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Parameter Property   |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <1-6>              | Number of the Trunk group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Compulsory parameter |
| mode [static lacp] | <p>The Trunk group aggregation mode.</p> <ul style="list-style-type: none"> <li>◆ static: manual aggregation. In this mode, multiple member interfaces are added into the aggregation group manually, and all of these interfaces are in the state of forwarding to share the load traffic.</li> <li>◆ lacp: static LACP. In this mode, the interfaces negotiate on the aggregation parameters and determine the active and inactive interfaces based on the LACP (Link Aggregation Control Protocol).</li> </ul> | Compulsory parameter |

### Command Example

Set the Trunk group number to 1, and set the Trunk group to manual aggregation mode.

```
Admin\device#set trunking groupno 1 mode static
Admin\device#
```

## 5.14 Configuring Reference Factors for the System Trunk Group

### Command Function

This command is used to configure the reference factors for the system Trunk group.

### Command Format

```
set trunking criteria [smac|dmac|sdmac|sip|dip|sdip]
```

### Parameter Description

| Parameter                      | Parameter Description                                                                                                                                                                                                                                                                                                                                  | Parameter Property   |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [smac dmac sdmac sip dip sdip] | Reference factor. <ul style="list-style-type: none"> <li>◆ smac: the source MAC address</li> <li>◆ dmac: the destination MAC address</li> <li>◆ sdmac: the source and destination MAC addresses</li> <li>◆ sip: the source IP address.</li> <li>◆ dip: the destination IP address.</li> <li>◆ sdip: the source and destination IP addresses</li> </ul> | Compulsory parameter |

### Command Example

Balance the load according to the destination MAC address.

```
Admin\device#set trunking criteria dmac
Admin\device#
```

## 5.15 Configuring System Trunk Group

### Command Function

This command is used to configure the system Trunk group. The main function of the Trunk group is to bind multiple physical ports together as a logical path. By binding multiple physical links together, you can enhance the bandwidth of the entire network. Meanwhile, the data are sent via multiple physical links bound together. The links serve as redundant links to each other. When one or several links is (are) broken due to the fault in network or other faults, the remaining links can still work.

## Command Format

```
set trunking groupno <1-6> <portmasterNo> grouping <portlist>
```

## Parameter Description

| Parameter      | Parameter Description                             | Parameter Property   |
|----------------|---------------------------------------------------|----------------------|
| <1-6>          | Number of the Trunk group.                        | Compulsory parameter |
| <portmasterNo> | The number of the master port of the Trunk group. | Compulsory parameter |
| <portlist>     | The numbers of the member ports.                  | Compulsory parameter |

## Command Example

Configure a Trunk group. Set the group number to 1, the master port number to 19:2, and the member port number to 20:3.

```
Admin\device#set trunking groupno 1 19:2 grouping 20:3
Admin\device#
```

# 5.16 Deleting the Trunk Group

## Command Function

This command is used to delete a designated Trunk group.

## Command Format

```
delete trunking <portmasterNo>
```

## Parameter Description

| Parameter    | Parameter Description      | Parameter Property   |
|--------------|----------------------------|----------------------|
| portmasterNo | Number of the master port. | Compulsory parameter |

## Command Example

Delete the Trunk group whose master port number is 19:2.

```
Admin\device# delete trunking 19:2
```

```
Admin\device#
```

## 5.17 Configuring the Link Recovery Mode for the Dual-Uplink Protection Group

### Command Function

This command is used to configure the link recovery mode for the dual-uplink protection group.

### Command Format

```
set upbak_group linkrecovermode [autorecover|nonautorecover]
```

### Parameter Description

| Parameter                        | Description                                                                                                                                                                                                                                                                                          | Attribute  |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| [autorecover]<br>nonautorecover] | The recovery mode. <ul style="list-style-type: none"><li>◆ autorecover: automatic recovery of the link. In this mode, when the working link recovers from a fault, the system will automatically return to the working link.</li><li>◆ nonautorecover: non-automatic recovery of the link.</li></ul> | Compulsory |

### Command Example

Configure the link recovery mode for the dual-uplink protection group as automatic recovery.

```
Admin\device#set upbak_group linkrecovermode autorecover
Admin\device#
```

## 5.18 Configuring Dual-Uplink Protection Group

### Command Function

This command is used to configure a dual-uplink protection group. This means setting the dual-route uplink protection for the equipment. When one of the up links is faulty, the system will automatically switch the service to the other uplink without interrupting the service, so as to implement service protection.

The attributes of the master and slave ports should be set consistently.

### Command Format

```
set upbak_port <1-6> <masterport> <slaveport>
```

### Parameter Description

| Parameter        | Description                                                                      | Attribute  |
|------------------|----------------------------------------------------------------------------------|------------|
| upbak_port <1-6> | The number of the dual-uplink protection group.<br>The value ranges from 1 to 6. | Compulsory |
| <masterport>     | The number of the active port.                                                   | Compulsory |
| <slaveport>      | The number of the standby port.                                                  | Compulsory |

### Command Example

Configure the dual-uplink protection group 1; set the active port number to 19:1, and the standby port number to 20:2.

```
Admin\device# set upbak_port 1 19:1 20:2
```

```
Admin\device#
```

## 5.19 Deleting Dual-Uplink Protection Group

### Command Function

This command is used to delete the designated dual-uplink protection group.

## Command Format

```
delete upbak_port <1-6>
```

## Parameter Description

| Parameter        | Description                                                                      | Attribute  |
|------------------|----------------------------------------------------------------------------------|------------|
| upbak_port <1-6> | The number of the dual-uplink protection group.<br>The value ranges from 1 to 6. | Compulsory |

## Command Example

Delete the dual-uplink protection group 1

```
Admin\device# delete upbak_port 1
```

```
Admin\device#
```

# 5.20 Configuring the Uplink Card Protection Mode

## Command Function

This command is used to configure the protection mode of uplink cards. The available choices for protection modes include the load balancing protection mode, active / standby protection mode, and disabled protection mode. After the uplink card protection is configured, the ports on the uplink cards in Slot 19 and Slot 20 will provide protection correspondingly. Each pair of ports can be considered as a protection group.

Make sure that the two uplink cards of the same type are present when you are configuring the protection.

## Command Format

```
set uplink card_protect_mode [loads_balance|master_standby|disable]
```

## Parameter Description

| Parameter                                      | Parameter Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Parameter Property   |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [loads_balance <br>master_standby <br>disable] | Protection mode. <ul style="list-style-type: none"> <li>◆ loads_balance: the load balancing mode. In this mode, both of the two ports corresponding to the protection mode have traffic flow.</li> <li>◆ master_standby: the active / standby protection mode. In this mode, only the active port corresponding to the protection mode has traffic flow, and there is no traffic flow in the standby port.</li> <li>◆ disable: the disabled protection mode. That is, disable the protection function of the uplink card.</li> </ul> | Compulsory parameter |

## Command Example

Set the uplink cards in the active / standby protection mode.

```
Admin\device# set uplink card_protect_mode master_standby
```

```
Admin\device#
```

## 5.21 Enabling / Disabling Uplink Port

### Command Function

This command is used to enable / disable an uplink port.

### Command Format

```
set uplink port <portlist> [enable|disable]
```

## Parameter Description

| Parameter        | Parameter Description                                                                                                           | Parameter Property   |
|------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <portlist>       | The number of the uplink port.                                                                                                  | Compulsory parameter |
| [enable disable] | <ul style="list-style-type: none"><li>◆ enable: Enables the uplink port.</li><li>◆ disable: Disables the uplink port.</li></ul> | Compulsory parameter |

## Command Example

Disable the 19:3 uplink port.

```
Admin\device# set uplink port 19:3 disable
```

```
Admin\device#
```

## 5.22 Configuring Basic Attribute of Uplink Port

### Command Function

This command is used to configure the basic attribute of an uplink port. The configuration parameters include the auto-negotiation switch, port rate, and data communication mode.

### Command Format

```
set uplink port <portlist> auto_negotiation [enable|disable] {speed [10m|100m|1000m|10000m] duplex [full|half]}*1
```

## Parameter Description

| Parameter                     | Description                                                                                                                                                                                                                                                                                                                                                                                                 | Attribute            |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <portlist>                    | The number of the uplink port.                                                                                                                                                                                                                                                                                                                                                                              | Compulsory parameter |
| [enable disable]              | <ul style="list-style-type: none"> <li>◆ enable: Enables the port auto-negotiation function, so that the uplink port could negotiate with other equipment ports to obtain the maximum transmission rate. The auto-negotiation function is applicable to electrical interfaces only, and is not supported by optical interfaces.</li> <li>◆ disable: Disables the port auto-negotiation function.</li> </ul> | Compulsory           |
| speed [10m 100m 1000m 10000m] | Port rate.<br>The values available for choice include 10 Mbit/s, 100 Mbit/s, 1000 Mbit/s, and 10000 Mbit/s.                                                                                                                                                                                                                                                                                                 | Optional             |
| [full half]                   | The data communication mode at the port. <ul style="list-style-type: none"> <li>◆ full: full duplex.</li> <li>◆ half: half duplex.</li> </ul>                                                                                                                                                                                                                                                               | Optional             |

## Command Example

Enable the auto-negotiation function of the 19:1 port; set the port rate to 1000 Mbit/s, and the data communication mode at the port to half duplex.

```
Admin\device#set uplink port 19:1 auto_negotiation enable speed 1000m duplex half
Admin\device#
```

## 5.23 Configuring the Interface Mode for the Uplink Port

### Command Function

This command is used to configure the interface mode for an uplink port.

### Command Format

```
set uplink port <portlist> interface_mode [serdes|sgmii]
```

## Parameter Description

| Parameter                        | Parameter Description                                                                                                                                                                                                                                                                    | Parameter Property   |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <portlist>                       | The number of the uplink port.                                                                                                                                                                                                                                                           | Compulsory parameter |
| interface_mode<br>[serdes sgmii] | The interface mode.<br><ul style="list-style-type: none"> <li>◆ serdes: the SerDes mode<br/>Select this mode when you use the interface as an optical interface.</li> <li>◆ sgmii: the SGMII mode<br/>Select this mode when you use the interface as an electrical interface.</li> </ul> | Compulsory parameter |

## Command Example

Configure the 19:1 interface in the SGMII mode.

```
Admin\device# set uplink port 19:1 interface_mode sgmii
```

```
Admin\device#
```

## 5.24 Configuring the Learning Function for the Uplink Port

### Command Function

This command is used to enable / disable the learning function of an uplink port.

### Command Format

```
set uplink port <portlist> learning [enable|disable]
```

## Parameter Description

| Parameter                     | Parameter Description                                                                                                                                                   | Parameter Property   |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <portlist>                    | The number of the uplink port                                                                                                                                           | Compulsory parameter |
| learning [enable <br>disable] | The learning function of the uplink port<br><ul style="list-style-type: none"> <li>◆ enable: Enable the function.</li> <li>◆ disable: Disables the function.</li> </ul> | Compulsory parameter |

## Command Example

Enable the learning function of the 19:1 uplink port.

```
Admin\device# set uplink port 19:1 learning enable
```

```
Admin\device#
```

## 5.25 Enabling / Disabling the Priority Function of Uplink Port

### Command Function

This command is used to enable / disable the priority function of an uplink port.

### Command Format

```
set uplink port <portlist> priority [enable|disable]
```

### Parameter Description

| Parameter                 | Parameter Description                                                                                                                 | Parameter Property   |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <portlist>                | The number of the uplink port.                                                                                                        | Compulsory parameter |
| priority [enable disable] | Priority <ul style="list-style-type: none"> <li>◆ enable: Enables the function.</li> <li>◆ disable: Disables the function.</li> </ul> | Compulsory parameter |

### Command Example

Enable the priority function of the 19:1 uplink port.

```
Admin\device#set uplink port 19:1 priority enable
```

## 5.26 Configuring the Priority of Uplink Port

### Command Function

This command is used to configure the priority of an uplink port.

## Command Format

```
set uplink port <portlist> privalue <0-7>
```

## Parameter Description

| Parameter      | Parameter Description                            | Parameter Property   |
|----------------|--------------------------------------------------|----------------------|
| <portlist>     | The number of the uplink port.                   | Compulsory parameter |
| privalue <0-7> | Priority level.<br>The value ranges from 0 to 7. | Compulsory parameter |

## Command Example

Set the priority of the 19:1 uplink interface to 6.

```
Admin\device# set uplink port 19:1 privalue 6
```

```
Admin\device#
```

## 5.27 Configuring WAN / LAN Mode for Uplink Port

### Command Function

This command is used to configure the WAN / LAN mode for an uplink port, applicable to the 10GE optical port only.

### Command Format

```
set uplink port <portlist> wanlan_mode [wan|lan]
```

## Parameter Description

| Parameter             | Parameter Description                                                                                                                                                                                                                                                                                          | Parameter Property   |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <portlist>            | The number of the uplink port.                                                                                                                                                                                                                                                                                 | Compulsory parameter |
| wanlan_mode [wan lan] | <p>The port mode.</p> <ul style="list-style-type: none"> <li>◆ wan: the WAN mode<br/>Select this mode when the 10GE optical interface is connected to SDH equipment.</li> <li>◆ lan: the LAN mode<br/>Select this mode when the 10GE optical interface is connected to ordinary Ethernet equipment.</li> </ul> | Compulsory parameter |

## Command Example

Configure the 19:1 uplink interface in the WAN mode.

```
Admin\device#set uplink port 19:1 wanlan_mode wan
Admin\device#
```

## 5.28 Viewing System Trunk Group

### Command Function

This command is used to view the configuration information of the system Trunk group.

### Command Format

```
show trunking
```

### Command Example

View the configuration information of the system Trunk group.

```
Admin\device#show trunking
Sharing port group 1 information:
Master Port: 19:2 Group Ports: 19:2 20:3
Admin\device#
```

## Result Description

| Parameter   | Description                      |
|-------------|----------------------------------|
| Master Port | Number of the master port.       |
| Group Ports | The numbers of the member ports. |

## 5.29 Viewing Reference Factors for the System Trunk Group

### Command Function

This command is used to view the reference factors for the system Trunk group.

### Command Format

```
show trunking criteria
```

### Command Example

View the reference factors for the system trunk group.

```
Admin\device#show trunking criteria  
trunking selection criteria is destination mac  
Admin\device#
```

## Result Description

| Parameter                   | Parameter Description                 |
|-----------------------------|---------------------------------------|
| trunking selection criteria | Reference factors for the Trunk group |

## 5.30 Viewing the Dual-Uplink Protection Group

### Command Function

This command is used to view the information on the dual-uplink protection group.

### Command Format

```
show upbak_group
```

## Command Example

View the information on the dual-uplink protection group.

```
Admin\device#show upbak_group
link recover mode : link automatic recover to master port
=====uplink backup group=====
Group              :2
group attribute    :port upbak
master port       :19:3
slave port        :19:4
active port       :19:3
Admin\device#
```

## Result Description

| Parameter       | Description                                    |
|-----------------|------------------------------------------------|
| Group           | The number of the dual-uplink protection group |
| group attribute | Property of the group                          |
| master port     | The number of the active port                  |
| slave port      | The number of the standby port                 |
| active port     | The number of the activated port.              |

## 5.31 Viewing the Uplink Card Protection Mode

### Command Function

This command is used to view the information on the uplink card protection mode.

### Command Format

```
show uplink card_protect_mode
```

### Command Example

View the information on the uplink card protection mode.

```
Admin\device# show uplink card_protect_mode
```

```
uplink card protect mode is master standby mode
```

```
Admin\device#
```

## Result Description

| Parameter                | Parameter Description                   |
|--------------------------|-----------------------------------------|
| uplink card protect mode | The protection mode of the uplink card. |

## 5.32 Viewing Working Mode of PON Port

### Command Function

This command is used to view the working mode of the PON port.

### Command Format

```
show epon slot <1-18> pon <1-8> 2.5gmode
```

### Parameter Description

| Parameter   | Description                                                                                                                | Attribute  |
|-------------|----------------------------------------------------------------------------------------------------------------------------|------------|
| slot <1-18> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                 | Compulsory |
| pon <1-8>   | The number of the PON port.<br>The number of the PON port under which the ONU is located.<br>The value ranges from 1 to 8. | Compulsory |

### Command Example

View the working mode of the number 1 PON port of the card in slot 12.

```
Admin\device#show epon slot 12 pon 1 2.5gmode
pon 2.5g port state : Enable
Admin\device#
```

### Result Description

| Parameter           | Description                                           |
|---------------------|-------------------------------------------------------|
| pon 2.5g port state | Enabling / disabling status of 2.5G for the PON port. |

## 5.33 Viewing Compensation for OLT Optical Power

### Command Function

This command is used to view the compensation for the OLT optical power.

### Command Format

```
show epon slot <1-18> pon <1-8> OpticalCompensation
```

### Parameter Description

| Parameter   | Description                                                                                                             | Attribute            |
|-------------|-------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <1-18> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                              | Compulsory parameter |
| pon <1-8>   | The number of the PON port.<br>The number of the PON port under which the ONU is located. The value ranges from 1 to 8. | Compulsory parameter |

### Command Example

View the compensation information about the optical power of the OLT at number 1 PON port on the card in slot 12. In this example, the optical power compensation value is 10. See below for the information displayed:

```
Admin\device#show epon slot 12 pon 1 opticalcompensation
extern_byte: 0
precision_byte: 2
adjustment value: 1000
Admin\device#
```

### Result Description

| Parameter        | Description                           |
|------------------|---------------------------------------|
| extern_byte      | The extended byte.                    |
| precision_byte   | The precision value.                  |
| adjustment value | The optical power compensation value. |

## 5.34 Viewing the Voice Switch Status

### Command Function

This command is used to view the voice switch status.

### Command Format

```
show epon slot <1-18> VoipSwitch
```

### Parameter Description

| Parameter   | Parameter Description                                     | Parameter Property   |
|-------------|-----------------------------------------------------------|----------------------|
| slot <1-18> | Slot number<br>The value ranges from 1 to 8 and 11 to 18. | Compulsory parameter |

### Command Example

View the voice switch status of the card in slot 12.

```
Admin\device# show epon slot 12 voipswitch
```

```
VoipSwitch: 1
```

```
Admin\device#
```

### Result Description

| Parameter  | Parameter Description                             |
|------------|---------------------------------------------------|
| VoipSwitch | The voice switch<br>◆ 0: disabled<br>◆ 1: enabled |

## 5.35 Viewing Traffic Rate Limit

### Command Function

This command is used to view the traffic rate limit. It is applicable only to the XG2B card.

## Command Format

```
show epon slot <1-18> pon <1-2> rate_limit
```

## Description

| Parameter   | Description                                                  | Attribute  |
|-------------|--------------------------------------------------------------|------------|
| slot <1-18> | Slot number.<br>The value ranges from 1 to 8 and 1 to 18.    | Compulsory |
| pon <1-2>   | The number of the PON port.<br>The value ranges from 1 to 2. | Compulsory |

## Command Example

View the traffic rate limit of number 1 PON port on the card in slot 12.

```
Admin \device#show epon slot 12 pon 1 rate_limit
seqno = 1 ,rate_limit = 1000.
  0  111111111111  0
Admin\device#
```

## Result Description

| Parameter    | Description                                         |
|--------------|-----------------------------------------------------|
| seqno        | The sequence number set for the traffic rate limit. |
| rate_limit   | The traffic rate limit.                             |
| 0            | Stream type value.                                  |
| 111111111111 | Stream type value.                                  |
| 0            | Operator; 0 stands for = .                          |

## 5.36 Viewing the ON / OFF Status of Legal ONU MAC Addresses

### Command Function

This command is used to view the ON / OFF status of legal ONU MAC addresses.

### Command Format

```
show epon slot <1-18> onu_tbl_state
```

## Parameter Description

| Parameter   | Parameter Description                                      | Parameter Property   |
|-------------|------------------------------------------------------------|----------------------|
| slot <1-18> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18. | Compulsory parameter |

## Command Example

View the ON / OFF status of legal ONU MAC addresses of the card in slot 12.

```
Admin\device#show epon slot 12 onu_tbl_state
OnuTbl State : Enable
Admin\device#
```

## Result Description

| Parameter    | Parameter Description                           |
|--------------|-------------------------------------------------|
| OnuTbl State | The ON / OFF status of legal ONU MAC addresses. |

# 5.37 Configuring the Working Mode of the PON Port

## Command Function

This command is used to configure the working mode of the PON port.

## Command Format

```
set epon slot <1-18> pon <1-8> 2.5gmode [enable|disable]
```

## Parameter Description

| Parameter                 | Description                                                                                                                | Attribute            |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <1-18>               | Slot number<br>The value ranges from 1 to 8 and 11 to 18.                                                                  | Compulsory parameter |
| pon <1-8>                 | The number of the PON port.<br>The number of the PON port under which the ONU is located.<br>The value ranges from 1 to 8. | Compulsory           |
| 2.5gmode [enable disable] | The 2.5G status of the PON port.<br>◆ enable: enable the port.<br>◆ disable: disable the port.                             | Compulsory           |

## Command Example

Configure the working mode of number 1 PON port of the card in slot 12 as enabled.

```
Admin\device#set epon slot 12 pon 1 2.5gmode enable
Admin\device#
```

## 5.38 Configuring the OLT Optical Power Compensation Value

### Command Function

This command is used to configure the OLT optical power compensation value.

When the Tx optical power / Rx optical power of the OLT is over high / over low, use this command to modify the optical power and keep it in a reasonable range.

### Command Format

```
set epon slot <1-18> pon <1-8> extern_byte [0|1|2] precision_byte <1-7>
adjustment <value>
```

## Parameter Description

| Parameter   | Description                                                                                                           | Attribute  |
|-------------|-----------------------------------------------------------------------------------------------------------------------|------------|
| slot <1-18> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                            | Compulsory |
| pon <1-8>   | The number of the PON port, i.e., the number of the PON in which the ONU is located.<br>The value ranges from 1 to 8. | Compulsory |

| Parameter            | Description                                                                                                                                                                                                                                                    | Attribute            |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| extern_byte [0 1 2]  | The extended byte.<br>The value ranges from 0 to 2. The default value is 0.                                                                                                                                                                                    | Compulsory           |
| precision_byte <1-7> | The precision value.<br>The value ranges from 1 to 7. The default value is 2.                                                                                                                                                                                  | Compulsory           |
| adjustment <value>   | The optical power compensation value.<br>Suppose the precision value is 2; divide the optical power compensation value by 100, and you will get the practical value of compensation for the optical power. The compensation value ranges from -10000 to 10000. | Compulsory parameter |

## Command Example

Configure the OLT optical power compensation value for number 1 PON port on the card in slot 12. Set the extended byte to 0, and the precision value to 2; then the practical value of compensation for the optical power is 10.

```
Admin\device#set epon slot 12 pon 1 extern_byte 0 precision_byte 2 adjustment 1000
Admin\device#
```

## 5.39 Configuring the Voice Switch

### Command Function

This command is used to configure the voice switch.

### Command Format

```
set epon slot <1-18> VoipSwitch [0|1]
```

### Parameter Description

| Parameter        | Parameter Description                                      | Parameter Property   |
|------------------|------------------------------------------------------------|----------------------|
| slot <1-18>      | Slot number.<br>The value ranges from 1 to 8 and 11 to 18. | Compulsory parameter |
| VoipSwitch [0 1] | The voice switch.<br>◆ 0: disable<br>◆ 1: enable           | Compulsory parameter |

## Command Example

Enable the voice switch of the card in slot 12.

```
Admin\device# set epon slot 12 voipswitch 1
```

```
Admin\device#
```

## 5.40 Configuring Traffic Rate Limit

### Command Function

This command is used to configure the traffic rate limit.

### Command Format

```
set epon slot <1-18> pon <1-2> seqno <1-1024> rate_limit [<0-10000000>|null]
{<streamtype> <value> <operator>} *4
```

### Description

| Parameter                                 | Description                                                                                                              | Attribute  |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------|
| slot <1-18>                               | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                               | Compulsory |
| pon <1-2>                                 | The number of the PON port.<br>This parameter is applicable to the XG2B card only. The value can be set to 1 or 2.       | Compulsory |
| seqno <1-1024>                            | The sequence number set for the traffic rate limit.                                                                      | Compulsory |
| rate_limit<br>[<0-<br>10000000> <br>null] | The traffic rate limit.<br>◆ The parameter value ranges between 0 and 10000000, and the unit is Kbit/s.<br>◆ null: null. | Compulsory |

| Parameter    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Attribute |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <streamtype> | <p>Stream type.</p> <ul style="list-style-type: none"> <li>◆ 0x00: based on SA MAC classification (SA MAC).</li> <li>◆ 0x01: based on DA MAC classification (DA MAC).</li> <li>◆ 0x02: based on the source IP address classification (SAIP).</li> <li>◆ 0x03: based on the destination IP address classification (DAIP).</li> <li>◆ 0x0d: based on the SVLAN ID classification (SVLAN ID).</li> <li>◆ 0x0e: based on the SVLAN COS classification (SVLAN COS).</li> <li>◆ 0x0f: based on the CVLAN ID classification (CVLAN ID).</li> <li>◆ 0x10: based on the CVLAN COS classification (CVLAN COS).</li> <li>◆ 0x05: based on Ethernet type (Ethernet type).</li> <li>◆ 0x06: based on IP protocol type (IP protocol type).</li> <li>◆ 0x08: based on IP TOS/DSCP (IPv4) classification (TOS/DSCP (IPv4) ).</li> <li>◆ 0x09: based on L4 source PORT classification (L4 SA PORT).</li> <li>◆ 0x0a: based on L4 destination PORT classification (L4 DA PORT).</li> <li>◆ 0x0b: based on classification of Time to Live (TTL).</li> <li>◆ 0x0c: based on the classification of physical destination ports (Phy Dest Port).</li> </ul>                                                                                          | Optional  |
| <value>      | <p>Stream type value.</p> <ul style="list-style-type: none"> <li>◆ 0x00: based on SA MAC classification (6 bytes).</li> <li>◆ 0x01: based on DA MAC classification (6 bytes).</li> <li>◆ 0x02: based on the source IP address classification (4 bytes).</li> <li>◆ 0x03: based on the destination IP address classification (4 bytes).</li> <li>◆ 0x0d: based on the SVLAN ID classification (2 bytes, 0 to 4085).</li> <li>◆ 0x0e: based on the SVLAN COS classification (1 byte, 0 to 7).</li> <li>◆ 0x0f: based on the CVLAN ID classification (2 bytes, 0 to 4085).</li> <li>◆ 0x10: based on the CVLAN COS classification (1 byte, 0 to 7).</li> <li>◆ 0x05: based on Ethernet type (2 bytes, 0 to 0xffff).</li> <li>◆ 0x06: based on IP protocol type (1 byte, 0 to 0xff).</li> <li>◆ 0x08: based on IP TOS/DSCP (IPv4) classification (1 byte, 0 to 0xff).</li> <li>◆ 0x09: based on L4 source PORT classification (2 bytes, 0 to 0xffff).</li> <li>◆ 0x0a: based on L4 destination PORT classification (2 bytes, 0 to 0xffff).</li> <li>◆ 0x0b: based on classification of Time to Live (1 byte, 1 to 254).</li> <li>◆ 0x0c: based on the classification of physical destination ports (1 byte, 1 to 128).</li> </ul> | Optional  |
| <operator>   | <p>The operator.<br/>0 indicates = .</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Optional  |

## Command Example

Set the traffic rate control number of PON port 1 on the card in Slot 12 to 1, the rate limit to 1000, the stream type to based on SA MAC classification, the stream type value to 111111111111, and the operator to 0.

```
Admin\device#set epon slot 12 pon 1 seqno 1 rate_limit 1000 0 111111111111 0
Admin\device#
```

## 5.41 Configuring Legal ONU MAC Address Switch

### Command Function

This command is used to configure legal ONU MAC address switch and prevent malicious users from attacking the network by forging MAC addresses.

MAC spoofing is a technique for changing a factory-assigned MAC address. The malicious users forge the MAC addresses of legal users and send messages to the equipment, so as to destroy the services of legal users; or send forged messages containing massive varied MAC addresses to the equipment, so as to damage the equipment or even cause network paralysis.

### Command Format

```
set epon slot <1-18> onu_tbl [enable|disable]
```

### Parameter Description

| Parameter                | Description                                                                                    | Attribute  |
|--------------------------|------------------------------------------------------------------------------------------------|------------|
| slot <1-18>              | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                     | Compulsory |
| onu_tbl [enable disable] | ONU MAC address switch.<br>◆ enable: Enable the function.<br>◆ disable: Disables the function. | Compulsory |

### Command Example

Enable the legal ONU MAC address switch of the card in slot 12.

```
Admin\device#set epon slot 12 onu_tbl enable
Admin\device#
```

## 5.42 Adding / Deleting Bandwidth Profile

### Command function

This command is used to add or delete a bandwidth profile. You need only to configure the bandwidth profile ID to delete the bandwidth profile.

### Command Format

```
[add|del] bandwidth prf <1-64> {name <prf_name> up <256-1000000> down <256-1000000>}*1 {up_min <0-1000000> down_min <0-1000000> up_fix <0-1000000>}*1
```

### Parameter Description

| Parameter           | Parameter Description                                                                                                                                                                                                                                                                                                                              | Parameter Property   |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [add del]           | Add or delete.<br><ul style="list-style-type: none"> <li>◆ add: add a bandwidth profile. The parameters below are compulsory when you are adding a bandwidth profile.</li> <li>◆ del: delete a bandwidth profile. Only the profile ID is compulsory and you need not to configure the other parameters when you are deleting a profile.</li> </ul> | Compulsory parameter |
| bandwidth prf       | The bandwidth profile                                                                                                                                                                                                                                                                                                                              | Compulsory parameter |
| <1-64>              | The bandwidth profile ID<br>The value ranges from 1 to 64. The profile ID 1 stands for the default profile.                                                                                                                                                                                                                                        | Compulsory parameter |
| name <prf_name>     | The profile name<br>The profile name is a character string not exceeding 20 bytes.                                                                                                                                                                                                                                                                 | Compulsory parameter |
| up <256-1000000>    | The maximum allowable uplink bandwidth<br>The parameter value ranges between 256 and 1000000, and the unit is Kbit/s.                                                                                                                                                                                                                              | Compulsory parameter |
| down < 256-1000000> | The maximum allowable downlink bandwidth<br>The parameter value ranges between 256 and 1000000, and the unit is Kbit/s.                                                                                                                                                                                                                            | Compulsory parameter |
| up_min <0-1000000>  | The minimum assured uplink bandwidth<br>The parameter value ranges between 0 and 1000000, and the unit is Kbit/s.                                                                                                                                                                                                                                  | Compulsory parameter |

| Parameter            | Parameter Description                                                                                               | Parameter Property   |
|----------------------|---------------------------------------------------------------------------------------------------------------------|----------------------|
| down_min <0-1000000> | The minimum assured downlink bandwidth<br>The parameter value ranges between 0 and 1000000, and the unit is Kbit/s. | Compulsory parameter |
| up_fix <0-1000000>   | The fixed uplink allocated bandwidth<br>The parameter value ranges between 0 and 1000000, and the unit is Kbit/s.   | Compulsory parameter |

### Command Example

Add a bandwidth profile, and set the profile ID to 10, the profile name to aaa, the maximum allowable uplink bandwidth to 1000000, the maximum allowable downlink bandwidth to 1000000, the minimum assured uplink bandwidth to 640, the minimum assured downlink bandwidth to 640, and the fixed allocated bandwidth to 0.

```
Admin\device#add bandwidth prf 10 name aaa up 1000000 down 1000000 up_min 640
down_min 640 up_fix 0
Admin\device#
```

## 5.43 Viewing Bandwidth Profile

### Command Function

This command is used to view a profile with designated ID or all bandwidth profiles that have been configured.

### Command Format

```
show bandwidth prf [all|<prf_index>]
```

### Parameter Description

| Parameter         | Parameter Description                                                                                 | Parameter Property   |
|-------------------|-------------------------------------------------------------------------------------------------------|----------------------|
| [all <prf_index>] | The bandwidth profile ID<br>◆ all: all bandwidth profiles<br>◆ <prf_index>: the designated profile ID | Compulsory parameter |

### Command Example

View all bandwidth profiles that have been configured.

```

Admin\device#show bandwidth prf all
.....print profile node.....
prf_index = 1 prf_name = default prf_flush = 0
up_max = 1000000 up_min = 640 down_max =1000000
down_min =640 up_fix = 0
ONU Banding Profile:slot = 12,ponno = 1, onuno = 1
ONU Banding Profile:slot = 14,ponno = 1, onuno = 1
.....print profile node.....
prf_index = 10 prf_name = aaa prf_flush = 0
up_max = 80000 up_min = 6000 down_max =300
down_min =300 up_fix = 0
Admin\device#

```

## Result description

| Parameter           | Parameter description                                                                                      |
|---------------------|------------------------------------------------------------------------------------------------------------|
| prf_index           | The bandwidth profile ID                                                                                   |
| prf_name            | The bandwidth profile name                                                                                 |
| prf_flush           | Whether the profile has been updated<br>◆ 1: updated<br>◆ 0: not updated                                   |
| up_max              | The maximum allowable uplink bandwidth                                                                     |
| up_min              | The minimum assured uplink bandwidth                                                                       |
| down_max            | The maximum allowable downlink bandwidth                                                                   |
| down_min            | The minimum assured downlink bandwidth                                                                     |
| up_fix              | The fixed allocated uplink bandwidth.                                                                      |
| ONU Banding Profile | The bound ONU The slot number, PON number and ONU authorization number for the ONU bound with the profile. |

## 5.44 Binding Bandwidth Profile to ONU

### Command Function

This command is used to bind a bandwidth profile to an ONU.

### Command Format

```

set onu <slotNo> <ponNo> <onuList> bind_profile <prf_index> {service_band
<0-256>}*1

```

## Parameter Description

| Parameter            | Parameter Description                                                                                                               | Parameter Property                                                                             |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <slotNo>             | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                          | Compulsory parameter                                                                           |
| <ponNo>              | The number of the PON port.<br>The number of the PON port under which the ONU is located. The value ranges from 1 to 8.             | Compulsory parameter                                                                           |
| <onuList>            | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                    | Compulsory parameter                                                                           |
| bind_profile         | Binding the bandwidth profile.                                                                                                      | Compulsory parameter                                                                           |
| <prf_index>          | The bandwidth profile ID.<br>The value ranges from 0 to 64. Unbinds the bandwidth profile when this parameter is set to 0.          | Compulsory parameter                                                                           |
| service_band <0-256> | The service bandwidth profile ID.<br>The value ranges from 0 to 256. Unbinds the bandwidth profile when this parameter is set to 0. | This parameter is not available for an EPON ONU.<br>This parameter is optional for a GPON ONU. |

## Command Example

Bind the bandwidth profile with the profile ID of 10 to the ONU with the authorization number of 1 under number 1 PON port in slot 14.

```
Admin\device#set onu 14 1 1 bind_profile 10
Admin\device#
```

## 5.45 Viewing Bandwidth Profile Bound to ONU

### Command Function

This command is used to view the bandwidth profile bound to the ONU.

### Command Format

```
show onu <slotNo> <ponNo> <onuNO> bandwidth
```

## Parameter Description

| Parameter | Parameter Description                                                                                                                 | Parameter Property   |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <slotNo>  | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                            | Compulsory parameter |
| <ponNo>   | The number of the PON port.<br>The number of the PON port where the ONU is located. The value ranges from 1 to 8.                     | Compulsory parameter |
| <onuNO>   | The ONU authorization number.<br>◆ The value ranges from 1 to 64 for an EPON ONU.<br>◆ The value ranges from 1 to 128 for a GPON ONU. | Compulsory parameter |
| bandwidth | The bandwidth profile.                                                                                                                | Compulsory parameter |

## Command Example

View the bandwidth profile bound to the ONU with the authorization number 1 under number 1 PON port in slot 14.

```
Admin\device#show onu 14 1 1 bandwidth
show profile context:prf_index = 10,prf_name = aaa,up_max= 1000000,
up_min = 640,down_max = 1000000,down_min = 640,up_fix = 0
Admin\device#
```

## Result Description

| Parameter | Parameter Description                     |
|-----------|-------------------------------------------|
| prf_index | The bandwidth profile ID.                 |
| prf_name  | The bandwidth profile name.               |
| up_max    | The maximum allowable uplink bandwidth.   |
| up_min    | The minimum assured uplink bandwidth.     |
| down_max  | The maximum allowable downlink bandwidth. |
| down_min  | The minimum assured downlink bandwidth.   |
| up_fix    | The fixed allocated uplink bandwidth.     |

## 5.46 Adding Threshold Profile

### Command Function

This command is used to add the threshold profile to a designated object.

### Command Format

```
add thresh profile <prf_id> <name> <layer> <objType> {<alarm_code>
<alarmTh_switch> <cAlarmReportprecision> <lAlarmReport>
<cAlarmClearingprecision> <lAlarmClearing>}*1
```

### Parameter Description

| Parameter          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Attribute            |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| add thresh profile | Add the threshold profile.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Compulsory parameter |
| <prf_id>           | The threshold profile ID<br>The value ranges from 1 to 64.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Compulsory parameter |
| <name>             | The name of the threshold profile<br>The profile name is a character string not exceeding 20 bytes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Compulsory parameter |
| <layer>            | The object layer <ul style="list-style-type: none"> <li>◆ When the object is a slot, the object layer is 1.</li> <li>◆ When the object is a port on the slot, the object layer is 2.</li> <li>◆ When the object is an ONU, the object layer is 3.</li> <li>◆ When the object is a port on the ONU, the object layer is 4.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Compulsory parameter |
| <objType>          | The object type <ul style="list-style-type: none"> <li>◆ When the object is an ONU, the object type is 0xffff.</li> <li>◆ When the object is a slot, the object type is the type code of the object slot. EC4B corresponds to 508, EC8B corresponds to 514, GC4B corresponds to 502, and GC8B corresponds to 527.</li> <li>◆ When the object is a slot port, a PON port on an EPON line card corresponds to 727, a PON port on a GPON line card corresponds to 734, an XFP (10GE optical interface) corresponds to 731, an SFP (GE optical interface) corresponds to 733, a GE interface corresponds to 732, and a 1G interface of the ONU corresponds to 808.</li> <li>◆ When the object is an ONU port, the PON port on a GPON ONU corresponds to 712, and the PON port on an EPON ONU corresponds to 263.</li> </ul> | Compulsory parameter |

| Parameter                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Attribute          |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| <alarm_code>              | <p>The alarm code</p> <ul style="list-style-type: none"> <li>◆ When the object is an ONU, the alarm codes are 1021 (internal temperature overhigh), 1022 (internal temperature overlow), 1037 (uplink BIP8 alarm threshold) and 1038 (downlink BIP8 alarm threshold).</li> <li>◆ When the object is a PON port on a GPON ONU or a PON port on an EPON ONU, the alarm codes are 997 (Rx optical power overhigh), 998 (Rx optical power overlow), 999 (Tx optical power overhigh), 1000 (Tx optical power overlow), 1001 (bias current overhigh), 1002 (bias current overlow), 1003 (bias voltage overhigh), 1004 (bias voltage overlow), 1023 (temperature overhigh), 1024 (temperature overlow), 1007 (early warning of Rx optical power overhigh), 1008 (early warning of Rx optical power overlow), 1009 (early warning of Tx optical power overhigh), 1010 (early warning of Tx optical power overlow), 1011 (early warning of bias current overhigh), 1012 (early warning of bias current overlow), 1013 (early warning of bias voltage overhigh), 1014 (early warning of bias voltage overlow), 1015 (early warning of optical module temperature overhigh), 1016 (early warning of optical module temperature overlow).</li> <li>◆ When the object is a PON port on an EPON line card or a PON port, XFP, SFP or GE interface on a GPON line card, the alarm codes are 1026 (uplink speed threshold-crossing alarm), 1027 (downlink speed threshold-crossing alarm), 1036 (early warning of uplink speed threshold-crossing) and 1029 (early warning of downlink speed threshold-crossing).</li> </ul> | Optional parameter |
| <alarmTh_switch>          | <p>The alarm reporting switch</p> <ul style="list-style-type: none"> <li>◆ 0: do not report the alarm.</li> <li>◆ 1: report the alarm.</li> </ul> <p>The default value is 0.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Optional parameter |
| <cAlarmReportprecision>   | <p>The precision of the alarm's trigger threshold.</p> <p>The value is currently kept to 2.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Optional parameter |
| <lAlarmReport>            | <p>The alarm's trigger threshold.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Optional parameter |
| <cAlarmClearingprecision> | <p>The precision of the alarm's clearance threshold.</p> <p>The value is currently kept to 2.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Optional parameter |
| <lAlarmClearing>          | <p>The alarm's clearance threshold.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Optional parameter |

## Command Example

Add a threshold profile, and set the profile ID to 8, the profile name to test, the object layer to 1, the object type to 527, the alarm code to 1021, the alarm reporting switch to 1, the precision of the alarm's trigger threshold to 2, the alarm's trigger threshold to -12800, the precision of the alarm's clearance threshold to 2, and the alarm's clearance threshold to -12800.

```
Admin\device#add thresh profile 8 test 1 527 1021 1 2 -12800 2 -12800
Admin\device#
```

## 5.47 Viewing the Threshold Profile

### Command Function

This command is used to view the threshold profile with the designated profile ID.

### Command Format

```
show thresh profile <pro_id>
```

### Parameter Description

| Parameter      | Description                                                 | Attribute  |
|----------------|-------------------------------------------------------------|------------|
| thresh profile | The threshold profile.                                      | Compulsory |
| <pro_id>       | The threshold profile ID.<br>The value ranges from 1 to 64. | Compulsory |

### Command Example

View the threshold profile with the ID 8.

```
Admin\device# show thresh profile 8

show thresh profile 8 context:
name = test objLayer = 1 objType = 527 alarmItem=1 user=0,used=1
AlarmCode = 1021 AlarmtThresholdSwitch = 1
```

```
AlarmReportprecision = 2 AlarmReport = -12800
cAlarmClearingprecision = 2 AlarmClearing = -12800
```

```
Admin\device#
```

## Result Description

| Parameter              | Description                                       |
|------------------------|---------------------------------------------------|
| name                   | The name of the threshold profile.                |
| objLayer               | The object layer.                                 |
| objType                | The object type.                                  |
| alarmItem              | The number of alarm items.                        |
| user                   | The number of the profile users.                  |
| used                   | Whether the profile has been added.               |
| AlarmCode              | The alarm code.                                   |
| AlarmThresholdSwitch   | The alarm reporting switch.                       |
| AlarmReportprecision   | The precision of the alarm's trigger threshold.   |
| AlarmReport            | The alarm's trigger threshold.                    |
| AlarmClearingprecision | The precision of the alarm's clearance threshold. |
| AlarmClearing          | The alarm's clearance threshold.                  |

## 5.48 Deleting Threshold Profile

### Command Function

This command is used to delete the threshold profile with designated profile ID.

### Command Format

```
delete thresh profile <pro_id>
```

### Parameter Description

| Parameter             | Parameter Description                                       | Parameter Property   |
|-----------------------|-------------------------------------------------------------|----------------------|
| delete thresh profile | The threshold profile.                                      | Compulsory parameter |
| <pro_id>              | The threshold profile ID.<br>The value ranges from 1 to 64. | Compulsory parameter |

## Command Example

Delete the threshold profile with ID 8.

```
Admin\device# delete thresh profile 8
```

```
Admin\device#
```

## 5.49 Creating Alarm Filtering Profile

### Command Function

This command is used to create the alarm filtering profile.

### Command Format

```
create alarmshield profile id <> name <> objtype <> propertynum <>
```

### Parameter Description

| Parameter      | Parameter Description                                                                              | Parameter Property   |
|----------------|----------------------------------------------------------------------------------------------------|----------------------|
| id <>          | The ID of the alarm filtering profile.<br>The value ranges from 1 to 256.                          | Compulsory parameter |
| name <>        | The name of the alarm filtering profile.<br>The name is a character string not exceeding 20 bytes. | Compulsory parameter |
| objtype <>     | The code of object type.                                                                           | Compulsory parameter |
| propertynum <> | The number of alarm codes for this object.                                                         | Compulsory parameter |

### Command Example

Create an alarm filtering profile as follows: Its ID is 1, name is aa, object type is the EC4B card, and number of alarm codes is 9.

```
Admin\device# create alarmshield profile id 1 name aa objtype 508 propertynum 9
```

```
Admin\device#
```

## 5.50 Setting Alarm Filtering Profile Property

### Command Function

This command is used to set the alarm filtering profile property. This property controls whether the alarms are reported.

### Command Format

```
set alarmshield profile id <> property {id <> switch <>} *8
```

### Parameter Description

| Parameter                        | Description                                                                                                                           | Attribute  |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|------------|
| id <>                            | The ID of the alarm filtering profile.<br>The value ranges from 1 to 256.                                                             | Compulsory |
| property {id <><br>switch <>} *8 | The alarm filtering property.<br>◆ id: alarm code.<br>◆ switch: whether to report alarms. 1: Does not report. 2: Reports immediately. | Compulsory |

### Command Example

In the alarm filtering profile whose ID is 1, set the alarm 1077 to not reporting.

```
Admin\device#set alarmshield profile id 1 property id 1077 switch 1
Admin\device#
```

## 5.51 Binding Alarm Filtering Profile

### Command Function

This command is used to bind a certain alarm filtering profile with the designated object.

### Command Format

```
bind alarmshield obj_type <> slot <> slot_port <> onu <> onu_port <>
profile_id <>
```

## Parameter Description

| Parameter     | Parameter Description                                                       | Parameter Property   |
|---------------|-----------------------------------------------------------------------------|----------------------|
| obj_type <>   | The object type.                                                            | Compulsory parameter |
| slot <>       | The slot number for the card.<br>The value ranges from 1 to 8 and 11 to 18. | Compulsory parameter |
| slot_port <>  | The number of the PON port.<br>The value ranges from 1 to 8.                | Compulsory parameter |
| onu <>        | The ONU authorization number.                                               | Compulsory parameter |
| onu_port <>   | The ONU port number.<br>The value ranges from 1 to 24.                      | Compulsory parameter |
| profile_id <> | The ID of the alarm filtering profile.<br>The value ranges from 1 to 256.   | Compulsory parameter |

## Command Example

Bind the alarm filtering profile whose ID is 1 with the EC4B card in slot 2.

```
Admin\device#bind alarmshield obj_type 508 slot 2 slot_port 0 onu 0 onu_port 0
profile_id 1
Admin\device#
```

## 5.52 Deleting Alarm Filtering Profile

### Command function

This command is used to delete the alarm filtering profile.

### Command format

```
delete alarmshield profile id <>
```

## Parameter Description

| Parameter | Parameter Description                                                     | Parameter Property   |
|-----------|---------------------------------------------------------------------------|----------------------|
| id <>     | The ID of the alarm filtering profile.<br>The value ranges from 1 to 256. | Compulsory parameter |

## Command Example

Delete the alarm filtering profile with the ID 1.

```
Admin\device#delete alarmshield profile id 1
```

```
Admin\device#
```

## 5.53 Setting Default Alarm Filtering Property

### Command Function

This command is used to set the default alarm filtering property. This property controls whether the local end / remote end alarms are reported.

### Command Format

```
set alarmshield default local <> remote <>
```

### Parameter Description

| Parameter | Description                                                                                                                   | Attribute  |
|-----------|-------------------------------------------------------------------------------------------------------------------------------|------------|
| local <>  | Default alarm filtering property at the local end.<br>◆ 1: Does not report the alarm.<br>◆ 2: Reports the alarm immediately.  | Compulsory |
| remote <> | Default alarm filtering property at the remote end.<br>◆ 1: Does not report the alarm.<br>◆ 2: Reports the alarm immediately. | Compulsory |

### Command example

Set the default alarm filtering property at the local end to not reporting, and the default alarm filtering property at the remote end to reporting immediately.

```
Admin\device#set alarmshield default local 1 remote 2
```

```
Admin\device#
```

## 5.54 Setting ONU Type Alarm Filtering Profiles

### Command Function

This command is used to set ONU type alarm filtering profiles.

## Command Format

```
set onu_type_alarm_shield_prf id <prf_id> onu_type <onu_type>
shield_property <shield_property>
```

## Parameter Description

| Parameter                         | Parameter Description                                                                       | Parameter Property   |
|-----------------------------------|---------------------------------------------------------------------------------------------|----------------------|
| id <prf_id>                       | The ID of the ONU type alarm filtering profile.<br>The value ranges from 1 to 256.          | Compulsory parameter |
| onu_type <onu_type>               | The ONU type code.                                                                          | Compulsory parameter |
| shield_property <shield_property> | The alarm filtering property.<br>◆ 1: Does not report the alarm.<br>◆ 2: Reports the alarm. | Compulsory parameter |

## Command Example

For an AN5006-04C ONU, set its alarm filtering profile ID to 1, and filtering property to reporting.

```
Admin\device#set onu_type_alarm_shield_prf id 1 onu_type 20 shield_property 2
set temp onu type alarm shield item ok!
Admin\device#
```

# 5.55 Applying ONU Type Alarm Filtering Profiles

## Command Function

This command is used to apply ONU type alarm filtering profiles.

## Command Format

```
apply onu_type_alarm_shield_prf
```

## Command Example

Apply the configured ONU type alarm filtering profiles.

```
Admin\device#apply onu_type_alarm_shield_prf
apply onu type alarm shield ok!
Admin\device#
```

## 5.56 Viewing ONU Type Alarm Filtering Profiles

### Command Function

This command is used to view ONU type alarm filtering profiles.

### Command Format

```
show onu_type_alarm_shield_prf id <prf_id>
```

### Parameter Description

| Parameter   | Parameter Description                                                              | Parameter Property   |
|-------------|------------------------------------------------------------------------------------|----------------------|
| id <prf_id> | The ID of the ONU type alarm filtering profile.<br>The value ranges from 1 to 256. | Compulsory parameter |

### Command Example

View the ONU type alarm filtering profile whose ID is 1.

```
Admin\device#show onu_type_alarm_shield_prf id 1
ID: 1, ONU TYPE: AN5006-04C, SHIELD PROPERTY: 2
Admin\device#
```

### Result Description

| Parameter       | Parameter Description                  |
|-----------------|----------------------------------------|
| ID              | The ID of the alarm filtering profile. |
| ONU TYPE        | The ONU type.                          |
| SHIELD PROPERTY | The alarm filtering property.          |

## 5.57 Clearing ONU Type Alarm Filtering Profiles

### Command Function

This command is used to clear ONU type alarm filtering profiles.

### Command Format

```
clear onu_type_alarm_shield_prf
```

## Command Example

Clear the configured ONU type alarm filtering profiles.

```
Admin\device#clear onu_type_alarm_shield_prf  
delete onu type alarm shield ok!  
Admin\device#
```



# 6 FDB Directory Command

---

The following introduces the functions, formats, parameters, and examples of various commands under the FDB directory.

- Configuring the MAC Address Aging Time
- Viewing the MAC Address Aging Time
- Showing the OLT MAC Address Table

## 6.1 Configuring the MAC Address Aging Time

### Command Function

This command is used to configure the system MAC address table aging time. The time begins when a MAC address is added to the address table. If the ports fail to receive the frames whose source address is the MAC address in the aging time, the MAC address will be deleted from the dynamic MAC address table.

### Command Format

```
set fdb agingtime <0-300>
```

### Parameter Description

| Parameter         | Parameter Description                                                                                                                   | Parameter Property   |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| agingtime <0-300> | The aging time.<br>The value ranges from 0 to 300; the unit is second. When you set the value to 0, the MAC address will never be aged. | Compulsory parameter |

### Command Example

Set the MAC address aging time to 60 seconds.

```
Admin\ fdb#set fdb agingtime 60  
Admin\ fdb#
```

## 6.2 Viewing the MAC Address Aging Time

### Command Function

This command is used to view the MAC address aging time.

### Command Format

```
show fdb agingtime
```

### Command Example

View the MAC address aging time.

```
Admin\ fdb#show fdb agingtime
```

```
MAC address agetime: 60 seconds.
Admin\fdb#
```

## Result Description

| Parameter           | Parameter Description       |
|---------------------|-----------------------------|
| MAC address agetime | The MAC address aging time. |

## 6.3 Showing the OLT MAC Address Table

### Command function

This command is used to show the OLT MAC address table, that is, to show the MAC address learnt from a card or an uplink port and the VLAN which the MAC address belongs to. Up to 65535 MAC addresses can be displayed.

### Command format

```
show fdb slot <slotno>
```

### Parameter description

| Parameter     | Parameter description               | Parameter Property   |
|---------------|-------------------------------------|----------------------|
| slot <slotno> | The slot number for the uplink card | Compulsory parameter |

### Command example

Show the MAC address table of Slot 20.

```
Admin\fdb#show fdb slot 20
slot:                20
port: 4      Mac: 00:00:ec:8b:20:10      Vid: 4000
port: 4      Mac: 00:01:01:0a:0a:0a      Vid: 4000
port: 4      Mac: 00:01:02:03:04:05      Vid: 4000
port: 4      Mac: 00:02:03:44:f5:23      Vid: 4000
port: 4      Mac: 00:02:55:ff:33:66      Vid: 4000
port: 4      Mac: 00:03:ff:27:3c:cf      Vid: 4000
port: 4      Mac: 00:03:ff:4d:da:11      Vid: 4000
port: 4      Mac: 00:04:67:30:97:02      Vid: 4000
port: 4      Mac: 00:0a:c2:20:44:00      Vid: 4000
port: 4      Mac: 00:0a:c2:20:cc:d5      Vid: 4000
port: 4      Mac: 00:0a:c2:21:2f:c4      Vid: 4000
```

```
port: 4 Mac: 00:0a:c2:21:74:f7 Vid: 4000
port: 4 Mac: 00:0a:c3:20:cc:d4 Vid: 4000
port: 4 Mac: 00:1f:c6:99:83:30 Vid: 4088
port: 4 Mac: 00:1f:c6:99:83:da Vid: 4088
port: 4 Mac: 00:1f:c6:99:a1:be Vid: 4088
port: 4 Mac: 00:1f:d0:48:d9:ce Vid: 4088
port: 4 Mac: 00:1f:d0:4d:ac:e8 Vid: 4088
port: 4 Mac: 00:1f:e2:1a:a6:a8 Vid: 4088
port: 4 Mac: 00:21:70:a7:ba:e8 Vid: 4088
port: 4 Mac: 00:21:86:ed:2c:39 Vid: 4088
port: 4 Mac: 00:21:86:ed:be:51 Vid: 4088
port: 4 Mac: 00:21:86:ed:bf:39 Vid: 4088
port: 4 Mac: 00:21:86:ed:c9:3c Vid: 4088
port: 4 Mac: 00:21:86:ed:c9:a1 Vid: 4088
port: 4 Mac: 00:21:86:ee:02:0d Vid: 4088
port: 4 Mac: 00:21:86:f8:fa:10 Vid: 4088
port: 4 Mac: 00:21:9b:2f:d4:f1 Vid: 4088
port: 4 Mac: 00:22:90:8b:e7:80 Vid: 4088
port: 4 Mac: 00:24:7e:04:21:4e Vid: 4088
port: 4 Mac: 00:24:7e:04:21:7b Vid: 4088
port: 4 Mac: 00:24:7e:04:21:c9 Vid: 4088
port: 4 Mac: 00:24:7e:04:21:cb Vid: 4088
port: 4 Mac: 00:24:7e:05:d7:29 Vid: 4088
port: 4 Mac: 00:24:7e:05:d7:3d Vid: 4088
port: 4 Mac: 08:00:3e:33:02:01 Vid: 4088
port: 4 Mac: 08:1f:f3:77:35:01 Vid: 4088
port: 4 Mac: 12:34:56:78:91:23 Vid: 4088
port: 4 Mac: 3a:45:b6:c2:90:e3 Vid: 4088
port: 4 Mac: 44:37:e6:4d:5c:b4 Vid: 4088
port: 4 Mac: 44:37:e6:4d:c5:29 Vid: 4088
port: 4 Mac: 44:37:e6:4d:c5:47 Vid: 4088
port: 4 Mac: 6c:f0:49:25:3c:cf Vid: 4088
port: 4 Mac: 6c:f0:49:25:42:31 Vid: 4088
port: 4 Mac: 6c:f0:49:28:7d:6f Vid: 4088
port: 4 Mac: 70:f3:95:14:3d:e8 Vid: 4088
port: 4 Mac: 70:f3:95:14:df:e0 Vid: 4088
port: 4 Mac: a4:ba:db:22:36:0a Vid: 4088
port: 4 Mac: c8:0a:a9:8b:8e:4c Vid: 4088
port: 4 Mac: 00:60:f3:21:0f:3e Vid: 4088
port: 4 Mac: 00:1f:c6:99:7f:0c Vid: 4088
mac address num: 120
Admin\fdb#
```

## Result description

| Parameter       | Parameter description       |
|-----------------|-----------------------------|
| slot            | Slot number                 |
| port            | The port number             |
| Mac             | MAC address                 |
| Vid             | VLAN ID.                    |
| mac address num | The number of MAC addresses |



# 7 EPONONU Directory Command

---

The following introduces the functions, formats, parameters, and examples of various commands under the EPONONU directory.

- Configuring User Defined Alarms for ONU
- Viewing ONU User Defined Alarms
- Viewing the Information on ONU Optical Module Parameters
- Viewing Limit on MAC Address Number on ONU Port
- Viewing Aging time of EPON ONU
- Resetting ONU
- Configuring the Aging Time of the ONU
- Configuring Limit on MAC Address Number on ONU Port
- Configuring ONU Bandwidth
- Authorizing ONU
- Deauthorizing ONU
- Viewing Information on ONU Authorization
- Querying ONU Authorization Information According to MAC Address

## 7.1 Configuring User Defined Alarms for ONU

### Command Function

This command is used to enable the access to the ONU low level alarm. Once detecting a low level, each access point will generate a low level alarm and report it to the network management system.

### Command Format

```
set epon slot <1-18> pon <1-8> onu <1-128> user_defined_alarm {interface_num
<1-5> alarm_condition <0-1> }*5
```

### Parameter Description

| Parameter             | Parameter Description                                                                                                                                                                                           | Parameter Property   |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <1-18>           | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                      | Compulsory parameter |
| pon <1-8>             | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                    | Compulsory parameter |
| onu <1-128>           | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                | Compulsory parameter |
| interface_num <1-5>   | The sequence number of the user defined alarm interfaces.<br>◆ An FTTH ONU can enable two alarm interfaces at most.<br>◆ An FTTB ONU can enable five alarm interfaces at most.<br>The value ranges from 1 to 5. | Compulsory parameter |
| alarm_condition <0-1> | Conditions for reporting the alarm.<br>◆ 0: low level<br>◆ 1: high level                                                                                                                                        | Compulsory parameter |

### Command Example

Configure user defined alarms for the ONU with the authorization number of 1 under number 1 PON port in slot 12. The sequence number of the user defined alarm interface is 4, and the alarm is triggered by the low level.

```
Admin\#epononu#set epon slot 12 pon 1 onu 1 user_defined_alarm interface_num 4
alarm_condition 0
Admin\#epononu#
```

## 7.2 Viewing ONU User Defined Alarms

### Command Function

This command is used to view the ONU user defined alarms.

### Command Format

```
show epon slot <1-18> pon <1-8> onu <1-128> user_defined_alarm
```

### Parameter Description

| Parameter   | Parameter Description                                            | Parameter Property   |
|-------------|------------------------------------------------------------------|----------------------|
| slot <1-18> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| pon <1-8>   | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128> | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

### Command example

View the user defined alarms of the ONU with the authorization number of 1 under number 1 PON port in slot 12.

```
Admin\epononu# show epon slot 12 pon 1 onu 1 user_defined_alarm
onu user defined alarm config : interface_num : 4 alarm_condition : 0
Admin\epononu#
```

### Result Description

| Parameter       | Parameter Description                                     |
|-----------------|-----------------------------------------------------------|
| interface_num   | The sequence number of the user defined alarm interfaces. |
| alarm_condition | Conditions for reporting the alarm.                       |

## 7.3 Viewing the Information on ONU Optical Module Parameters

### Command Function

This command is used to view the parameter information of the optical module on an ONU.

The precondition is that the optical module of the ONU supports the query of optical power.

### Command Format

```
show epon slot <1-18> pon <1-8> onu <1-128> optInfo
```

### Parameter Description

| Parameter   | Parameter Description                                            | Parameter Property   |
|-------------|------------------------------------------------------------------|----------------------|
| slot <1-18> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| pon <1-8>   | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128> | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

### Command Example

View the information on the optical module parameters of the ONU with the authorization number 5 under number 1 PON port in slot 1.

```
Admin\epononu#show epon slot 1 pon 1 onu 5 optinfo
onu type : 20
onu temp : 5485:2
onu voltage : 327:2
onu current : 142:1
onu tx power : 139:2
onu rx power : -1370:2
Admin\epononu#
```

## Result Description

| Parameter    | Parameter Description              |
|--------------|------------------------------------|
| onu type     | Optical module type.               |
| onu temp     | Temperature of the optical module. |
| onu voltage  | Voltage of the optical module.     |
| onu current  | Bias current.                      |
| onu tx power | The Tx optical power.              |
| onu rx power | The Rx optical power.              |

## 7.4 Viewing Limit on MAC Address Number on ONU Port

### Command Function

This command is used to view the limit on the MAC address number on an ONU port.

### Command Format

```
show epon slot <1-18> pon <1-8> onu <1-128> port <portno> mac_limit
```

### Parameter Description

| Parameter     | Description                                                                                                                | Attribute            |
|---------------|----------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <1-18>   | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                 | Compulsory           |
| pon <1-8>     | The number of the PON port.<br>The number of the PON port under which the ONU is located.<br>The value ranges from 1 to 8. | Compulsory           |
| onu <1-128>   | The ONU authorization number.<br>The value ranges from 1 to 128.                                                           | Compulsory           |
| port <portno> | The number of the PON port of the ONU.<br>The value ranges from 1 to 24.                                                   | Compulsory parameter |

### Command Example

View the limit on the number of MAC addresses on number 1 port of the ONU with the authorization number of 1 under number1 PON port in slot 12.

```
Admin\epononu#show epon slot 12 pon 1 onu 1 port 1 mac_limit
```

```
the slot :12 onu :1 port :1 disable mac_limit_value:64
Admin\epononu#
```

### Result Description

| Parameter       | Description                               |
|-----------------|-------------------------------------------|
| slot            | Slot number.                              |
| onu             | The ONU authorization number.             |
| port            | The ONU port number.                      |
| mac_limit_value | The limit on the number of MAC addresses. |

## 7.5 Viewing Aging time of EPON ONU

### Command Function

This command is used to view the aging time of an EPON ONU.

### Command Format

```
show onu agetime
```

### Command Example

Show the aging time of an ONU.

```
Admin\epononu#show onu agetime
the onu agtime: 600
Admin\epononu#
```

### Result Description

| Parameter      | Parameter Description      |
|----------------|----------------------------|
| the onu agtime | The aging time of the ONU. |

## 7.6 Resetting ONU

### Command Function

This command is used to reset a designated ONU.

## Command Format

```
reset slot <1-18> pon <1-8> onu <1-64>
```

## Parameter Description

| Parameter   | Description                                                                                                                | Attribute            |
|-------------|----------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <1-18> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                 | Compulsory parameter |
| pon <1-8>   | The number of the PON port.<br>The number of the PON port under which the ONU is located.<br>The value ranges from 1 to 8. | Compulsory           |
| onu <1-64>  | The ONU authorization number.<br>The value ranges from 1 to 64.                                                            | Compulsory           |

## Command Example

Reset the ONU with the authorization number of 1 at PON port 1 in slot 12.

```
Admin\epononu# reset slot 12 pon 1 onu 1
```

```
Admin\epononu#
```

# 7.7 Configuring the Aging Time of the ONU

## Command Function

This command is used to configure the aging time for the ONU (the ONU should be replaced when the aging time expires). For an unauthorized ONU, setting the aging time for the EPON ONU will prevent the ONU from being authorized automatically in the specified aging time.

## Command Format

```
set onu agetime <300-2147483647>
```

## Parameter Description

| Parameter                | Description                                                                                                                 | Attribute  |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------|
| agetime <300-2147483647> | The aging time of the ONU<br>The value ranges between 300 and 2147483647; the unit is second; and the default value is 600. | Compulsory |

## Command Example

Set the aging time of the ONU to 600.

```
Admin\epononu#set onu agetime 600
Admin\epononu#
```

# 7.8 Configuring Limit on MAC Address Number on ONU Port

## Command Function

This command is used to limit the number of MAC addresses on an ONU port. Only a specified number of MAC addresses under each port are allowed to be on line. Restrict the number of computers that use the port at the same time, so as to control the network traffic and avoid congestion.

## Command Format

```
set epon slot <1-18> pon <1-8> onu <1-128> port <portno> [enable|disable]
mac_num_limit <0-8191>
```

## Parameter Description

| Parameter   | Parameter Description                                                                                                      | Parameter Property   |
|-------------|----------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <1-18> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                 | Compulsory parameter |
| pon <1-8>   | The number of the PON port.<br>The number of the PON port under which the ONU is located.<br>The value ranges from 1 to 8. | Compulsory parameter |
| onu <1-128> | The ONU authorization number.<br>The value ranges from 1 to 128.                                                           | Compulsory parameter |

| Parameter             | Parameter Description                                                                                                                                                                                                                                                                                                          | Parameter Property   |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| port <portno>         | The number of the ONU port.<br>The value ranges from 1 to 24.                                                                                                                                                                                                                                                                  | Compulsory parameter |
| [enable disable]      | The MAC address number limit switch.<br>◆ enable: Enabling.<br>◆ disable: Disabling.                                                                                                                                                                                                                                           | Compulsory parameter |
| mac_num_limit<0-8191> | Limit on the number of MAC addresses, i.e., the maximum number of MAC addresses allowed for each port. The maximum allowable number of MAC addresses under a PON interface refers to the maximum number of MAC addresses allowed to be on line on the entire ONU.<br>The value ranges from 0 to 8191. The default value is 64. | Compulsory parameter |

## Command Example

Disable the limit on the number of MAC addresses for port 1 on the ONU with the authorization number of 1 at number 1 PON port in Slot 12. The number of MAC addresses is limited at 64.

```
Admin\epononu#set epon slot 12 pon 1 onu 1 port 1 disable mac_num_limit 64
Admin\epononu#
```

## 7.9 Configuring ONU Bandwidth

### Command Function

This command is used to configure the ONU bandwidth, including the uplink and downlink bandwidth, assured uplink bandwidth and fixed uplink bandwidth.

### Command format

```
set epon slot <slotlist> pon <ponlist> onu <onulist> bandwidth upstream_band
<256-1000000> downstream_band <downband> {upstream_assuredbandwidth
<upstreamassuredbandwidth> upstream_fixedbandwidth
<upstreamfixedbandwidth>}*1
```

## Parameter Description

| Parameter                  | Parameter Description                                                                                                                                                                                                                                    | Parameter Property   |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <slotlist>            | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                               | Compulsory parameter |
| pon <ponlist>              | The number of the PON port.<br>The number of the PON port under which the ONU is located. The value ranges from 1 to 8.                                                                                                                                  | Compulsory parameter |
| onu <onulist>              | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                         | Compulsory parameter |
| upstream_band<256-1000000> | The uplink bandwidth.<br>The parameter value ranges between 256 and 1 000 000, and the unit is kbit/s.                                                                                                                                                   | Compulsory parameter |
| downstream_band<downband>  | The downlink bandwidth.<br>◆ The parameter value ranges between 256 and 1 000 000 for the 5200 series ONUs; the unit is kbit/s.<br>◆ The parameter value ranges between 256 and 10 000 000 for the ONUs other than 5200 series ones; the unit is kbit/s. | Compulsory parameter |
| <upstreamassuredbandwidth> | The assured uplink bandwidth.<br>The parameter value ranges between 0 and 1 000 000, and the unit is kbit/s.                                                                                                                                             | Optional parameter   |
| <upstreamfixedbandwidth>   | The fixed uplink bandwidth.<br>The parameter value ranges between 0 and 1 000 000, and the unit is kbit/s.                                                                                                                                               | Optional parameter   |

## Command Example

Configure the ONU with the authorization number of 1 under number 1 PON port in Slot 12, setting the uplink bandwidth to 5000, the downlink bandwidth to 5000, the assured uplink bandwidth to 1000, and the fixed uplink bandwidth to 1000.

```
Admin\#epononu#set epon slot 12 pon 1 onu 1 bandwidth upstream_band 5000
downstream_band 5000 upstream_assuredbandwidth 1000 upstream_fixedbandwidth 1000
Admin\#epononu#
```

## 7.10 Authorizing ONU

### Command function

This command is used to authorize EPON ONUs. The parameters concerned include ONU type, MAC address, and authorization number.

### Command format

```
set epon slot <1-18> type [5006_02|5006_02A|5006_02C|5006_03|5006_03C|
5006_04|5006_04C|5006_05|5006_05A|5006_05C|5006_06A|5006_06B|5006_06C|
5006_06D|5006_07A|5006_07B|5006_08A|5006_08B|other1|other2|other3|
other4|other_ctc|5006_09A|5006_09B|5006_10|5006_10B|5006_12|5006_15|
5006_16|5006_07C|5006_06A_A|5006_20|unknow|HG220|5006_04P1|5006_04P2|
5006_01_A|5006_11|5006_01_B|5200_04A|5200_10A|5200_10B|HG226|5006_03AK|
5006_09AK ] mac <mac_address> pon <1-8> sequence <1-128> {<logsn_num>
[<sn_password>|null]}*1
```

### Parameter description

| Parameter            | Parameter description                                                                                                                                      | Parameter Property   |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <1-18>          | Slot number<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                  | Compulsory parameter |
| type[.....]          | ONU type The ONUs made by EPON / OEM manufacturers.<br>Select NULL for an unspecified ONU type.                                                            | Compulsory parameter |
| mac <mac_address>    | MAC address<br>The address is a 12-byte string, such as 123456789012.                                                                                      | Compulsory parameter |
| pon <1-8>            | The number of the PON interface<br>The number of the PON interface where the ONU is located. The value ranges from 1 to 8.                                 | Compulsory parameter |
| sequence <1-128>     | The ONU authorization number<br>The value ranges from 1 to 128.                                                                                            | Compulsory parameter |
| <logsn_num>          | The logical SN of the ONU.<br>The value is a character string with 1 to 24 characters, such as 12345.                                                      | Optional parameter   |
| [<sn_password> null] | The logical password of the ONU.<br>The value is a character string with 1 to 12 bytes, such as 12345.<br>Select NULL for an unspecified logical password. | Optional parameter   |

## Command example

Set the ONU type in Slot 12 to 5006\_4c, the MAC address to 544b00002222, the authorization number to 18, the logical SN to 12345, and the logical password to 54321.

```
Admin\epononu#set epon slot 12 type 5006_04c mac 544b00002222 pon 1 sequence 18
12345 54321
```

```
Admin\epononu#
```

## 7.11 Deauthorizing ONU

### Command Function

This command is used to deauthorize an authorized EPON ONU.

### Command Format

```
set epon slot <1-18> pon <1-8> sequence <onulist> unauthorized
```

### Description

| Parameter          | Description                                                                                                                                                                                                                                                                                                                                                                  | Attribute  |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| slot <1-18>        | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                                                                                                   | Compulsory |
| pon <1-8>          | The number of the PON port.<br>The number of the PON port where the ONU is located. The value ranges from 1 to 8.                                                                                                                                                                                                                                                            | Compulsory |
| sequence <onulist> | The ONU authorization number.<br>The sequence number of the ONU in the PON port. The value ranges from 1 to 128.<br>Multiple ONUs can be selected. <ul style="list-style-type: none"> <li>◆ 1-10 stands for the ten ONUs with the sequence numbers from 1 to 10.</li> <li>◆ 11, 13, 15 stands for the three ONUs with the authorization numbers of 11, 13 and 15.</li> </ul> | Compulsory |

### Command Example

Deauthorize the ONUs with the authorization numbers of 1 to 3 at number 1 PON port in slot 1.

```
Admin\epononu#set epon slot 1 pon 1 sequence 1-3 unauthorized
Admin\epononu#
```

## 7.12 Viewing Information on ONU Authorization

### Command Function

This command is used to view the information on the authorization of a designated EPON ONU.

### Command Format

```
show epon slot <1-18> pon <1-8> onu <onulist> information
```

### Description

| Parameter     | Description                                                                                                                                                                                                                                                                                                                                                                  | Attribute  |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| slot <1-18>   | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                                                                                                   | Compulsory |
| pon <1-8>     | The number of the PON port.<br>The number of the PON port where the ONU is located. The value ranges from 1 to 8.                                                                                                                                                                                                                                                            | Compulsory |
| onu <onulist> | The ONU authorization number.<br>The sequence number of the ONU in the PON port. The value ranges from 1 to 128.<br>Multiple ONUs can be selected. <ul style="list-style-type: none"> <li>◆ 1-10 stands for the ten ONUs with the sequence numbers from 1 to 10.</li> <li>◆ 11, 13, 15 stands for the three ONUs with the authorization numbers of 11, 13 and 15.</li> </ul> | Compulsory |

### Command Example

View the information on the authorization of the ONU with the authorization number 18 under number 1 PON port in slot 12.

```
Admin\epononu#show epon slot 12 pon 1 onu 18 information
onu sequence:18
onu_type:AN5006_04C
onu_mac:54:4b:00:00:22:22
logsn_id:12345
logsn_password:54321
```

```
onu status:2
Admin\epononu#
```

## Result Description

| Parameter      | Description                      |
|----------------|----------------------------------|
| onu sequence   | The ONU authorization number.    |
| onu_type       | ONU type.                        |
| onu_mac        | MAC address.                     |
| logsn_id       | The logical SN of the ONU.       |
| logsn_password | The logical password of the ONU. |
| onu status     | The ONU authorization status.    |

## 7.13 Querying ONU Authorization Information According to MAC Address

### Command Function

This command is used to query the ONU authorization information according to the MAC address.

### Command Format

```
show epon onu mac <macnum> information
```

### Parameter Description

| Parameter    | Parameter Description                                                  | Parameter Property   |
|--------------|------------------------------------------------------------------------|----------------------|
| mac <macnum> | MAC address.<br>The address is a 12-byte string, such as 123456789012. | Compulsory parameter |

### Command Example

Query the authorization information of the ONU with the MAC address of 544b00002222.

```
Admin\epononu#show epon onu mac 544b00002222 information
onu slot:12
onu ponno:1
```

```
onu num:18
onu_type:AN5006_04C
onu_mac:54:4b:00:00:22:22
Admin\epononu#
```

## Result Description

| Parameter | Parameter Description         |
|-----------|-------------------------------|
| onu slot  | The slot number.              |
| onu ponno | The number of the PON port.   |
| onu num   | The ONU authorization number. |
| onu_type  | The ONU type.                 |
| onu_mac   | The MAC address.              |



# 8 Data Directory Command under EPONONU

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The following introduces the functions, formats, parameters, and examples of various Data directory commands under EPONONU.

- Viewing Port QoS Rule
- Viewing Port ACL Rule
- Deleting Port ACL Rule
- Deleting Port QoS Rule
- Configuring ONU Ethernet Switch Queue Scheduling Algorithm
- Configuring Port ACL Rule
- Configuring the Port QoS Rule

## 8.1 Viewing Port QoS Rule

### Command Function

This command is used to view the QoS rule for an ONU port.

### Command Format

```
show epon slot <1-18> pon <1-8> onu <onulist> port <portno> qos_rule
```

### Parameter Description

| Parameter     | Parameter Description                                                                           | Parameter Property   |
|---------------|-------------------------------------------------------------------------------------------------|----------------------|
| slot <1-18>   | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                      | Compulsory parameter |
| pon <1-8>     | The number of the PON port.<br>The value ranges from 1 to 8.                                    | Compulsory parameter |
| onu <onulist> | The ONU authorization number.<br>The value ranges from 1 to 128. You can enter 1-10 or 1, 2, 3. | Compulsory parameter |
| port <portno> | The ONU port number.<br>The value ranges from 1 to 24.                                          | Compulsory parameter |

### Command Example

View the QoS rule for port 1 of the ONU with the authorization number 6 under number 1 PON port in slot 12.

```
Admin\epnononu\data# show epon slot 12 pon 1 onu 6 port 1 qos_rule
```

```
show QoS rule information :
slotno : 10  ponno : 1  onuno : 6  portno : 1
rule index : 1
rule precedence: 10
queuemapped: 2  priority: 5
Rule filed : source mac address
Rule value : 98:73:21:15:97:53
operator   : no equal
```

Admin\epononu\data#

## Result Description

| Parameter       | Parameter Description         |
|-----------------|-------------------------------|
| slotno          | Slot number.                  |
| ponno           | The number of the PON port.   |
| onuno           | The ONU authorization number. |
| portno          | The ONU port number.          |
| rule index      | The rule index.               |
| rule precedence | The rule priority.            |
| queuemapped     | The queue mapped.             |
| priority        | The priority label.           |
| Rule filed      | The rule type.                |
| Rule value      | The rule domain value.        |
| operator        | The operator.                 |

## 8.2 Viewing Port ACL Rule

### Command Function

This command is used to view the ACL rule for an ONU port.

### Command Format

```
show epon slot <1-18> pon <1-8> onu <onulist> port <portno> acl_rule
```

### Parameter Description

| Parameter     | Parameter Description                                                                           | Parameter Property   |
|---------------|-------------------------------------------------------------------------------------------------|----------------------|
| slot <1-18>   | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                      | Compulsory parameter |
| pon <1-8>     | The number of the PON port.<br>The value ranges from 1 to 8.                                    | Compulsory parameter |
| onu <onulist> | The ONU authorization number.<br>The value ranges from 1 to 128. You can enter 1-10 or 1, 2, 3. | Compulsory parameter |
| port <portno> | The ONU port number.<br>The value ranges from 1 to 24.                                          | Compulsory parameter |

## Command Example

View the ACL rule for port 1 of the ONU with the authorization number 6 at number 1 PON port in slot 12.

```
Admin\epononu\data# show epon slot 12 pon 1 onu 6 port 1 acl_rule
```

```
show ACL rule information :  
slotno      :12  ponno: 1  onuno      :6   portno      :1  
  
rule index   :1  
action       : forward  
Rule filed   : source mac address  
Rule value   : 45:69:87:25:86:54  
operator     : equal
```

```
Admin\epononu\data#
```

## Result Description

| Parameter  | Parameter Description         |
|------------|-------------------------------|
| slotno     | Slot number.                  |
| ponno      | The number of the PON port.   |
| onuno      | The ONU authorization number. |
| portno     | The ONU port number.          |
| rule index | The rule index.               |
| action     | The rule action.              |
| Rule filed | The rule type.                |
| Rule value | The rule domain value.        |
| operator   | The operator.                 |

## 8.3 Deleting Port ACL Rule

### Command Function

This command is used to delete the ACL rule for a port.

## Command Format

```
delete epon slot <1-18> pon <1-8> onu <onulist> acl_rule
```

## Parameter Description

| Parameter     | Parameter Description                                                                           | Parameter Property   |
|---------------|-------------------------------------------------------------------------------------------------|----------------------|
| slot <1-18>   | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                      | Compulsory parameter |
| pon <1-8>     | The number of the PON port.<br>The value ranges from 1 to 8.                                    | Compulsory parameter |
| onu <onulist> | The ONU authorization number.<br>The value ranges from 1 to 128. You can enter 1-10 or 1, 2, 3. | Compulsory parameter |

## Command Example

Delete the ACL rule for the ONUs with the authorization number of 5 and 6 at number 1 PON port in slot 12.

```
Admin\epononu\data#delete epon slot 12 pon 1 onu 5,6 acl_rule
Admin\epononu\data#
```

# 8.4 Deleting Port QoS Rule

## Command Function

This command is used to delete the QoS rule for a port.

## Command Format

```
delete epon slot <1-18> pon <1-8> onu <onulist> qos_rule
```

## Parameter Description

| Parameter     | Parameter Description                                                                           | Parameter Property   |
|---------------|-------------------------------------------------------------------------------------------------|----------------------|
| slot <1-18>   | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                      | Compulsory parameter |
| pon <1-8>     | The number of the PON port.<br>The value ranges from 1 to 8.                                    | Compulsory parameter |
| onu <onulist> | The ONU authorization number.<br>The value ranges from 1 to 128. You can enter 1-10 or 1, 2, 3. | Compulsory parameter |

## Command Example

Delete the QoS rule for the ONU with the authorization number of 6 under PON port 1 in slot 12.

```
Admin\epononu\data# delete epon slot 12 pon 1 onu 6 qos_rule
```

```
Admin\epononu\data#
```

## 8.5 Configuring ONU Ethernet Switch Queue Scheduling Algorithm

### Command Function

This command is used to configure the Ethernet switch queue scheduling algorithm for an ONU. You can configure the scheduling algorithms and the corresponding weights used for each queue priority level of the ONU.

The command is supported by the AN5006-07B.

### Command Format

```
set epon slot <1-18> pon <1-8> onu <1-128> queue_schedule mode[strict|weight|hybrid] {arithmetic [weight|strict] <weight_value>}*8
```

## Parameter Description

| Parameter                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Attribute  |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| slot <1-18>                   | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Compulsory |
| pon <1-8>                     | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Compulsory |
| onu <1-128>                   | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Compulsory |
| [strict weight <br>hybrid]    | The algorithm mode, i.e., the mode used by the scheduling algorithm. <ul style="list-style-type: none"> <li>◆ strict: strict priority. In this mode, the service with a higher priority is always processed prior to the service with a lower priority.</li> <li>◆ weight: the weighted priority, i.e. a weighted round robin scheduling mechanism. In this mode, the service with a higher priority is processed first. However, the services with lower priorities are not completely blocked, but are processed as per a weighted proportion at the same time.</li> <li>◆ hybrid: hybrid priority, i.e., an algorithm combining the strict priority and weighted priority.</li> </ul> | Compulsory |
| arithmetic<br>[weight strict] | The queue scheduling algorithm. <ul style="list-style-type: none"> <li>◆ weight: the weighted priority algorithm</li> <li>◆ strict: the strict priority algorithm</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Optional   |
| <weight_value>                | The weight value for the priority of each queue. The bigger is the value, the bigger is the weight.<br>The value ranges from 1 to 55.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Optional   |

## Command Example

Set the Ethernet switch queue scheduling algorithm for the ONU with the authorization number of 6 at number 1 PON port in Slot 12 to strict priority algorithm, and set the scheduling algorithm to weighted priority algorithm, with the weight value of 20.

```
Admin\epononu\data#set epon slot 12 pon 1 onu 6 queue_schedule mode strict arithmetic weight 20
Admin\epononu\data#
```

## 8.6 Configuring Port ACL Rule

### Command Function

This command is used to configure the ACL rule (the access control rule) for the ONU LAN port. The LAN port will control the data flow according to the defined rule.

Both the AN5006-04 and the AN5006-07B support the command.

### Command Format

```
set epon slot <1-18> pon <1-8> onu <onulist> port <portno> acl_rule_index <1-8> action [deny|forward] {<rulefield> <rulevalue><operator>} *8
```

### Parameter description

| Parameter            | Parameter description                                                                          | Parameter Property   |
|----------------------|------------------------------------------------------------------------------------------------|----------------------|
| slot <1-18>          | Slot number<br>The value ranges from 1 to 8 and 11 to 18.                                      | Compulsory parameter |
| pon <1-8>            | The number of the PON port.<br>The value ranges from 1 to 8.                                   | Compulsory parameter |
| onu <onulist>        | The ONU authorization number<br>The value ranges from 1 to 128. You can enter 1-10 or 1, 2, 3. | Compulsory parameter |
| port <portno>        | The ONU port number<br>The value ranges from 1 to 24.                                          | Compulsory parameter |
| acl_rule_index <1-8> | The rule index<br>The value ranges from 1 to 8.                                                | Compulsory parameter |

| Parameter                                                                | Parameter description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Parameter Property   |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <code>action[deny forward]</code>                                        | <p>The rule action</p> <ul style="list-style-type: none"> <li>◆ deny: drop</li> <li>◆ forward: forward</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Compulsory parameter |
| <code>{&lt;rulefield&gt;<br/>&lt;rulevalue&gt;&lt;operator&gt;}*8</code> | <p>The rules defined, i.e., the data flow control rules defined for the FE interface. Up to eight rules can be set.</p> <ul style="list-style-type: none"> <li>◆ &lt;rulefield&gt;: the rule type <ul style="list-style-type: none"> <li>0: SA MAC, i.e., the source MAC address.</li> <li>1: DA MAC, i.e., the destination MAC address.</li> <li>2: SA IP, i.e., the source IP address.</li> <li>3: DA IP, i.e., the destination IP address.</li> <li>4: VLAN ID, i.e., the value of VLAN ID.</li> <li>5: Ethernet type.</li> <li>6: IP protocol type.</li> <li>7: Ethernet priority.</li> <li>8: IP TOS/DSCP, i.e., service type and DSCP.</li> <li>9: L4 source PORT, i.e., Layer 4 source port number.</li> <li>10: L4 destination PORT, i.e., Layer 4 destination port number.</li> <li>11: TTL (Time-to-Live).</li> <li>12: physical destination port</li> </ul> <p>The value ranges from 0 to 12.</p> </li> <li>◆ &lt;rulevalue&gt;: the rule domain value.</li> <li>◆ &lt;operator&gt;: the operator. <ul style="list-style-type: none"> <li>0: (Never) (never match).</li> <li>1: (=) (equal to).</li> <li>2: (!=) (not equal to).</li> <li>3: (&lt;=) (smaller than or equal to).</li> <li>4: (&gt;=) (larger than or equal to).</li> <li>5: (exist) (exist means match).</li> <li>6: (no exist) (no exist means match).</li> <li>7: (always) (always match).</li> </ul> <p>The value ranges from 0 to 7.</p> </li> </ul> | Compulsory parameter |

### Command Example

Configure Port 1 of the ONUs with the authorization numbers of 5 and 6 at No.1 PON port in Slot 12, setting the rule index to 1, the rule action to forward, the rule type to the source MAC address, the rule domain value to 456987258654, and the operator to 0.

```
Admin\epononu\data#set epon slot 12 pon 1 onu 5-6 port 1 acl_rule_index 1 action
forward 0 456987258654 0
Admin\epononu\data#
```

## 8.7 Configuring the Port QoS Rule

### Command Function

This command is used to configure the QoS rule for the ONU LAN port. The LAN port will control the data flow according to the defined rule.

Both the AN5006-04 and the AN5006-07B support the command.

### Command Format

```
set epon slot <1-18> pon<1-8> onu <onulist> port <portno> qos_rule_index <1-8>
rule_precedence <0-12> queuemapped <queuemap> priority <0-7>
{<rulefield> <rulevalue> <operator>}*8
```

### Parameter description

| Parameter              | Parameter description                                                                                                                                                                                                                       | Parameter Property   |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <1-18>            | Slot number<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                   | Compulsory parameter |
| pon <1-8>              | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                | Compulsory parameter |
| onu <onulist>          | The ONU authorization number<br>The value ranges from 1 to 128. You can enter 1-10 or 1, 2, 3.                                                                                                                                              | Compulsory parameter |
| port <portno>          | The ONU port number<br>The value ranges from 1 to 24.                                                                                                                                                                                       | Compulsory parameter |
| qos_rule_index <1-8>   | The rule index<br>The value ranges from 1 to 8.                                                                                                                                                                                             | Compulsory parameter |
| rule_precedence <0-12> | The rule precedence, i.e., the priority for data flow QoS control rule.<br>The value ranges from 1 to 12.                                                                                                                                   | Compulsory parameter |
| queuemapped<-queuemap> | The queue mapped, i.e., the sequence numbers of queues set with priorities.<br><ul style="list-style-type: none"> <li>◆ The value ranges from 1 to 4 for an EPON ONU.</li> <li>◆ The value ranges from 1 to 8 for a 10GEPON ONU.</li> </ul> | Compulsory parameter |

| Parameter                            | Parameter description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Parameter Property   |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| priority <0-7>                       | The priority label, indicating the priority level of the data flow at the LAN port.<br>The value ranges from 0 to 7.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Compulsory parameter |
| {<rulefield><rulevalue><operator>}*8 | The rules defined, i.e., the data flow control rules defined for the LAN port. Up to eight rules can be set. <ul style="list-style-type: none"> <li>◆ &lt;rulefield&gt;: the rule type <ul style="list-style-type: none"> <li>0: SA MAC, i.e., the source MAC address.</li> <li>1: DA MAC, i.e., the destination MAC address.</li> <li>2: SA IP, i.e., the source IP address.</li> <li>3: DA IP, i.e., the destination IP address.</li> <li>4: VLAN ID, i.e., the value of VLAN ID.</li> <li>5: Ethernet type.</li> <li>6: IP protocol type.</li> <li>7: Ethernet priority.</li> <li>8: IP TOS/DSCP, i.e., service type and DSCP.</li> <li>9: L4 source PORT, i.e., Layer 4 source port number.</li> <li>10: L4 destination PORT, i.e., Layer 4 destination port number.</li> </ul> </li> </ul> <p>The value ranges from 0 to 10.</p> <ul style="list-style-type: none"> <li>◆ &lt;rulevalue&gt;: the rule domain value.</li> <li>◆ &lt;operator&gt;: the operator. <ul style="list-style-type: none"> <li>0: (Never) (never match).</li> <li>1: (=) (equal to).</li> <li>2: (!=) (not equal to).</li> <li>3: (&lt;=) (smaller than or equal to).</li> <li>4: (&gt;=) (larger than or equal to).</li> <li>5: (exist) (exist means match).</li> <li>6: (no exist) (no exist means match).</li> <li>7: (always) (always match).</li> </ul> </li> </ul> <p>The value ranges from 0 to 7.</p> | Compulsory parameter |

### Command example

Configure Port 1 of the ONU with the authorization numbers of 6 at No.1 PON port in Slot 12, setting the rule index to 1, the rule precedence to 10, the queue mapped to 2, the priority label to 5, the rule type to 0, the rule domain value to 987321159753, and the operator to 1.

```
Admin\epononu\data#set epon slot 12 pon 1 onu 6 port 1 qos_rule_index 1
rule_precedence 10 queuemapped 2 priority 5 0 987321159753 1
Admin\epononu\data#
```



# 9 QinQ Directory Command under EPONONU

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The following introduces the functions, formats, parameters, and examples of various QinQ directory commands under EPONONU.

- Configuring WAN Connection Profile
- Binding WAN Connection Profile
- Applying the WAN Connection Binding
- Deleting WAN Connection Profile
- Viewing Information on ONU WAN Connection Profile Binding
- Viewing Information on ONU WAN Connection Profiles
- Binding Data Service Configuration Profiles in a Batch Manner
- Configuring Rate Control for a Single Service at LAN Port
- Configuring LAN Port Rate Control
- Viewing Configuration of Rate Control at a Port
- Viewing Content of ONUBR Profiles
- Configuring QinQ Multicast VLAN
- Configuring ONU Port Service
- Configuring TLS Function for an ONU Port
- Configuring ONU Port Service Type
- Configuring ONU QinQ Profile
- Configuring VLAN Translation for ONU Port Service

- Configuring VLAN Mode for ONU Port Service
- Configuring Packet Suppression Profile
- Configuring Traffic Rate Limit Profile
- Configuring Port Attribute Profile
- Configuring Ethernet Switch Queue Scheduling Algorithm Profile
- Configuring Parameters Related to Service Mode Profiles
- Configuring Traffic Policing Profile
- Configuring SVLAN Profile
- Applying ONU LAN Port
- Deleting IP Address of COM Port
- Deleting VLAN of COM Port
- Deleting ONU VEIP Service Configuration
- Configuring ONU VEIP
- Viewing ONU VEIP
- Configuring IP of the COM Port
- Viewing Information on IP Configuration of COM Port
- Configuring VLAN of COM Port
- Viewing VALN Configuration of COM Port
- Configuring ONU Port
- Configuring Service Flow Rule for ONU Port
- Configuring ONU Port Service Number
- Configuring CATV

- Configuring ONU Data Ports in a Batch Manner
- Configuring Binding Packet Suppression Profile in ONU Bridge Management
- Viewing ONU LAN Port Configuration

## 9.1 Configuring WAN Connection Profile

### Command Function

This command is used to configure the WAN connection profile, including the extension field of WAN connection (where the configured profile does not send packets) used at the TL1 interface.

### Command Format

```
set wancfg slot<slot_out> <pon_no> <onu_no> index <wan_index> mode [tr069|
internet|tr069_internet|other|multi] type [bridge|route] <vid> <cos> nat
[enable|disable] qos [enable|disable] {vlanmode [tag|transparent] tvlan
[enable|disable] <tvid> <tcos>}*1 {qinq [enable|disable] <stpid> <svlan>
<scos>}*1 dsp {[dhcp]}*1 {[static] ip<A.B.C.D> mask <A.B.C.D> gate <A.B.C.D>
master <A.B.C.D> slave <A.B.C.D>}*1 {[pppoe] proxy [enable|disable]
<username> <password> <servname> [auto|payload]}*1
```

### Parameter Description

| Parameter                                        | Description                                                                                                                                                                                                          | Attribute  |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| slot <slot_out>                                  | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                           | Compulsory |
| <pon_no>                                         | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                         | Compulsory |
| <onu_no>                                         | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                     | Compulsory |
| index <wan_index>                                | The WAN connection indexes, which are generated by the equipment automatically according to the sequence of WAN connection generation. The sequence number increases progressively.<br>The value ranges from 1 to 8. | Compulsory |
| mode [tr069 internet tr069_internet other multi] | The WAN connection mode                                                                                                                                                                                              | Compulsory |
| type [bridge route]                              | The WAN connection type<br>◆ bridge: bridge connection.<br>◆ route: route.                                                                                                                                           | Compulsory |
| <vid>                                            | The VLAN of the WAN connection.<br>The value ranges from 1 to 4085.                                                                                                                                                  | Compulsory |
| <cos>                                            | VLAN COS, the priority of the 802.1P for WAN connection.<br>The value can be set to 0 to 7 or 0xffff. The default value is 0xffff.                                                                                   | Compulsory |

| Parameter                                                            | Description                                                                                                                                                                                                                                                                                                                                                                        | Attribute  |
|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| nat [enable disable]                                                 | The NAT function.<br><ul style="list-style-type: none"> <li>◆ enable: Enabling.</li> <li>◆ disable: Disabling.</li> </ul>                                                                                                                                                                                                                                                          | Compulsory |
| qos [enable disable]                                                 | The QoS function.<br><ul style="list-style-type: none"> <li>◆ enable: Enabling.</li> <li>◆ disable: Disabling.</li> </ul>                                                                                                                                                                                                                                                          | Compulsory |
| {vlanmode [tag transparent] tvlan [enable disable] <tvid> <tcos>} *1 | The VLAN mode.<br><ul style="list-style-type: none"> <li>◆ [tag transparent]: the VLAN mode. Select tag or transparent.</li> <li>◆ tvlan [enable disable]: Enables / disables the translation function.</li> <li>◆ &lt;tvid&gt;: translation VLAN ID. The value ranges from 1 to 4085.</li> <li>◆ &lt;tcos&gt;: the translation VLAN COS. The value ranges from 0 to 7.</li> </ul> | Optional   |
| {qinq [enable disable] <stpid> <svlan> <scos>} *1                    | The QinQ function.<br><ul style="list-style-type: none"> <li>◆ [enable disable]: Enables / disables the QinQ function.</li> <li>◆ &lt;stpid&gt;: SVLAN TPID. The value ranges from 1 to 65535.</li> <li>◆ &lt;svlan&gt;: SVLAN ID. The value ranges from 1 to 4085.</li> <li>◆ &lt;scos&gt;: SVLAN COS. The value ranges from 0 to 7.</li> </ul>                                   | Optional   |
| dsp { [dhcp] } *1                                                    | The way to obtain the address for WAN connection. The DHCP mode can be selected.                                                                                                                                                                                                                                                                                                   | Optional   |

| Parameter                                                                                                                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Attribute |
|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <pre>{ [static] ip &lt;A.B.C.D&gt; mask &lt;A.B.C.D&gt; gate &lt;A. B.C.D&gt;master &lt;A.B.C.D&gt; slave &lt;A.B.C.D&gt;} *1</pre> | <p>The way to obtain the address for WAN connection. The STATIC mode can be selected.</p> <ul style="list-style-type: none"> <li>◆ ip &lt;A.B.C.D&gt;: the IP address in the IPV4 format.</li> <li>◆ mask &lt;A.B.C.D&gt;: the mask.</li> <li>◆ gate &lt;A.B.C.D&gt;: the gateway.</li> <li>◆ master &lt;A.B.C.D&gt;: the active DNS.</li> <li>◆ slave &lt;A.B.C.D&gt;: the standby DNS.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                            | Optional  |
| <pre>{ [pppoe] proxy [enable  disable] &lt;username&gt; &lt;password&gt; &lt;servname&gt; [auto payload]} *1</pre>                  | <p>The way to obtain the address for WAN connection. The PPPoE mode can be selected.</p> <ul style="list-style-type: none"> <li>◆ [enable disable] : PPPoE proxy switch, enable / disable.</li> <li>◆ username&lt;name&gt;: the user name for the PPPoE connection. It is a character string with the maximum length of 32 bytes. Figures, letters or the underlines are all acceptable.</li> <li>◆ &lt;password&gt;: the password for the PPPoE connection. It is a character string with the maximum length of 32 bytes. Figures, letters or the underlines are all acceptable.</li> <li>◆ servname&lt;name&gt;: the PPPoE service name. It is a character string with the maximum length of 32 bytes. Figures, letters or the underlines are both acceptable.</li> <li>◆ [auto payload]: the PPPoE dialing mode: auto / payload.</li> </ul> | Optional  |

## Command Example

Configure the WAN connection for the ONU with the authorization number of 3 under PON port 1 in Slot 12, setting the WAN connection index to 1, the connection mode to INTERNET, the connection type to route, the VLAN ID to 1000, the COS value to 5, the NAT, QoS and translation functions to enabled, the VLAN mode to transparent transmission, the translation VLAN ID to 2000, the translation COS value to 5, and the DSP to DHCP.

```
Admin\epononu\qinq#set wancfg slot 12 1 3 index 1 mode internet type route 1000 5 nat
enable qos enable vlanmode transparent tvlan enable 2000 5 dsp dhcp
Admin\epononu\qinq#
```

## 9.2 Binding WAN Connection Profile

### Command Function

This command is used to bind the configured WAN connection service profile to a designated ONU port.

This command is supported by the HG220.

### Command Format

```
set wanbind slot <slot_out> <pon_no> <onu_no> index <wan_index> entries
<bind_num> {[fe1|fe2|fe3|fe4|ssid1|ssid2|ssid3|ssid4]}*8
```

### Parameter Description

| Parameter                                     | Parameter Description                                                                                                                                                                                                                 | Parameter Property   |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <slot_out>                               | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                            | Compulsory parameter |
| <pon_no>                                      | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                          | Compulsory parameter |
| <onu_no>                                      | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                      | Compulsory parameter |
| index <wan_index>                             | The WAN connection index.<br>The value ranges from 1 to 8.                                                                                                                                                                            | Compulsory parameter |
| entries <bind_num>                            | The number of profiles bound to the WAN connection.<br>The value ranges from 0 to 8. The value 0 means clearing all profiles bound to the WAN connection. The other values define the number of profiles bound to the WAN connection. | Compulsory parameter |
| {[fe1 fe2 fe3 fe4 ssid1 ssid2 ssid3 ssid4]}*8 | The port bound to the WAN connection.<br>◆ fe1 fe2 fe3 fe4: cable service ports FE1 to FE4.<br>◆ ssid1 ssid2 ssid3 ssid4: radio service ports SSID1 to SSID4.                                                                         | Optional parameter   |

### Command example

Configure the ONU with the authorization number 3 under PON port 1 in slot 12, setting the WAN connection index to 1, the number of bound profile to 1, and the bound port to FE1.

```
Admin\epononu\qinq#set wanbind slot 12 1 3 index 1 entries 1 fe1
```

```
Admin\epononu\qinq#
```

## 9.3 Applying the WAN Connection Binding

### Command Function

This command is used to deliver the WAN connection binding protocol packet to the line card.

### Command Format

```
apply wanbind slot <slot_out> <pon_no> <onu_no>
```

### Parameter Description

| Parameter       | Parameter Description                                            | Parameter Property   |
|-----------------|------------------------------------------------------------------|----------------------|
| slot <slot_out> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| <pon_no>        | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| <onu_no>        | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

### Command Example

Apply the WAN connection binding to the ONU with the authorization number of 3 at PON port 1 in slot 12.

```
Admin\epononu\qinq#apply wanbind slot 12 1 3
Admin\epononu\qinq#
```

## 9.4 Deleting WAN Connection Profile

### Command Function

This command is used to delete the WAN connection profile (including the extension field of WAN connection at the TL1 interface).

## Command Format

```
delete wancfg slot <slot_out> <pon_no> <onu_no> index <index>
```

## Parameter Description

| Parameter     | Description                                                                                                                                                                                                       | Attribute  |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <slot_out>    | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                        | Compulsory |
| <pon_no>      | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                      | Compulsory |
| <onu_no>      | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                  | Compulsory |
| index <index> | The sequence number of the WAN connection profile.<br>The value ranges from 0 to 8. The value 0 means deleting all the profiles; the other values means deleting the profile with the designated sequence number. | Compulsory |

## Command Example

Delete the number 1 WAN connection profile from the ONU with the authorization number of 3 under the number 1 PON port in slot 12.

```
Admin\epononu\qinq# del wancfg slot 12 1 3 index 1
```

```
Admin\epononu\qinq#
```

## 9.5 Viewing Information on ONU WAN Connection Profile Binding

### Command Function

This command is used to view the information on ONU WAN connection profile binding.

### Command Format

```
show wanbind slot <slot_out> <pon_no> <onu_no> index {<index>}*1
```

## Parameter Description

| Parameter   | Parameter Description                                                                                                                                                                                                                     | Parameter Property   |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <slot_no>   | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                | Compulsory parameter |
| <pon_no>    | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                              | Compulsory parameter |
| <onu_no>    | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                          | Compulsory parameter |
| {<index>}*1 | The user index number.<br>◆ Type the <enter> key to show the information on all WAN connection profiles on the ONU.<br>◆ Type index<1-8> to show the information on a designated WAN connection profile.<br>The value ranges from 1 to 8. | Optional parameter   |

## Command Example

View the information on the WAN connection profile 1 binding of the ONU (authorization number being 3) under number 1 PON port in slot 12.

```
Admin\epononu\qinq#show wanbind slot 12 1 3 index 1
show wanbind:slot 12 1 3 1 LanportNO_1:FE1
Admin\epononu\qinq#
```

## Result Description

| Parameter    | Parameter Description                                         |
|--------------|---------------------------------------------------------------|
| show wanbind | Information on the WAN connection profile binding of the ONU. |

# 9.6 Viewing Information on ONU WAN Connection Profiles

## Command Function

This command is used to view the information on ONU WAN connection profiles.

## Command Format

```
show wancfg slot <slot_out> <pon_no> <onu_no> index {<index>}*1
```

## Parameter Description

| Parameter   | Parameter Description                                                                                                                                                                                                                     | Parameter Property   |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <slot_out>  | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                | Compulsory parameter |
| <pon_no>    | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                              | Compulsory parameter |
| <onu_64>    | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                          | Compulsory parameter |
| {<index>}*1 | The user index number.<br>◆ Type the <enter> key to show the information on all WAN connection profiles on the ONU.<br>◆ Type index<1-8> to show the information on a designated WAN connection profile.<br>The value ranges from 1 to 8. | Optional parameter   |

## Command Example

View the information on the WAN connection profile with the index of 1 for the ONU with the authorization number of 3 under number 1 PON port in slot 12.

```
Admin\epononu\qinq#show wancfg slot 12 1 3 index 1
show wancfg:slot 12 1 3 1 INTERNET route
vlan 1000 cos 5 nat enable qos enable
DSP dhcp transparent translate enable tvlan 2000 tcos 5
Admin\epononu\qinq#
```

## Result Description

| Parameter   | Parameter Description                              |
|-------------|----------------------------------------------------|
| show wancfg | Information on WAN connection profiles of the ONU. |

# 9.7 Binding Data Service Configuration Profiles in a Batch Manner

## Command Function

This command is used to bind the data service configuration profiles in a batch manner.

## Command Format

```
set batchserv_bind <1-18> <1-8> <onulist> <1-24> serv <1-16> mode <prf_id>
svlan <prf_id> diff <prf_id> diff_up <prf_id>
```

## Parameter Description

| Parameter            | Parameter Description                                                                                                                                                                                                                                                                                 | Parameter Property   |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| batchserv_bind<1-18> | Slot number<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                             | Compulsory parameter |
| <1-8>                | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                                                          | Compulsory parameter |
| <onulist>            | The ONU authorization number<br>The value can be entered in the following two ways: <ul style="list-style-type: none"> <li>◆ Entering the ONU numbers one by one, e.g. 1, 2, 3.</li> <li>◆ Entering multiple ONU numbers at a time, e.g. 1-3 or 1-3, 4, 5.</li> </ul> The value ranges from 1 to 128. | Compulsory parameter |
| <1-24>               | The ONU port number<br>The value ranges from 1 to 24.                                                                                                                                                                                                                                                 | Compulsory parameter |
| serv <1-16>          | The sequence number of the ONU service<br>The value ranges from 1 to 16.                                                                                                                                                                                                                              | Compulsory parameter |
| mode <prf_id>        | Index of the service profile<br>The value can be set to 1 to 64 or 65535.                                                                                                                                                                                                                             | Compulsory parameter |
| svlan <prf_id>       | Index of the SVLAN profile<br>The value can be set to 1 to 64 or 65535.                                                                                                                                                                                                                               | Compulsory parameter |
| diff <prf_id>        | Index of the downlink traffic classification rule profile<br>The value can be set to 1 to 64 or 65535.                                                                                                                                                                                                | Compulsory parameter |
| diff_up <prf_id>     | Index of the uplink traffic classification rule profile<br>The value can be set to 1 to 64 or 65535.                                                                                                                                                                                                  | Compulsory parameter |

## Command Example

Configure the data service profiles for the ONUs with the authorization numbers of 1, 2 and 3 at number 1 PON port in Slot 12: setting the service sequence number to 1, the service profile index to 1, the SVLAN profile index to 1, the downlink traffic classification rule profile index to 1, and the uplink traffic classification rule profile index to 2.

```
Admin\>epononu\qinq#set batchserv_bind 12 1 1-2,3 1 serv 1 mode 1 svlan 1 diff 1 diff_up 2
```

Admin\epononu\qinq#

## 9.8 Configuring Rate Control for a Single Service at LAN Port

### Command Function

This command is used to configure the rate control for a single service at the LAN port. The command is applicable to the rate control of ONU services in the FTTH mode or the rate control of GPON standard-compliant MIB services.

### Command Format

```
set bandwidth slot<slot_out> pon<pon_no> onu<onu_no> port<port_no>
service<serv_no> {[upmin] <upmin> upmax <upmax> downstream <downstream>}*1
{[up_max] <up_max> down_max <down_max>}*1
```

### Parameter Description

| Parameter               | Parameter Description                                                                                                                                                                                                                                                | Parameter Property   |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot<slot_out>          | Slot number<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                            | Compulsory parameter |
| pon<pon_no>             | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                         | Compulsory parameter |
| onu<onu_no>             | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                     | Compulsory parameter |
| port<port_no>           | The ONU port number<br>The value ranges from 1 to 24.                                                                                                                                                                                                                | Compulsory parameter |
| service <serv_no>       | The sequence number of the ONU service<br>The value ranges from 1 to 16.                                                                                                                                                                                             | Compulsory parameter |
| [upmin] <upmin>         | The minimum assured uplink bandwidth for the service<br>The value ranges from 0 to 1000000.                                                                                                                                                                          | Optional parameter   |
| upmax <upmax>           | The maximum allowable uplink bandwidth for the service.<br>The value ranges from 256 to 1000000.                                                                                                                                                                     | Optional parameter   |
| downstream <downstream> | <ul style="list-style-type: none"> <li>◆ For a non-CTC ONU: the parameter refers to the downlink service bandwidth.</li> <li>◆ For a CTC ONU: the parameter refers to the minimum assured downlink service bandwidth.</li> </ul> The value ranges from 0 to 1000000. | Optional parameter   |

| Parameter           | Parameter Description                                                                                                                                                                                                                                                                                                                                   | Parameter Property |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| [up_max] <up_max>   | <ul style="list-style-type: none"> <li>◆ For a GPON ONU, the parameter stands for the maximum uplink bandwidth and the maximum downlink bandwidth for standard MIB services.</li> <li>◆ For a non-GPON ONU (only valid for a CTC ONU), the parameter stands for the fixed allocated uplink bandwidth. The value ranges from 0 to 4294967295.</li> </ul> | Optional parameter |
| down_max <down_max> | <ul style="list-style-type: none"> <li>◆ For a GPON ONU, the parameter stands for the maximum downlink bandwidth for standard MIB services.</li> <li>◆ For a non-GPON ONU (only valid for a CTC ONU), the parameter stands for the maximum allowable downlink bandwidth. The value ranges from 0 to 4294967295.</li> </ul>                              | Optional parameter |

## Command Example

Configure the rate control at Port 1 of the ONU with the authorization number of 5 at number 1 PON port in Slot 12: setting the service sequence number to 1, the minimum assured uplink service bandwidth to 200, the maximum allowable uplink service bandwidth to 100000, and the minimum assured downlink service bandwidth to 6400.

```
Admin\epononu\qinq#set bandwid slot 12 pon 1 onu 5 port 1 service 1 upmin 200 upmax
100000 downstream 6400
Admin\epononu\qinq#
```

## 9.9 Configuring LAN Port Rate Control

### Command Function

This command is used to configure the rate control at a LAN port, applicable to the rate control at the LAN port of an ONU in the FTTB mode.

### Command Format

```
set bandwid slot <slotNo> pon <ponNo> onu <onuNo> port <portNo> upmin <0-
1000000> upmax <256-1000000> downstream <0-1000000> {downmax <0-1000000>
upfix <0-1000000> }*1
```

## Parameter Description

| Parameter              | Parameter Description                                                                                                                                                                                                                                                                                                                                         | Parameter Property   |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <slotlist>        | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                                                                                    | Compulsory parameter |
| pon <ponlist>          | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                                                                                                                  | Compulsory parameter |
| onu <onulist>          | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                                                                                                              | Compulsory parameter |
| [upmin] <0-1000000>    | The minimum assured uplink bandwidth for the service<br>The parameter value ranges between 0 and 1000000, and the unit is kbit/s.                                                                                                                                                                                                                             | Compulsory parameter |
| upmax <256-1000000>    | The maximum allowable uplink bandwidth for the service.<br>The parameter value ranges between 256 and 1000000, and the unit is kbit/s.                                                                                                                                                                                                                        | Compulsory parameter |
| downstream <0-1000000> | <ul style="list-style-type: none"> <li>◆ For a non-CTC ONU: the parameter refers to the downlink service bandwidth.</li> <li>◆ For a CTC ONU: the parameter refers to the minimum assured downlink service bandwidth.</li> </ul> The parameter value ranges between 0 and 1000000, and the unit is kbit/s.                                                    | Compulsory parameter |
| downmax <0-1000000>    | <ul style="list-style-type: none"> <li>◆ For a GPON ONU, the parameter stands for the maximum downlink bandwidth for standard MIB services.</li> <li>◆ For a non-GPON ONU (only valid for a CTC ONU), the parameter stands for the maximum allowable downlink bandwidth.</li> </ul> The parameter value ranges between 0 and 1000000, and the unit is kbit/s. | Optional parameter   |
| upfix <0-1000000>      | The assured downlink bandwidth for the service<br>The parameter value ranges between 0 and 1000000, and the unit is kbit/s.                                                                                                                                                                                                                                   | Optional parameter   |

## Command Example

Configure the rate control at Port 1 of the ONU with the authorization number of 5 at PON port 1 in Slot 12: setting the minimum assured uplink service bandwidth to 200, the maximum allowable uplink service bandwidth to 100000, and the minimum assured downlink service bandwidth to 6400.

```
Admin\epononu\qinq#set bandwid slot 12 pon 1 onu 5 port 1 upmin 200 upmax 100000
downstream 6400
```

Admin\epononu\qinq#

## 9.10 Viewing Configuration of Rate Control at a Port

### Command Function

This command is used to view the configuration of rate control at an ONU port.

### Command Format

```
show bandwid slot <slot_out> pon <pon_no> onu <onu_no> port <port_no> service
<serv_no>
```

### Parameter Description

| Parameter         | Parameter Description                                                                                                                                                                             | Parameter Property   |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <slot_out>   | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                        | Compulsory parameter |
| pon <pon_no>      | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                      | Compulsory parameter |
| onu <onu_no>      | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                  | Compulsory parameter |
| port <port_no>    | The ONU port number.<br>The value ranges from 1 to 24.                                                                                                                                            | Compulsory parameter |
| service <serv_no> | The sequence number of the ONU service.<br>◆ Enter 1 for the ONU service in the FTTB mode.<br>◆ Enter the practical service number for an ONU in the FTTH mode.<br>The value ranges from 1 to 16. | Compulsory parameter |

### Command Example

View the information on rate control of the service with the sequence number of 1 at Port 1 of the ONU with the authorization number of 3 under number 1 PON port in Slot 12.

```
Admin\epononu\qinq#show bandwid slot 12 pon 1 onu 3 port 1 service 1
slot 12 1 3 1 service 1, 200 100000 6400 0 0
Admin\epononu\qinq#
```

## Result Description

| Parameter     | Parameter Description                                                                                                                                |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| slot 12 1 3 1 | The slot number, PON port number, ONU number and port number.                                                                                        |
| service       | The sequence number of the ONU service.                                                                                                              |
| 200           | The minimum assured uplink bandwidth for the service.                                                                                                |
| 100000        | The maximum allowable uplink bandwidth for the service.                                                                                              |
| 6400          | The minimum assured downlink bandwidth for the service.                                                                                              |
| 0             | The maximum downlink bandwidth for standard MIB services (for a GPON ONU), or the maximum allowable downlink service bandwidth (for a non-GPON ONU). |
| 0             | The assured downlink bandwidth for the service.                                                                                                      |

## 9.11 Viewing Content of ONUBR Profiles

### Command Function

This command is used to view the content of the traffic policing profile, packet suppression profile, and Ethernet scheduling algorithm profile in the ONUBR.

### Command Format

```
show profile [strpcy|pkgcurb|quesche] [all | <index>]
```

### Parameter Description

| Parameter                        | Parameter Description                                                                                                                                                                                                 | Parameter Property   |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| profile [strpcy pkgcurb quesche] | The profile type.<br><ul style="list-style-type: none"> <li>◆ strpcy: traffic policing profile.</li> <li>◆ pkgcurb: packet suppression profile.</li> <li>◆ quesche: Ethernet scheduling algorithm profile.</li> </ul> | Compulsory parameter |
| [all   <index>]                  | The profile number.<br><ul style="list-style-type: none"> <li>◆ all: all profiles.</li> <li>◆ &lt;index&gt;: the profile sequence number</li> </ul>                                                                   | Compulsory parameter |

### Command Example

View the content of all Ethernet scheduling algorithm profiles.

```
Admin\epononu\qinq#show profile quesche all
prf 0 type 104 using 0 flush 0.
```

```

=== context===
  quesche name default mode 2 num 0.
    pri 0 sche 0 weight 50.
    pri 1 sche 0 weight 50.
    pri 2 sche 0 weight 50.
    pri 3 sche 0 weight 50.
    pri 4 sche 0 weight 50.
    pri 5 sche 0 weight 50.
    pri 6 sche 0 weight 50.
    pri 7 sche 0 weight 50.
=== context===
.....
.....
prf 5 type 104 using 0 flush 0.
=== context===
  quesche name test1 mode 3 num 1.
    pri 7 sche 0 weight 10.
    pri 0 sche 0 weight 0.
    pri 0 sche 0 weight 0.
=== context===
.....
Admin\epononu\qinq#

```

### Result Description

| Parameter | Parameter Description                                      |
|-----------|------------------------------------------------------------|
| name      | The Ethernet switch queue scheduling profile name.         |
| mode      | The Ethernet switch queue scheduling mode.                 |
| num       | The index of the Ethernet switch queue scheduling profile. |
| pri       | The priority of the Ethernet switch queue.                 |
| sche      | The scheduling algorithm.                                  |
| weight    | The weight value.                                          |

## 9.12 Configuring QinQ Multicast VLAN

### Command Function

This command is used to configure the QinQ multicast VLAN parameters, including the CVLAN and the SVLAN, for an ONU port.

### Command Format

```
set epon slot <slotNo> pon <ponNo> onu <onuNo> port <portNo> cvid <cvid> ccos
<cos> ctpid <ctpid> svid <svid> scos <cos> stpid <stpid>
```

### Parameter Description

| Parameter     | Parameter Description                                                     | Parameter Property   |
|---------------|---------------------------------------------------------------------------|----------------------|
| slot <slotNo> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                | Compulsory parameter |
| pon <ponNo>   | The number of the PON port.<br>The value ranges from 1 to 8.              | Compulsory parameter |
| onu <onuNo>   | The ONU authorization number.<br>The value ranges from 1 to 128.          | Compulsory parameter |
| port <portNo> | The ONU port number.<br>The value ranges from 1 to 24.                    | Compulsory parameter |
| cvid <cvid>   | CVLAN ID.<br>The value ranges from 1 to 4085.                             | Compulsory parameter |
| ccos <cos>    | CVLAN COS.<br>The value ranges from 0 to 7.                               | Compulsory parameter |
| ctpid <ctpid> | CVLAN TPID.<br>The value ranges from 1 to 65534, or can be set to 0xffff. | Compulsory parameter |
| svid <svid>   | SVLAN ID.<br>The value ranges from 1 to 4085, or can be set to 0xffff.    | Compulsory parameter |
| scos <cos>    | SVLAN COS.<br>The value ranges from 0 to 7, or can be set to 0xffff.      | Compulsory parameter |
| stpid <stpid> | SVLAN TPID.<br>The value ranges from 1 to 65534, or can be set to 0xffff. | Compulsory parameter |

## Command Example

Configure the VLAN of Port 1 on the ONU with the authorization number of 2 under number 1 PON port in Slot 12, setting the CVLAN ID to 10, CVLAN COS to 7, CVLAN TPID to 100, SLVAN ID to 50, SVLAN COS to 7, and SVLAN TPID to 200.

```
Admin\epnononu\qinq#set epon slot 12 pon 1 onu 2 port 1 cvid 10 ccos 7 ctpid 100 svid 50
scos 7 stpid 200
Admin\epnononu\qinq#
```

## 9.13 Configuring ONU Port Service

### Command Function

This command is used to configure services at an ONU port, including service types and enabling service flags.

### Command Format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <port> service <1-16>serv_flag [enable|disable]
```

### Parameter Description

| Parameter                  | Parameter Description                                                                              | Parameter Property   |
|----------------------------|----------------------------------------------------------------------------------------------------|----------------------|
| slot <slotNo>              | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                         | Compulsory parameter |
| pon <ponNo>                | The number of the PON port.<br>The value ranges from 1 to 8.                                       | Compulsory parameter |
| onu <onulist>              | The ONU authorization number.<br>The value ranges from 1 to 128.                                   | Compulsory parameter |
| port <port>                | The ONU port number.<br>The value ranges from 1 to 24.                                             | Compulsory parameter |
| service <1-16>             | The sequence number of services.<br>The value ranges from 1 to 16.                                 | Compulsory parameter |
| serv_flag [enable disable] | The service flag function.<br>◆ enable: Enables the function.<br>◆ disable: Disables the function. | Compulsory parameter |

## Command Example

Enable the service flag for service 1 at port 1 of the ONU with the authorization number of 2 under number 1 PON port in slot 12.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 2 port 1 service 1 serv_flag enable
Admin\epononu\qinq#
```

## 9.14 Configuring TLS Function for an ONU Port

### Command Function

This command is used to configure the service type at an ONU port, such as enabling / disabling the TLS.

### Command Format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <port> service <1-16>
tls [enable|disable]
```

### Parameter Description

| Parameter            | Parameter Description                                                                 | Parameter Property   |
|----------------------|---------------------------------------------------------------------------------------|----------------------|
| slot <slotNo>        | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                            | Compulsory parameter |
| pon <ponNo>          | The number of the PON port.<br>The value ranges from 1 to 8.                          | Compulsory parameter |
| onu <onulist>        | The ONU authorization number.<br>The value ranges from 1 to 128.                      | Compulsory parameter |
| port <port>          | The ONU port number.<br>The value ranges from 1 to 24.                                | Compulsory parameter |
| service <1-16>       | The sequence number of services.<br>The value ranges from 1 to 16.                    | Compulsory parameter |
| tls [enable disable] | TLS function.<br>◆ enable: Enables the function.<br>◆ disable: Disables the function. | Compulsory parameter |

## Command Example

Enable the TLS function with the service number of 1 at Port 1 of the ONU with the authorization number of 2 at number 1 PON port in Slot 12.

```
Admin\epononu\qing#set epon slot 12 pon 1 onu 2 port 1 service 1 tls enable
Admin\epononu\qing#
```

## 9.15 Configuring ONU Port Service Type

### Command Function

This command is used to configure the ONU port services, including multicast or unicast services.

### Command Format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <port> service <1-16>
type [multicast|unicast]
```

### Parameter Description

| Parameter                | Parameter Description                                                         | Parameter Property   |
|--------------------------|-------------------------------------------------------------------------------|----------------------|
| slot <slotNo>            | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                    | Compulsory parameter |
| pon <ponNo>              | The number of the PON port.<br>The value ranges from 1 to 8.                  | Compulsory parameter |
| onu <onulist>            | The ONU authorization number.<br>The value ranges from 1 to 128.              | Compulsory parameter |
| port <port>              | The ONU port number.<br>The value ranges from 1 to 24.                        | Compulsory parameter |
| service <1-16>           | The sequence number of services.<br>The value ranges from 1 to 16.            | Compulsory parameter |
| type [multicast unicast] | Service type.<br>◆ multicast: multicast service<br>◆ unicast: unicast service | Compulsory parameter |

## Command Example

Set the service type of service 1 at port 1 of the ONU with the authorization number of 2 at number 1 PON port in slot 12 to multicast.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 2 port 1 service 1 type multicast
Admin\epononu\qinq#
```

## 9.16 Configuring ONU QinQ Profile

### Command Function

This command is used to configure the QinQ for ONU port services, including enabling / disabling the QinQ profile, COS and SVLAN.

### Command Format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <port> service <1-16>qinq [enable|disable] {<cos> <tpid> <profile> <service_nam> <s_vlanlist>}*1
```

### Parameter Description

| Parameter      | Parameter Description                                              | Parameter Property   |
|----------------|--------------------------------------------------------------------|----------------------|
| slot <slotNo>  | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.         | Compulsory parameter |
| pon <ponNo>    | The number of the PON port.<br>The value ranges from 1 to 8.       | Compulsory parameter |
| onu <onulist>  | The ONU authorization number.<br>The value ranges from 1 to 128.   | Compulsory parameter |
| port <port>    | The ONU port number.<br>The value ranges from 1 to 24.             | Compulsory parameter |
| service <1-16> | The sequence number of services.<br>The value ranges from 1 to 16. | Compulsory parameter |

| Parameter                                             | Parameter Description                                                                                                                                                                                                                                                                                                                                                                                                         | Parameter Property   |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| qinq [enable disable]                                 | The QinQ function.<br><ul style="list-style-type: none"> <li>◆ enable: Enables the function.</li> <li>◆ disable: Disables the function.</li> </ul>                                                                                                                                                                                                                                                                            | Compulsory parameter |
| {<cos> <tpid> <profile> <service_nam> <s_vlanlist>}*1 | <ul style="list-style-type: none"> <li>◆ &lt;cos&gt;: the COS (Class of Service) value. The value can be set to 0 to 7 or 255.</li> <li>◆ &lt;tpid&gt;: the SVLAN tag protocol identifier. The value ranges from 0 to 65535.</li> <li>◆ &lt;profile&gt;: the QinQ profile name.</li> <li>◆ &lt;service_nam&gt;: the service name.</li> <li>◆ &lt;s_vlanlist&gt;: the SVLAN value. The value ranges from 1 to 4085.</li> </ul> | Optional parameter   |

## Command Example

Enable the QinQ for Service 1 at Port 1 of the ONU with the authorization number of 3 under number 1 PON port in Slot 12; sets the COS value to 5, the SVLAN protocol identifier to 1, the QinQ profile name to 1, the service name to fh, and the SVLAN to 2000.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 3 port 1 service 1 qinq enable 5 1 1 fh
2000
Admin\epononu\qinq#
```

## 9.17 Configuring VLAN Translation for ONU Port Service

### Command Function

This command is used to configure the VLAN translation for ONU port services, including enabling / disabling the VLAN translation, COS and translation VLAN.

### Command Format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <port> service <1-16>translate [enable|disable] {<cos> <tpid> <trans_vlanlist>}*1
```

## Parameter Description

| Parameter                         | Parameter Description                                                                                                                                                                                                                                                      | Parameter Property   |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <slotNo>                     | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                 | Compulsory parameter |
| pon <ponNo>                       | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                               | Compulsory parameter |
| onu <onulist>                     | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                           | Compulsory parameter |
| port <port>                       | The ONU port number.<br>The value ranges from 1 to 24.                                                                                                                                                                                                                     | Compulsory parameter |
| service <1-16>                    | The sequence number of services.<br>The value ranges from 1 to 16.                                                                                                                                                                                                         | Compulsory parameter |
| translate [enable disable]        | The translation function.<br>◆ enable: Enables the function.<br>◆ disable: Disables the function.                                                                                                                                                                          | Compulsory parameter |
| {<cos> <tpid> <trans_vlanlist>}*1 | ◆ <cos>: the COS value of the translation VLAN. The value can be set to 0 to 7 or 255.<br>◆ <tpid>: the translation VLAN tag protocol identifier. The value ranges from 0 to 65535.<br>◆ <trans_vlanlist t>: the translation VLAN number. The value ranges from 1 to 4085. | Optional parameter   |

## Command Example

Enable the VLAN translation for Service 1 at Port 1 on the ONU with the authorization number of 3 under number 1 PON port in Slot 12. Set the COS to 5, translation TPID to 1, and translation VLAN to 1.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 3 port 1 service 1 translate enable 5 1 1
Admin\epononu\qinq#
```

## 9.18 Configuring VLAN Mode for ONU Port Service

### Command Function

This command is used to configure the VLAN mode for ONU port services, including TAG or transparent transmission, COS and CVLAN.

### Command Format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <port> service <1-16>vlan_mode [tag|transparent] <cos> <tpid> <c_vlanlist>
```

### Parameter Description

| Parameter                   | Parameter Description                                                                    | Parameter Property   |
|-----------------------------|------------------------------------------------------------------------------------------|----------------------|
| slot <slotNo>               | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                               | Compulsory parameter |
| pon <ponNo>                 | The number of the PON port.<br>The value ranges from 1 to 8.                             | Compulsory parameter |
| onu <onulist>               | The ONU authorization number.<br>The value ranges from 1 to 128.                         | Compulsory parameter |
| port <port>                 | The ONU port number.<br>The value ranges from 1 to 24.                                   | Compulsory parameter |
| service <1-16>              | The sequence number of services.<br>The value ranges from 1 to 16.                       | Compulsory parameter |
| vlan_mode [tag transparent] | The VLAN mode.<br>◆ tag: the TAG identifier.<br>◆ transparent: transparent transmission. | Compulsory parameter |
| <cos>                       | The COS value.<br>The value ranges from 0 to 7.                                          | Compulsory parameter |
| <tpid>                      | The CVLAN TPID value.<br>The value ranges from 0 to 65535.                               | Compulsory parameter |
| <c_vlanlist>                | The CVLAN number.<br>The value ranges from 1 to 4085.                                    | Compulsory parameter |

## Command Example

Configure the VLAN mode for Service 1 at Port 1 on the ONU with the authorization number of 2 at number 1 PON port in Slot 12, setting the VLAN mode to transparent transmission, the COS value to 7, the CVLAN TPID value to 2, and the CVLAN number to 2.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 2 port 1 service 1 vlan_mode
transparent 7 2 2
Admin\epononu\qinq#
```

## 9.19 Configuring Packet Suppression Profile

### Command Function

This command is used to add or delete a packet suppression profile. The parameters include packet type, enabling / disabling the packet suppression profile and rate control.

### Command Format

```
[add|delete] pkgcurb profile index <1-128> {name <name> { [broadcast|
multicast|unknown] [enable|disable] <limite_rate>}*3}*1
```

### Parameter Description

| Parameter                     | Description                                                                                                                                                                      | Attribute  |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| [add delete]                  | <ul style="list-style-type: none"> <li>◆ add: Adds the packet suppression profile.</li> <li>◆ delete: Deletes the packet suppression profile.</li> </ul>                         | Compulsory |
| index <1-128>                 | The profile index number.<br>The value ranges from 1 to 128.                                                                                                                     | Compulsory |
| name <name>                   | The profile name.                                                                                                                                                                | Compulsory |
| [broadcast multicast unknown] | The packet type. <ul style="list-style-type: none"> <li>◆ broadcast: broadcast packets.</li> <li>◆ multicast: multicast packets.</li> <li>◆ unknown: unknown packets.</li> </ul> | Compulsory |
| [enable disable]              | The packet suppression profile function. <ul style="list-style-type: none"> <li>◆ enable: Enables the function.</li> <li>◆ disable: Disables the function.</li> </ul>            | Compulsory |
| <limite_rate>                 | Rate limit.                                                                                                                                                                      | Compulsory |

## Command Example

Add the packet suppression profile, setting the profile index to 2, the profile name to fh, the packet type to broadcast, and the rate limit to 640, and enable the packet suppression profile.

```
Admin\epononu\qinq#add pkgcurb profile index 2 name fh broadcast enable 640
Admin\epononu\qinq#
```

## 9.20 Configuring Traffic Rate Limit Profile

### Command Function

This command is used to add or delete a traffic rate limit profile. The parameters include enabling / disabling the traffic rate limit profile, the assured uplink / downlink rate, the uplink burst size and the peak rate.

### Command Format

```
[add|delete] policing profile index <0-128> {name <name> up [enable|disable]
cir <cir> cbs <cbs> ebs <ebs> down [enable|disable] cir <cir> pir <pir>} *1
```

### Parameter Description

| Parameter           | Parameter Description                                                                                                                                | Parameter Property   |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [add delete]        | <ul style="list-style-type: none"> <li>◆ add: add a traffic limit profile.</li> <li>◆ delete: delete a traffic limit profile.</li> </ul>             | Compulsory parameter |
| index <1-128>       | The profile index number.<br>The value ranges from 0 to 128.                                                                                         | Compulsory parameter |
| name <name>         | The traffic rate limit profile name.                                                                                                                 | Compulsory parameter |
| up [enable disable] | The uplink traffic rate limit profile function. <ul style="list-style-type: none"> <li>◆ enable: Enabling.</li> <li>◆ disable: Disabling.</li> </ul> | Compulsory parameter |
| cir<cir>            | The assured uplink rate.                                                                                                                             | Compulsory parameter |
| cbs<cbs>            | The uplink burst size.                                                                                                                               | Compulsory parameter |

| Parameter            | Parameter Description                                                                             | Parameter Property   |
|----------------------|---------------------------------------------------------------------------------------------------|----------------------|
| ebs<ebs>             | The uplink excess burst size.                                                                     | Compulsory parameter |
| down[enable disable] | The downlink traffic rate limit profile function.<br>◆ enable: Enabling.<br>◆ disable: Disabling. | Compulsory parameter |
| cir <cir>            | The assured downlink rate.                                                                        | Compulsory parameter |
| pir <pir>            | The downlink peak cell rate.                                                                      | Compulsory parameter |

## Command Example

Add a traffic rate limit profile, setting the profile index to 3, the profile name to fhtx, the uplink limit rate profile to enabled, the uplink assured rate to 6400, the uplink burst size to 10, the uplink excess burst size to 5, the downlink traffic rate limit profile to enabled, the assured downlink rate to 100, and the downlink peak cell rate to 640.

```
Admin\epononu\qinq# add policing profile index 3 name fhtx up enable cir 6400 cbs 10
ebs 5 down enable cir 100 pir 640
```

```
Admin\epononu\qinq#
```

## 9.21 Configuring Port Attribute Profile

### Command Function

This command is used to add or delete an ONU port attribute profile. The parameters include enabling / disabling the auto-negotiation, rate, data communication mode, and enabling / disabling the traffic control port.

### Command Format

```
[add|delete] portattr2 profile index <0-128> {name <name> auto [enable|
disable] speed [10M|100M|1000M] duplex [full|half] flow [enable|disable]}*1
```

## Parameter Description

| Parameter              | Parameter Description                                                                                                                                                                             | Parameter Property   |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [add delete]           | <ul style="list-style-type: none"> <li>◆ add: Adds a port attribute profile.</li> <li>◆ delete: Deletes a port attribute profile.</li> </ul>                                                      | Compulsory parameter |
| index <1-128>          | <p>The profile index number.</p> <p>The value ranges from 0 to 128.</p>                                                                                                                           | Compulsory parameter |
| name <name>            | The port attribute profile name.                                                                                                                                                                  | Compulsory parameter |
| auto [enable disable]  | <p>The auto-negotiation function.</p> <ul style="list-style-type: none"> <li>◆ enable: Enables the function.</li> <li>◆ disable: Disables the function.</li> </ul>                                | Compulsory parameter |
| speed [10M 100M 1000M] | The rate.                                                                                                                                                                                         | Compulsory parameter |
| duplex [full half]     | <p>The data communication mode.</p> <ul style="list-style-type: none"> <li>◆ full: full duplex, bidirectional transmission.</li> <li>◆ half: half duplex, unidirectional transmission.</li> </ul> | Compulsory parameter |
| flow [enable disable]  | <p>The traffic control function.</p> <ul style="list-style-type: none"> <li>◆ enable: Enables the function.</li> <li>◆ disable: Disables the function.</li> </ul>                                 | Compulsory parameter |

## Command Example

Add a port attribute profile, setting the profile index to 4, the profile name to test, the auto-negotiation to enabled, the rate to 100m, the data communication mode to full duplex, and the traffic control to enabled.

```
Admin\epononu\qing# add portattr2 profile index 4 name test auto enable speed 100m
duplex full flow enable
```

```
Admin\epononu\qing#
```

## 9.22 Configuring Ethernet Switch Queue Scheduling Algorithm Profile

### Command Function

This command is used to add or delete an Ethernet switch queue scheduling algorithm profile. The parameters include the relationship between the queue scheduling mode and the queue priority as well as the relationship between the scheduling algorithm and the queue weight.

### Command Format

```
[add|delete] quesche profile index <1-128> {name <name> mode [sp|wrr|hybrid]
{pri <pri> method [wrr|sp] weight <weight>}*8}*1
```

### Parameter Description

| Parameter            | Description                                                                                                                                                                                                                                                       | Attribute  |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| [add delete]         | <ul style="list-style-type: none"> <li>◆ add: add an Ethernet switch queue scheduling algorithm profile.</li> <li>◆ delete: delete an Ethernet switch queue scheduling algorithm profile.</li> </ul>                                                              | Compulsory |
| index <1-128>        | The profile index number<br>The value ranges from 1 to 128.                                                                                                                                                                                                       | Compulsory |
| name <name>          | The Ethernet switch queue scheduling profile name                                                                                                                                                                                                                 | Compulsory |
| mode [sp wrr hybrid] | The Ethernet switch queue scheduling mode <ul style="list-style-type: none"> <li>◆ sp: strict priority, with the identifier 1.</li> <li>◆ wrr: weighted round robin, with the identifier 2.</li> <li>◆ hybrid: hybrid priority, with the identifier 3.</li> </ul> | Compulsory |
| pri <pri>            | The priority of the Ethernet switch queue                                                                                                                                                                                                                         | Compulsory |
| method [wrr sp]      | The scheduling algorithm <ul style="list-style-type: none"> <li>◆ wrr: weighted round robin, with the identifier 0.</li> <li>◆ sp: strict priority, with the identifier 1.</li> </ul>                                                                             | Compulsory |
| weight <weight>      | The weight value <ul style="list-style-type: none"> <li>◆ The value ranges between 1 to 55 when the weighted algorithm is used.</li> <li>◆ The value ranges between 1 to 55 or can be set to 65535 when the strict algorithm is used.</li> </ul>                  | Compulsory |

## Command Example

Add an Ethernet switch queue scheduling algorithm profile, setting the profile index to 5, the profile name to test1, the Ethernet switch queue scheduling mode to hybrid priority, the Ethernet switch queue priority identifier to 7, the scheduling algorithm to weighted algorithm, and the weight value to 10.

```
Admin\epononu\qinq#add quesche profile index 5 name test1 mode hybrid pri 7 method
wrr weight 10
Admin\epononu\qinq#
```

## 9.23 Configuring Parameters Related to Service Mode Profiles

### Command Function

This command is used to add or delete a service mode profile, including deleting the translation VLAN and the QinQ profile.

### Command Format

```
[add|delete] servmode profile index <0-128> {name <name> type [unicast|
multicast|multiup] cvlan [tag|transparent] translate [enable|disable]
qinq [enable|disable] <qinq_profile>}*1
```

### Parameter Description

| Parameter                        | Parameter Description                                                                                                                                                            | Parameter Property   |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [add delete]                     | <ul style="list-style-type: none"> <li>◆ add: Adds a service mode profile.</li> <li>◆ delete: Deletes a service mode profile.</li> </ul>                                         | Compulsory parameter |
| index <1-128>                    | The profile index number.<br>The value ranges from 1 to 128.                                                                                                                     | Compulsory parameter |
| name <name>                      | The service profile name                                                                                                                                                         | Compulsory parameter |
| type [unicast multicast multiup] | Service type. <ul style="list-style-type: none"> <li>◆ unicast: unicast service</li> <li>◆ multicast: multicast service</li> <li>◆ multiup: multicast uplink protocol</li> </ul> | Compulsory parameter |

| Parameter                 | Parameter Description                                                                             | Parameter Property   |
|---------------------------|---------------------------------------------------------------------------------------------------|----------------------|
| cvlan[tag transparent]    | CVLAN mode.<br>◆ tag: the TAG identifier.<br>◆ transparent: transparent transmission.             | Compulsory parameter |
| translate[enable disable] | The translation function.<br>◆ enable: Enables the function.<br>◆ disable: Disables the function. | Compulsory parameter |
| qinq [enable disable]     | The QinQ function.<br>◆ enable: Enables the function.<br>◆ disable: Disables the function.        | Compulsory parameter |
| <qinq_profile>            | The QinQ profile name.                                                                            | Compulsory parameter |

### Command Example

Add a service profile, setting the profile index to 6, profile name to test 2, service type to multicast, CVLAN mode to transparent transmission, the translation function and QinQ profile to enabled, and the QinQ profile name to 1.

```
Admin\epononu\qinq#add servmode profile index 6 name test2 type multicast cvlan
transparent translate enable qinq enable 1
Admin\epononu\qinq#
```

## 9.24 Configuring Traffic Policing Profile

### Command Function

This command is used to add or delete a traffic policing profile. The configuring parameters include enabling ACL forwarding function, rate limit, and queue mapping.

### Command Format

```
[add|delete] strpcyprofile index <1-128> {name <name> rule_index
<rule_index> pri <pri> acl [enable|disable] forward [enable|disable] limit
[enable|disable] cir <cir> cbs <cbs> ebs <ebs> pir <pir> queue [enable|
disable] map <queue> remark [enable|disable] cos <cos>}*1
```

## Parameter Description

| Parameter                | Parameter Description                                                                                                                          | Parameter Property   |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [add delete]             | <ul style="list-style-type: none"> <li>◆ add: add a traffic policing profile.</li> <li>◆ delete: delete a traffic policing profile.</li> </ul> | Compulsory parameter |
| index <1-128>            | The profile index number<br>The value ranges from 1 to 128.                                                                                    | Compulsory parameter |
| name <name>              | The traffic policing profile                                                                                                                   | Compulsory parameter |
| rule_index <rule_index>  | The traffic rule index                                                                                                                         | Compulsory parameter |
| pri <pri>                | Traffic rule priority                                                                                                                          | Compulsory parameter |
| acl [enable disable]     | The ACL identifier <ul style="list-style-type: none"> <li>◆ enable: Enabling.</li> <li>◆ disable: Disabling.</li> </ul>                        | Compulsory parameter |
| forward [enable disable] | The ACL forwarding identifier <ul style="list-style-type: none"> <li>◆ enable: Enabling.</li> <li>◆ disable: Disabling.</li> </ul>             | Compulsory parameter |
| limit [enable disable]   | The rate limit function <ul style="list-style-type: none"> <li>◆ enable: Enabling.</li> <li>◆ disable: Disabling.</li> </ul>                   | Compulsory parameter |
| cir <cir>                | The assured rate                                                                                                                               | Compulsory parameter |
| cbs <cbs>                | The burst size                                                                                                                                 | Compulsory parameter |
| ebs <ebs>                | The excess burst size                                                                                                                          | Compulsory parameter |
| pir <pir>                | The peak cell rate                                                                                                                             | Compulsory parameter |
| queue [enable disable]   | The queue mapping identifier <ul style="list-style-type: none"> <li>◆ enable: enable the remark.</li> <li>◆ disable: Disabling.</li> </ul>     | Compulsory parameter |
| map <queue>              | The queue mapping sequence number                                                                                                              | Compulsory parameter |
| remark [enable disable]  | The remark enable / disable identifier <ul style="list-style-type: none"> <li>◆ enable: Enabling.</li> <li>◆ disable: Disabling.</li> </ul>    | Compulsory parameter |
| cos <cos>                | The priority label                                                                                                                             | Compulsory parameter |

## Command Example

Add a traffic policing profile, setting the profile index to 6, the profile name to test6, the traffic rule index to 1, the traffic rule priority identifier to 5, the AC, ACL forwarding and rate limit functions to enabled, the assured rate to 640, the burst size to 5, the excess burst size to 5, the peak cell rate to 7, the queue mapping identifier to enabled, the queue mapping sequence number to 1, the remark identifier to enabled, and the COS value to 5.

```
Admin\epononu\qinq#add strpcy profile index 6 name test6 rule_index 1 pri 5 acl enable
forward enable limit enable cir 640 cbs 5 ebs 5 pir 7 queue enable map 1 remark enable cos
5
Admin\epononu\qinq#
```

## 9.25 Configuring SVLAN Profile

### Command Function

This command is used to add or delete an SVLAN profile.

### Command Format

```
[add|delete] svlan profile index <0-128> {name <name> service <name> svlan
<vid> <tpid> <cos>} *1
```

### Parameter Description

| Parameter      | Parameter Description                                                                                                        | Parameter Property   |
|----------------|------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [add delete]   | <ul style="list-style-type: none"> <li>◆ add: Adds an SVLAN profile.</li> <li>◆ delete: Deletes an SVLAN profile.</li> </ul> | Compulsory parameter |
| index <1-128>  | The profile index number.<br>The value ranges from 1 to 128.                                                                 | Compulsory parameter |
| name <name>    | The SVLAN profile name.                                                                                                      | Compulsory parameter |
| service <name> | The SVLAN service name.                                                                                                      | Compulsory parameter |
| svlan <vid>    | SVLAN ID.<br>The value ranges from 1 to 4085.                                                                                | Compulsory parameter |

| Parameter | Parameter Description                           | Parameter Property   |
|-----------|-------------------------------------------------|----------------------|
| <tpid>    | SVLAN TPID<br>The value ranges from 0 to 65535. | Compulsory parameter |
| <cos>     | SVLAN COS.<br>The value ranges from 0 to 7.     | Compulsory parameter |

### Command Example

Add an SVLAN profile, setting the profile index to 7, profile name to test7, service name to 1, SVLAN ID to 7, SVLAN TPID to 5, and SVLAN COS to 7.

```
Admin\epononu\qinq#add svlan profile index 7 name test7 service 1 svlan 7 5 7
Admin\epononu\qinq#
```

## 9.26 Applying ONU LAN Port

### Command Function

This command is used to apply the ONU LAN port so that it can transmit packets to the video card.

### Command Format

```
apply onu <1-18> <1-8> <1-128> vlan
```

### Parameter Description

| Parameter  | Parameter Description                                             | Parameter Property   |
|------------|-------------------------------------------------------------------|----------------------|
| onu <1-18> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.        | Compulsory parameter |
| <1-8>      | The number of the PON interface.<br>The value ranges from 1 to 8. | Compulsory parameter |
| <1-128>    | The ONU authorization number.<br>The value ranges from 1 to 128.  | Compulsory parameter |

### Command example

Apply the LAN port on the ONU with the authorization number of 3 at PON interface 1 in slot 12.

```
Admin\epononu\qinq#apply onu 12 1 3 vlan
Admin\epononu\qinq#
```

## 9.27 Deleting IP Address of COM Port

### Command Function

This command is used to delete the IP address(es) of one or all COM ports on the ONU.

### Command Format

```
del epon slot <slotNo> pon <ponNo> onu <onuNo> comip port [<portNo>|all]
```

### Parameter Description

| Parameter           | Parameter Description                                                                  | Parameter Property   |
|---------------------|----------------------------------------------------------------------------------------|----------------------|
| slot <slotNo>       | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                             | Compulsory parameter |
| pon <ponNo>         | The number of the PON port.<br>The value ranges from 1 to 8.                           | Compulsory parameter |
| onu <onuNo>         | The ONU authorization number.<br>The value ranges from 1 to 128.                       | Compulsory parameter |
| port [<portNo> all] | The ONU port number.<br>◆ <portNo>: the value ranges from 1 to 24.<br>◆ all: all ports | Compulsory parameter |

### Command example

Delete the IP address of number 1 COM port on the ONU with the authorization number of 4 under number 1 PON port in slot 12.

```
Admin\epononu\qinq#del epon slot 12 pon 1 onu 4 comip port 1
del slot 10 pon 1 onu 4 port 1 com ip config success.
Admin\epononu\qinq#
```

## 9.28 Deleting VLAN of COM Port

### Command Function

This command is used to delete the VLAN of one or all COM ports on a designated ONU.

### Command Format

```
del epon slot <slotNo> pon <ponNo> onu <onuNo> comvlan port [<portNo>|all]
```

### Parameter Description

| Parameter           | Parameter Description                                                                  | Parameter Property   |
|---------------------|----------------------------------------------------------------------------------------|----------------------|
| slot <slotNo>       | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                             | Compulsory parameter |
| pon <ponNo>         | The number of the PON port.<br>The value ranges from 1 to 8.                           | Compulsory parameter |
| onu <onuNo>         | The ONU authorization number.<br>The value ranges from 1 to 128.                       | Compulsory parameter |
| port [<portNo> all] | The ONU port number.<br>◆ <portNo>: The value ranges from 1 to 24.<br>◆ all: all ports | Compulsory parameter |

### Command Example

Delete the VLAN of number 1 COM port on the ONU with the authorization number of 4 under number 1 PON port in slot 12.

```
Admin\epononu\qinq#del epon slot 12 pon 1 onu 4 comvlan port 1
del slot 10 pon 1 onu 4 port 1 com vlan config success.
Admin\epononu\qinq#
```

## 9.29 Deleting ONU VEIP Service Configuration

### Command Function

This command is used to delete the ONU VEIP of an ONU port.

## Command Format

```
delete epon slot <1-18> pon <1-8> onu <1-128> port <1-24> onuveip <1-16>
```

## Description

| Parameter      | Description                                                                            | Attribute  |
|----------------|----------------------------------------------------------------------------------------|------------|
| slot <1-18>    | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                             | Compulsory |
| pon <1-8>      | The number of the PON port.<br>The value ranges from 1 to 8.                           | Compulsory |
| onu <1-128>    | The ONU authorization number.<br>The value ranges from 1 to 128.                       | Compulsory |
| port <1 - 24>  | The ONU port number.<br>◆ <portNo>: The value ranges from 1 to 24.<br>◆ all: all ports | Compulsory |
| onuveip <1-16> | The ONU VEIP service sequence number.<br>The value ranges from 1 to 16.                | Compulsory |

## Command Example

Delete number 2 ONU VEIP service at Port 1 of the ONU with the authorization number of 7 at number 1 PON port in Slot 14.

```
Admin\epononu\qinq#delete epon slot 14 pon 1 onu 7 port 1 onuveip 2
Admin\epononu\qinq#
```

# 9.30 Configuring ONU VEIP

## Command Function

This command is used to configure the ONU VEIP at an ONU port. The configuration parameters include the uplink / downlink bandwidth, VLAN and ONU VEIP service flow rule, and the QinQ profile.

## Command Format

```
set epon slot <1-18> pon <1-8> onu <1-128> port <1-24> onuveip <1-16> <ctpid>
<cvid> <ccos> <ttpid> <tvid> <tcos> <stpid> <svid> <scos> <tls> <servmode>
<svlan> {[qinq] <qinq> serdiff <serdiff>}*1 {[up_bandwidth] <upbandwidth>
down_bandwidth <down_bandwidth>}*1
```

## Description

| Parameter                    | Description                                                                        | Attribute  |
|------------------------------|------------------------------------------------------------------------------------|------------|
| slot <1-18>                  | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                         | Compulsory |
| pon <1-8>                    | The number of the PON port.<br>The value ranges from 1 to 8.                       | Compulsory |
| onu <1-128>                  | The ONU authorization number.<br>The value ranges from 1 to 128.                   | Compulsory |
| port <1 - 24>                | The ONU port number.<br>The value ranges from 1 to 24.                             | Compulsory |
| onuveip <1-16>               | The ONU VEIP service sequence number.<br>The value ranges from 1 to 16.            | Compulsory |
| <ctpid>                      | The CVLAN tag protocol identifier.<br>The value ranges from 1 to 65535.            | Compulsory |
| <cvid>                       | CVLAN ID.<br>The value ranges from 1 to 4085.                                      | Compulsory |
| <ccos>                       | CVLAN COS.<br>The value can be set to 0 to 7 or 65535.                             | Compulsory |
| <ttpid>                      | The translation VLAN tag protocol identifier.<br>The value ranges from 1 to 65535. | Compulsory |
| <tvid>                       | The translation VLAN ID.<br>The value ranges from 1 to 4085.                       | Compulsory |
| <tcos>                       | The translation VLAN COS.<br>The value can be set to 0 to 7 or 65535.              | Compulsory |
| <stpid>                      | The SVLAN tag protocol identifier.                                                 | Compulsory |
| <svid>                       | SVLAN ID.<br>The value ranges from 1 to 4085.                                      | Compulsory |
| <scos>                       | SVLAN COS.<br>The value can be set to 0 to 7 or 65535.                             | Compulsory |
| <tls>                        | The TLS identifier.<br>◆ 0: non-TLS identifier<br>◆ 1: TLS identifier              | Compulsory |
| <servmode>                   | The service profile sequence number.                                               | Compulsory |
| <svlan>                      | SVLAN ID.<br>The value ranges from 1 to 4085.                                      | Compulsory |
| [qinq] <qinq>                | The QinQ profile name.                                                             | Compulsory |
| serdiff <servdiff>           | The traffic classification profile name.                                           | Compulsory |
| [up_bandwidth] <upbandwidth> | The uplink bandwidth.                                                              | Compulsory |

| Parameter                      | Description                                                   | Attribute  |
|--------------------------------|---------------------------------------------------------------|------------|
| down_bandwidth<down_bandwidth> | The downlink bandwidth.                                       | Compulsory |
| {[servname [servlan_name]]}*1  | The name of the VLAN profile bound to the central office end. | Optional   |

## Command Example

Configure the VEIP at Port 1 of the ONU with the authorization number of 7 at number 1 PON port in Slot 14, setting the ONU VEIP service sequence number to 2, CVLAN tag protocol identifier to 33024, CVLAN ID to 3, CVLAN COS to 7, the translation VLAN tag protocol identifier to 33024, the translation VLAN ID to 20, the translation VLAN COS to 0, the SVLAN tag protocol identifier to 33024, the SVLAN ID to 40, the SVLAN COS to 65535, the TLS identifier to 0, the service profile sequence number to 1, and the SVLAN ID to 7.

```
Admin\epononu\qinq#set epon slot 14 pon 1 onu 7 port 1 onuveip 2 33024 3 7 33024 20 0
33024 40 65535 0 1 7
Admin\epononu\qinq#
```

## 9.31 Viewing ONU VEIP

### Command Function

This command is used to view the specific service of the ONU VEIP.

### Command Format

```
show epon slot <1-18> pon <1-8> onu <1-128> onuveip servindex {<1-16>}*1
```

### Description

| Parameter          | Description                                                      | Attribute  |
|--------------------|------------------------------------------------------------------|------------|
| slot<1-18>         | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory |
| pon<1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory |
| onu<1-128>         | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory |
| servindex {<1-16>} | The service index.<br>The value ranges from 1 to 16.             | Optional   |

## Command Example

View the information about the number 2 ONU VEIP service at port 1 of the ONU with the authorization number of 7 at number 1 PON port in slot 14.

```
Admin\epononu\qinq#show epon slot 14 pon 1 onu 7 onuveip servindex 2
slot 14 pon 1 onu 7 serv 2 onuveip info:
  cvlan 33024 3 7 tvlan 33024 20 0 svlan 33024 40 65535 t1s 0 servmode 1
  svlan 7 qinq_name null serv_vlannname null up_bandwidth 0
  down_bandwidth 0
Admin\epononu\qinq#
```

## 9.32 Configuring IP of the COM Port

### Command Function

This command is used to configure the IP of an ONU COM port. The IP can be set in a static or dynamic mode. The configuration parameters include the IP address, gateway and IP type.

### Command Format

```
set epon slot <slotNo> pon <ponNo> onu <onuNo> port <portno> comip ipmode
[dhcp|static] {ip <value> gateway <value> <ipaddrtype>}*1
```

### Parameter Description

| Parameter     | Parameter Description                                            | Parameter Property   |
|---------------|------------------------------------------------------------------|----------------------|
| slot <slotNo> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| pon <ponNo>   | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <onuNo>   | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |
| port <portNo> | The ONU port number.<br>The value ranges from 1 to 24.           | Compulsory parameter |

| Parameter                                         | Parameter Description                                                                                                                                                                                                                                                                                          | Parameter Property   |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| ipmode [dhcp static]                              | The IP mode.                                                                                                                                                                                                                                                                                                   | Compulsory parameter |
| {ip <value><br>gateway <value><br><ipaddrtype>}*1 | <ul style="list-style-type: none"> <li>◆ ip &lt;value&gt;: the IP address. The value can be set to IPV4 and IPV6.</li> <li>◆ gateway &lt;value&gt;: the gateway value. The value range includes IPV4, IPV6, DNS, or others.</li> <li>◆ &lt;ipaddrtype&gt;: the IP address type, i.e., IPV4 or IPV6.</li> </ul> | Optional parameter   |

### Command Example

Set the IP mode of number 1 COM port on the ONU with the authorization number of 4 under number 1 PON port in slot 12 to DHCP.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 4 port 1 comip ipmode dhcp
Admin\epononu\qinq#
```

## 9.33 Viewing Information on IP Configuration of COM Port

### Command Function

This command is used to view the information on the IP configuration of the ONU COM port.

### Command format

```
show epon slot <slotNo> pon <ponNo> onu <onuNo> comip port {<portNo>}*1
```

### Parameter Description

| Parameter       | Parameter Description                                            | Parameter Property   |
|-----------------|------------------------------------------------------------------|----------------------|
| slot <slotNo>   | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| pon< ponNo >    | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu< onuNo >    | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |
| port {<portNo>} | The ONU port number.<br>The value ranges from 1 to 24.           | Optional parameter   |

## Command Example

View the information on the IP configuration of number 1 COM port on the ONU with the authorization number of 4 under number 1 PON port in slot 12.

```
Admin\epononu\qing#show epon slot 12 pon 1 onu 4 comip port 1
ip type 0, gateway type 0
slot 12 pon 1 onu 4 port 1 com ip info: ip config mode:dhcp
Admin\epononu\qing#
```

## Result Description

| Parameter    | Parameter Description                                    |
|--------------|----------------------------------------------------------|
| ip type      | IP type.                                                 |
| gateway type | Gateway type.                                            |
| slot         | Slot number.                                             |
| pon          | The number of the PON port.                              |
| onu          | The ONU authorization number.                            |
| port         | The port number.                                         |
| com ip info  | The information on the IP configuration of the COM port. |
| mode         | The IP address mode.                                     |

## 9.34 Configuring VLAN of COM Port

### Command Function

This command is used to configure the VLAN of an ONU COM port, including the SVLAN and CVLAN.

### Command Format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <portno> comvlan
{ [svlan] <stpid> <svlan> <scos> } *1 { [cvlan] <ctpid> <cvlan> <ccos> } *1
```

## Parameter Description

| Parameter                                | Parameter Description                                                                                                                                                                                                                                             | Parameter Property   |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot <slotNo>                            | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                        | Compulsory parameter |
| pon <ponNo>                              | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                      | Compulsory parameter |
| onu <onulist >                           | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                  | Compulsory parameter |
| port <portNo>                            | The ONU port number.<br>The value ranges from 1 to 24.                                                                                                                                                                                                            | Compulsory parameter |
| { [svlan] <stpid><br><svlan> <scos> } *1 | <ul style="list-style-type: none"> <li>◆ &lt;stpid&gt;: SVLAN TPID. The value ranges from 1 to 65535.</li> <li>◆ &lt;svlan&gt;: SVLAN ID. The value ranges from 1 to 4085, and 4088.</li> <li>◆ &lt;scos&gt;: SVLAN COS. The value ranges from 0 to 7.</li> </ul> | Optional parameter   |
| { [cvlan] <ctpid><br><cvlan> <ccos> } *1 | <ul style="list-style-type: none"> <li>◆ &lt;ctpid&gt;: CVLAN TPID. The value ranges from 1 to 65535.</li> <li>◆ &lt;cvlan&gt;: CVLAN ID. The value ranges from 1 to 4085, and 4088.</li> <li>◆ &lt;ccos&gt;: CVLAN COS. The value ranges from 0 to 7.</li> </ul> | Optional parameter   |

## Command Example

Configure the COM VLAN of port 1 on the ONU with the authorization number of 4 at number 1 PON port in slot 12, setting the SLVAN TPID to 10, SVLAN ID to 4085, and SVLAN COS to 7.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 4 port 1 comvlan svlan 10 4085 7
Admin\epononu\qinq#
```

## 9.35 Viewing VALN Configuration of COM Port

### Command Function

This command is used to view the VLAN configuration of one or all COM ports on an ONU.

### Command Format

```
show epon slot <slotNo> pon <ponNo> onu <onuNo> comvlan port [<portNo>|all]
```

## Parameter Description

| Parameter      | Parameter Description                                                                  | Parameter Property   |
|----------------|----------------------------------------------------------------------------------------|----------------------|
| slot <slotNo>  | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                             | Compulsory parameter |
| pon< ponNo >   | The number of the PON port.<br>The value ranges from 1 to 8.                           | Compulsory parameter |
| onu< onuNo >   | The ONU authorization number.<br>The value ranges from 1 to 128.                       | Compulsory parameter |
| [<portNo> all] | The ONU port number.<br>◆ <portNo>: the value ranges from 1 to 24.<br>◆ all: all ports | Compulsory parameter |

## Command Example

View the VLAN of number 1 COM port on the ONU with the authorization number 4 under number 1 PON port in slot 12.

```
Admin\epononu\qing#show epon slot 12 pon 1 onu 4 comvlan port 1
slot 12 pon 1 onu 4 port 1 com vlan info:stpid 10 svlan 4085 scos
7 ctpid 65535 cvlan 65535 ccos 65535
Admin\epononu\qing#
```

## Result description

| Parameter     | Parameter description         |
|---------------|-------------------------------|
| slot          | Slot number.                  |
| pon           | The number of the PON port.   |
| onu           | The ONU authorization number. |
| port          | The port number.              |
| com vlan info | The information on COM VLAN.  |
| stpid         | SVLAN TPID.                   |
| svlan         | SVLAN ID.                     |
| scos          | SVLAN COS.                    |
| ctpid         | CVLAN TPID.                   |
| cvlan         | CVLAN ID.                     |
| ccos          | CVLAN COS.                    |

## 9.36 Configuring ONU Port

### Command Function

This command is used to configure the ONU port. The configuration parameters include auto-negotiation, rate, duplex and rate control.

### Command Format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <portno> {[enable|
disable]}*1 {[auto] [enable|disable]}*1 {[speed] [10M|100M|1000M]}*1
{[duplex] [full|half]}*1 {[flowcontrol] [enable|disable]}*1
```

### Parameter Description

| Parameter                          | Parameter Description                                                        | Parameter Property   |
|------------------------------------|------------------------------------------------------------------------------|----------------------|
| slot <slotNo>                      | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                   | Compulsory parameter |
| pon <ponNo>                        | The number of the PON port.<br>The value ranges from 1 to 8.                 | Compulsory parameter |
| onu < onulist >                    | The ONU authorization number.<br>The value ranges from 1 to 128.             | Compulsory parameter |
| port <portNo>                      | The ONU port number.<br>The value ranges from 1 to 24.                       | Compulsory parameter |
| {[enable disable]}*1               | The port function.<br>◆ enable: Enabling.<br>◆ disable: Disabling.           | Optional parameter   |
| {[auto] [enable disable]}*1        | The auto-negotiation function<br>◆ enable: enabling<br>◆ disable: disabling  | Optional parameter   |
| {[speed] [10M 100M 1000M]}*1       | Rate                                                                         | Optional parameter   |
| {[duplex] [full half]}*1           | The data communication mode.<br>◆ full: full duplex<br>◆ half: half duplex   | Optional parameter   |
| {[flowcontrol] [enable disable]}*1 | The traffic control function<br>◆ enable: enabling.<br>◆ disable: disabling. | Optional parameter   |

## Command Example

Configure Port 1 of the ONU with the authorization number of 3 at number 1 PON port in Slot 12, setting the port function to enabled, the auto-negotiation function to enabled, the rate to 100m, the data communication mode to full-duplex, and the rate control to enabled.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 3 port 1 enable auto enable speed 100m
duplex full flowcontrol enable
port 12:3:1 auto negotiation is enabled
port 12:3:1 auto negotiation is enabled
Admin\epononu\qinq#
```

## 9.37 Configuring Service Flow Rule for ONU Port

### Command Function

This command is used to configure the service flow rule for the ONU port.

### Command Format

```
set epon slot <slotNo> pon <ponNo> onu <onu> port <port> [service]<1-16>{ [up|
down] [da|sa|dip|sip|vid|sport|dport|iptype|eth_type|tos|priority]
<value> <0-6> } *8
```

### Parameter Description

| Parameter       | Parameter Description                                              | Parameter Property   |
|-----------------|--------------------------------------------------------------------|----------------------|
| slot <slotNo>   | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.         | Compulsory parameter |
| pon <ponNo>     | The number of the PON port.<br>The value ranges from 1 to 8.       | Compulsory parameter |
| onu <onu >      | The ONU authorization number.<br>The value ranges from 1 to 128.   | Compulsory parameter |
| port <port>     | The ONU port number.<br>The value ranges from 1 to 24.             | Compulsory parameter |
| [service]<1-16> | The sequence number of services.<br>The value ranges from 1 to 16. | Compulsory parameter |

| Parameter                                                                         | Parameter Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Parameter Property   |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| [up down]<br>[da sa dip sip vid <br>sport dport iptype <br>eth_type tos priority] | The service flow rule type for the uplink / downlink flow.<br><ul style="list-style-type: none"> <li>◆ da: the destination address</li> <li>◆ sa: the source address</li> <li>◆ dip: the destination IP address</li> <li>◆ sip: the source IP address</li> <li>◆ vid: VLAN ID</li> <li>◆ sport: the source port</li> <li>◆ dport: the destination port</li> <li>◆ iptype: the IP type</li> <li>◆ eth_type: the Ethernet type</li> <li>◆ tos: type of service</li> <li>◆ priority: priority</li> </ul> | Compulsory parameter |
| <value>                                                                           | The identifier of the service flow rule type                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Compulsory parameter |
| <0-6>                                                                             | The priority of the service flow rule type<br>The value ranges from 0 to 6.                                                                                                                                                                                                                                                                                                                                                                                                                           | Compulsory parameter |

## Command Example

Configure the service flow rule for Port 1 of the ONU with the authorization number of 4 at number 1 PON port in Slot 12, setting the service index to 1, the uplink service flow rule type to priority type, the identifier to 6, and the priority to 5.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 4 port 1 service 1 up priority 6 5
Admin\epononu\qinq#
```

## 9.38 Configuring ONU Port Service Number

### Command Function

This command is used to configure the service number for the ONU port.

### Command Format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <portno> service number
<0-16>
```

## Parameter Description

| Parameter     | Parameter Description                                              | Parameter Property   |
|---------------|--------------------------------------------------------------------|----------------------|
| slot <slotNo> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.         | Compulsory parameter |
| pon <ponNo>   | The number of the PON port.<br>The value ranges from 1 to 8.       | Compulsory parameter |
| onu <onulist> | The ONU authorization number.<br>The value ranges from 1 to 128.   | Compulsory parameter |
| port <portno> | The ONU port number.<br>The value ranges from 1 to 24.             | Compulsory parameter |
| number <0-16> | The sequence number of services.<br>The value ranges from 1 to 16. | Optional parameter   |

## Command Example

Set the sequence number of the service at port 1 on the ONU with the authorization number of 4 at number 1 PON port in slot 12 to 1.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 4 port 1 service number 1
Admin\epononu\qinq#
```

## 9.39 Configuring CATV

### Command Function

This command is used to enable / disable the CATV for the ONU port.

### Command Format

```
set epon slot <slot_out> pon <pon_no> onu <onu_64> catv [enable|disable]
```

## Parameter Description

| Parameter       | Parameter Description                                        | Parameter Property   |
|-----------------|--------------------------------------------------------------|----------------------|
| slot <slot_out> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.   | Compulsory parameter |
| pon <pon_no>    | The number of the PON port.<br>The value ranges from 1 to 8. | Compulsory parameter |

| Parameter             | Parameter Description                                                                                | Parameter Property   |
|-----------------------|------------------------------------------------------------------------------------------------------|----------------------|
| onu < onu_64 >        | The ONU authorization number.<br>The value ranges from 1 to 128.                                     | Compulsory parameter |
| catv [enable disable] | The CATV function.<br>◆ enable: Enables the CATV function.<br>◆ disable: Disables the CATV function. | Compulsory parameter |

### Command Example

Enable the CATV function for the ONU with the authorization number of 3 at number 1 PON port in slot 12.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 3 catv enable
Admin\epononu\qinq#
```

## 9.40 Configuring ONU Data Ports in a Batch Manner

### Command Function

This command is used to configure the rate control and working mode of ONU data ports. The configuration parameters include the status of port being enabled, binding the ONU port rate control profile and the port attribute profile.

### Command Format

```
set onu [<1-9>|<11-18>] <1-8> <1-128> port <1-24> [enable|disable] mac
<limit> profile portattr [<1-128>|<65535>] policing [<1-128>|<65535>]
```

### Parameter Description

| Parameter       | Parameter Description                                            | Parameter Property   |
|-----------------|------------------------------------------------------------------|----------------------|
| [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| <1-128>         | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

| Parameter                  | Parameter Description                                                                                                | Parameter Property   |
|----------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------|
| port <1 - 24>              | The ONU port number.<br>The value ranges from 1 to 24.                                                               | Compulsory parameter |
| [enable disable]           | The identifier of the FE port being enabled.<br>◆ enable: Enables the function.<br>◆ disable: Disables the function. | Compulsory parameter |
| mac <limit>                | Limit for the number of MAC addresses.                                                                               | Compulsory parameter |
| portattr [<1-128> <65535>] | The sequence number of the port attribute profile.<br>The value can be set to 1 to 128 or 65535.                     | Compulsory parameter |
| policing [<1-128> <65535>] | The sequence number of the rate control profile.<br>The value can be set to 1 to 128 or 65535.                       | Compulsory parameter |

## Command Example

Enable the FE function of port 1 on the ONU with the authorization number of 3 under number 1 PON port in slot 12, setting the limit for the number of MAC addresses to 64, the sequence number for the port attribute profile to 4, and the sequence number for the rate control profile to 3.

```
Admin\epononu\qinq#set onu 12 1 3 port 1 enable mac 64 profile portattr 4 policing 3
Admin\epononu\qinq#
```

## 9.41 Configuring Binding Packet Suppression Profile in ONU Bridge Management

### Command Function

This command is used to configure binding packet suppression profile in the ONU Bridge management.

### Command Format

```
set onubr [<1-8>|<11-18>] <1-8> <1-128> port <portlist> bind pkgcurb <index>
```

## Parameter Description

| Parameter        | Parameter Description                                            | Parameter Property   |
|------------------|------------------------------------------------------------------|----------------------|
| [<1-8> <11-18>]  | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| <1-8>            | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |
| port <portlist > | The ONU port number.<br>The value ranges from 1 to 24.           | Compulsory parameter |
| <index>          | The index of the packet suppression profile.                     | Compulsory parameter |

## Command Example

Set the index of the packet suppression profile at port 1 on the ONU with the authorization number of 3 under number 1 PON port in slot 12 to 2.

```
Admin\epononu\qinq#set onubr 12 1 3 port 1 bind pkgcurb 2
Admin\epononu\qinq#
```

## 9.42 Viewing ONU LAN Port Configuration

### Command Function

This command is used to view the information on configuration of the ONU LAN port.

### Command Format

```
show onufe <1-18> <1-8> <1-128>
```

## Parameter Description

| Parameter | Parameter Description                                            | Parameter Property   |
|-----------|------------------------------------------------------------------|----------------------|
| <1-18>    | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| <1-8>     | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| <1-128>   | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

## Command Example

View the configuration information related to the LAN port of the ONU with the authorization number 3 at PON port 1 in Slot 12.

```
Admin\epononu\qinq#show onufe 12 1 3
```

```
===== onu 12 1 3 =====  
port 1  
  port enable 1  
  port attr 1 1 1 0  
    port batch mac enable 1 0  
    port profile attr 65535 policing 65535  
  service 1 type 0  
  service 1 type 0  
    diff ff 00 00 00 00 00 00 00  
    diff ff 00 00 00 00 00 00 00  
    diff ff 00 00 00 00 00 00 00  
  cvlan 65535 255 33024 3  
  tvlan 65535 255 33024 0  
  svlan 65535 255 33024 0 65535 65535  
  data batch profile mode 65535 svlan 65535  
  diff 65535 diff_up 65535  
port 2  
  port enable 1  
  port attr 1 1 1 0  
    port batch mac enable 1 0  
    port profile attr 65535 policing 65535  
port 3  
  port enable 1  
  port attr 1 1 1 0  
    port batch mac enable 1 0  
    port profile attr 65535 policing 65535  
port 4  
  port enable 1  
  port attr 1 1 1 0  
    port batch mac enable 1 0  
    port profile attr 65535 policing 65535  
===== end of above =====  
Admin\epononu\qinq#
```

## Result Description

| <b>Parameter</b> | <b>Parameter Description</b>                       |
|------------------|----------------------------------------------------|
| port             | The port number.                                   |
| port enable      | The identifier of the LAN port being enabled.      |
| port attr        | Configuration of the LAN port attribute.           |
| port batch mac   | Limit for the number of MAC addresses.             |
| port profile     | The sequence number of the port attribute profile. |
| policing         | The sequence number of the rate control profile.   |



# 10 GPONONU Directory Command

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The following introduces the functions, formats, parameters, and examples of various commands under the GPONONU directory.

- Binding ONU Packet Suppression Profile
- Applying ONU Packet Suppression Function
- Viewing Information on the Bound ONU Packet Suppression Profile
- Configuring Feed Mode for ONU Port
- Applying Feed Mode for ONU Port
- Viewing Feed Mode for ONU Port
- Viewing Feed Information for ONU Port
- Configuring Management VLAN for ONU VEIP Port
- Configuring ONU VEIP Management Parameters
- Deleting Management VLAN of ONU VEIP
- Applying Management VLAN of ONU VEIP
- Viewing ONU VEIP Management VLAN
- Configuring VLAN Mapping of ONU
- Deleting VLAN Mapping of ONU
- Applying VLAN Mapping of ONU
- Viewing VLAN Mapping of the ONU
- Binding ONU Port to Traffic Policy
- Viewing Traffic Policy Bound to ONU Port

- Binding Ethernet Queue Scheduling Algorithm to ONU
- Viewing Ethernet Queue Scheduling Mechanism Profile bound to ONU
- Binding Alarm Threshold Profile to ONU and ONU Port
- Viewing Alarm Threshold Profiles Bound to ONU and ONU Port
- Configuring ONU Service Bandwidth Profile
- Deleting ONU Service Bandwidth Profile
- Configuring Management VLAN for ONU
- Deleting Management VLAN of ONU
- Viewing ONU Management VLAN
- Configuring ONU Service Bandwidth
- Deleting ONU Service Bandwidth
- Viewing ONU Service Bandwidth
- Configuring ONU WLAN Service
- Deleting ONU WLAN Service
- Restarting ONU LAN Port
- Restarting ONU
- Configuring ONU MAC Address Aging Time
- Viewing ONU MAC Address Aging Time
- Configuring ONU Authorization Type
- Viewing ONU Authorization Type
- Authorizing an ONU
- Configuring ONU Deauthorization

- Viewing ONU Authorization Table
- Viewing ONU Discovery Table
- Viewing ONU Online Table
- Configuring ONU Authorization Status
- Limiting the Number of MAC Addresses on ONU LAN Port
- Viewing the Maximum Number of MAC Addresses of ONU LAN Port
- Viewing MAC Address Table of ONU LAN Port
- Configuring Feed Mode for ONU
- Viewing Feed Mode of ONU
- Viewing Feed Information of ONU
- Configuring ONU Remote Management
- Configuring ONU Static Route
- Viewing ONU Static Route
- Configuring ONU White List
- Viewing the ONU White List
- Viewing ONU White List Status
- Configuring ONU Wi-Fi Service Parameter
- Viewing ONU Activation Status
- Viewing ONU Version Information
- Viewing ONU LAN Port Status
- Configuring Performance Threshold of ONU LAN Port
- Viewing the ONU's CPU and Memory Utilization Ratio

- Viewing the Information on ONU Optical Module Parameters
- Viewing ONU Multicast Address Table
- Viewing ONU's Current Time
- Viewing ONU Distance Value

## 10.1 Binding ONU Packet Suppression Profile

### Command Function

This command is used to bind the ONU packet suppression profile to a port. The command configures the data structure only, and you need to use the **apply** command to apply the configuration.

### Command Format

```
bind packet_control slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
prof_id <0-128>
```

### Parameter Description

| Parameter            | Parameter Description                                                                                                                 | Parameter Property   |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                            | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.                                                                          | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                      | Compulsory parameter |
| port <1-32>          | The ONU port number.<br>The value ranges from 1 to 32.                                                                                | Compulsory parameter |
| prof_id <0-128>      | The number of the ONU packet suppression profile.<br>The value ranges from 0 to 128. Enter 0 to use the default system configuration. | Compulsory parameter |

### Command Example

Bind the ONU packet suppression profile to port 1 of the ONU with the authorization number 1 under number 1 PON port in slot 14, and set the number of the ONU packet suppression profile to 1.

```
Admin\gpononu#bind packet_control slot 14 link 1 onu 1 port 1 prof_id 1
bind packet control ok!
Admin\gpononu#
```

## 10.2 Applying ONU Packet Suppression Function

### Command Function

This command is used to apply the packet suppression function to one or more ONU ports.

### Command Format

```
applypacket_control slot [<1-8>|<11-18>] link<1-8> onu<1-128> port
<portlist>
```

### Parameter Description

| Parameter            | Parameter Description                                                                                                                                                                                                                                                                                                                                             | Parameter Property   |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                                                                                        | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                                                                                                                      | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                                                                                                                  | Compulsory parameter |
| port <portlist>      | The ONU port number.<br>The value ranges from 1 to 32.<br>Users can enter the value for the portlist in the following ways:<br><ul style="list-style-type: none"> <li>◆ Enter 1, 2, 3 to select port one by one.</li> <li>◆ Enter 1-3 to select multiple ports from 1 to 3.</li> <li>◆ Enter 1-3, 4, 5 to select ports from 1 to 3, and ports 4 and 5.</li> </ul> | Compulsory parameter |

### Command Example

Apply the packet suppression function to port 1 of the ONU with the authorization number of 1 under number 1 PON port in slot 14.

```
Admin\gpononu#apply packet_control slot 14 link 1 onu 1 port 1
apply onu port packet control ok!
Admin\gpononu#
```

## 10.3 Viewing Information on the Bound ONU Packet Suppression Profile

### Command Function

This command is used to view the ID of the packet suppression profile bound to the ONU port.

### Command Format

```
show packet_control slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
```

### Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |
| port <1-32>          | The ONU port number.<br>The value ranges from 1 to 32.           | Compulsory parameter |

### Command Example

View the information on the packet suppression profile bound to Port 1 of the ONU with the authorization number of 1 at number 1 PON port in Slot 14.

```
Admin\gpononu#show packet_control slot 14 link 1 onu 1 port 1
----- ONU PACKET CONTROL 14.1.1 -----
PROFILE ID=1
Admin\gpononu#
```

### Result Description

| Parameter  | Parameter Description        |
|------------|------------------------------|
| PROFILE ID | The ID of the bound profile. |

## 10.4 Configuring Feed Mode for ONU Port

### Command Function

This command is used to configure the feed mode for one or more ONU ports. The command configures the data structure only, and you need to use the **apply** command to apply the configuration.

### Command Format

```
set port_ps_mode_cfg slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
{[status] [enable|disable]}*1 {[pri] [low|medium|high|highest]}*1
{[power_min] <0-3>}*1 {[power_max] <0-3>}*1 {[mode] [force|normal]}*1
```

### Parameter Description

| Parameter                           | Parameter Description                                                                                                                                                                                                             | Parameter Property   |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]                | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                        | Compulsory parameter |
| link <1-8>                          | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                      | Compulsory parameter |
| onu <1-128>                         | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                  | Compulsory parameter |
| port <1-32>                         | The ONU port number.<br>The value ranges from 1 to 32.<br>Users can enter the value for the portlist in the following ways:<br>◆ Enter 1, 2, 3 to select port one by one.<br>◆ Enter 1-3, and 1-3, 4, 5 to select multiple ports. | Compulsory parameter |
| {[status] [enable disable]}*1       | The power supply status of the port<br>◆ enable: Enabling.<br>◆ disable: Disabling.<br>The default setting is disable.                                                                                                            | Optional parameter   |
| {[pri] [low medium high highest]}*1 | Priority of power supply<br>◆ low: low priority<br>◆ medium: medium priority<br>◆ high: high priority<br>◆ highest: the highest priority                                                                                          | Optional parameter   |

| Parameter                      | Parameter Description                                                                                                                                                                | Parameter Property |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| { [power_min] <0-3>*1          | The minimum value of power supply<br><ul style="list-style-type: none"> <li>◆ 0: 0W.</li> <li>◆ 1: 4W.</li> <li>◆ 2: 7W.</li> <li>◆ 3: 15.4W.</li> </ul> The default value is 0.     | Optional parameter |
| { [power_max] <0-3>*1          | The maximum value of power supply<br><ul style="list-style-type: none"> <li>◆ 0: 4W.</li> <li>◆ 1: 7W.</li> <li>◆ 2: 15.4W.</li> <li>◆ 3: 30.24W.</li> </ul> The default value is 3. | Optional parameter |
| { [mode] [force normal]}<br>*1 | The power supply mode<br><ul style="list-style-type: none"> <li>◆ force: the force mode</li> <li>◆ normal: the normal mode</li> </ul> The default setting is the normal mode.        | Optional parameter |

### Command Example

Enable the power supply at Port 1 of the ONU with the authorization number of 2 at No.1 PON port in Slot 14, and set the power supply priority to low, the minimum value for power supply to 0, the maximum value for the power supply to 3, and the power supply mode to normal.

```
Admin\gpononu#set port_ps_mode_cfg slot 14 link 1 onu 2 port 1 status enable pri low
power_min 0 power_max 3 mode normal
set onu port ps mode cfg ok!
Admin\gpononu#
```

## 10.5 Applying Feed Mode for ONU Port

### Command Function

This command is used to apply the feed mode for one or more ONU ports.

### Command Format

```
apply port_ps_mode_cfg slot [<1-8>|<11-18>] link <1-8> onu <1-128> port
<portlist>
```

## Parameter Description

| Parameter            | Parameter Description                                                                                                                                                                                                                                                                  | Parameter Property   |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                             | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                                           | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                                       | Compulsory parameter |
| port <portlist>      | The ONU port number.<br>The value ranges from 1 to 32.<br>Users can enter the value for the portlist in the following ways: <ul style="list-style-type: none"> <li>◆ Enter 1, 2, 3 to select port one by one.</li> <li>◆ Enter 1-3, and 1-3, 4, 5 to select multiple ports.</li> </ul> | Compulsory parameter |

## Command Example

Apply the feed mode to port 1 of the ONU with the authorization number of 2 under number 1 PON port in slot 14.

```
Admin\gpononu#apply port_ps_mode_cfg slot 14 link 1 onu 2 port 1
apply onu port ps mode cfg ok!
Admin\gpononu#
```

# 10.6 Viewing Feed Mode for ONU Port

## Command Function

This command is used to view the feed mode for an ONU port.

## Command Format

```
show [ps_mode_cfg] slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
```

## Parameter Description

| Parameter            | Description                                                      | Attribute  |
|----------------------|------------------------------------------------------------------|------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory |
| port <1-32>          | The ONU port number.<br>The value ranges from 1 to 32.           | Compulsory |

## Command Example

View the feed mode for port 1 of the ONU with the authorization number of 2 under number 1 PON port in slot 14.

```
Admin\gpononu#show ps_mode_cfg slot 14 link 1 onu 2 port 1
PS                : enable
PS Priority        : low
PS Standard Min   : 0 (W)
PS Standard Max   : 30.24 (W)
PS Mode           : normal
Admin\gpononu#
```

## Result Description

| Parameter       | Parameter Description                                  |
|-----------------|--------------------------------------------------------|
| PS              | The feed enabling status.                              |
| PS Priority     | Priority of feed.                                      |
| PS Standard Min | Minimum power of the power supply / feed for the port. |
| PS Standard Max | Maximum power of the power supply / feed for the port. |
| PS Mode         | The feed mode.                                         |

# 10.7 Viewing Feed Information for ONU Port

## Command Function

This command is used to obtain the information on the feed for an ONU port.

## Command Format

```
show [ps_info] slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
```

## Description

| Parameter            | Description                                                      | Attribute  |
|----------------------|------------------------------------------------------------------|------------|
| ps_info              | Information on the feed.                                         | Compulsory |
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory |
| port <1-32>          | The ONU port number.<br>The value ranges from 1 to 32.           | Compulsory |

## Command Example

View the information on the feed for port 1 on the ONU with the authorization number of 2 under number 1 PON port in slot 14.

```
Admin\gpononu#show ps_info slot 14 link 1 onu 2 port 1
STATUS          : disable
DETECT RESULT   : invalid PD
LEVEL           : calss0 (0w-15.4w)
POW POWER       : 0.00 (W)
Admin\gpononu#
```

## Result Description

| Parameter     | Description                              |
|---------------|------------------------------------------|
| STATUS        | The feed enabling status.                |
| DETECT RESULT | The PD detection result.                 |
| LEVEL         | The PD level.                            |
| POW OWER      | The practical power of the power supply. |

## 10.8 Configuring Management VLAN for ONU VEIP Port

### Command Function

This command is used to configure the management VLAN for an ONU VEIP port.

This function is supported by the HG226 and HG220.

### Command Format

```
set veip_mgr_vlan slot [<1-8>|<11-18>] link <1-8> onu <1-128> veip_port
<veip_port> mgr_id <mgr_id> {[name] <mgr_name>}*1 {[ip_type] [static|dhcp]}
*1 {[ip_addr] [ipv4|ipv6|ipv4z|ipv6z] <ip_addr> <0-32>}*1 {[gateway] [ipv4|
ipv6|ipv4z|ipv6z] <gateway> <0-32>}*1 {[pri_dns] [ipv4|ipv6|ipv4z|ipv6z]
<pri_dns> <0-32>}*1 {[sec_dns] [ipv4|ipv6|ipv4z|ipv6z] <sec_dns> <0-32>}*1
{[protocol] [tcp|udp]}*1 {[port] <0-65535>}*1 {[priority] <0-63>}*1
{[tag_type] [tag|untag]}*1 {[svlan_label] <hexnum>}*1 {[svlanid] [<1-
4085>|null]}*1 {[svlan_cos] [<0-7>|null]}*1 {[cvlan_label] <hexnum>}*1
{[cvlanid] [<1-4085>|null]}*1 {[cvlan_cos] [<0-7>|null]}*1
```

### Description

| Parameter             | Description                                                                                                                    | Attribute  |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------|------------|
| slot [<1-8> <11-18>]  | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                     | Compulsory |
| link <1-8>            | The number of the PON port.<br>The value ranges from 1 to 8.                                                                   | Compulsory |
| onu <1-128>           | The ONU authorization number.<br>The value ranges from 1 to 128.                                                               | Compulsory |
| veip_port <veip_port> | The VEIP port number. The ONU VEIP port number.<br>Each ONU has only one VEIP port currently, and the port number is set to 1. | Compulsory |
| mgr_id <mgr_id>       | The management ID.<br>The value is fixed and set to 1 currently.                                                               | Compulsory |
| {[name] <mgr_name>}*1 | The name of the management VLAN.<br>The name is a character string not exceeding 16 bytes. The default value is manage.        | Optional   |

| Parameter                                                                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Attribute |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <code>{[ip_type] [static dhcp]}*1</code>                                        | The way to obtain IP address<br>When you select to obtain the IP address in a static way, the four parameters including the static IP address, gateway, preferred DNS, and standby DNS are invalid. The default value is dhcp.                                                                                                                                                                                                                                                                                                       | Optional  |
| <code>{[ip_addr] [ipv4 ipv6 ipv4z ipv6z] &lt;ip_addr&gt; &lt;0-32&gt;}*1</code> | IP address.<br><ul style="list-style-type: none"> <li>◆ ipv4 ipv6 ipv4z ipv6z: common INTERNET address type.</li> <li>◆ &lt;ip_addr&gt;: the IP address.</li> <li>◆ &lt;0-32&gt;: length of the byte controlling the InetAddress.</li> </ul> For IPv4, the value is set to 4.<br>For IPv6, the value is set to 16.<br>For IPv4z, the value is set to 8.<br>For IPv6z, the value is set to 20.<br>The value ranges from 0 to 32. The default value is 0, indicating that the length of the byte controlling the InetAddress is 0.     | Optional  |
| <code>{[gateway] [ipv4 ipv6 ipv4z ipv6z] &lt;gateway&gt; &lt;0-32&gt;}*1</code> | The gateway.<br><ul style="list-style-type: none"> <li>◆ ipv4 ipv6 ipv4z ipv6z: common INTERNET address type.</li> <li>◆ &lt;ip_addr&gt;: the IP address.</li> <li>◆ &lt;0-32&gt;: length of the byte controlling the InetAddress.</li> </ul> For IPv4, the value is set to 4.<br>For IPv6, the value is set to 16.<br>For IPv4z, the value is set to 8.<br>For IPv6z, the value is set to 20.<br>The value ranges from 0 to 32. The default value is 0, indicating that the length of the byte controlling the InetAddress is 0.    | Optional  |
| <code>{[pri_dns] [ipv4 ipv6 ipv4z ipv6z] &lt;pri_dns&gt; &lt;0-32&gt;}*1</code> | The primary DNS<br><ul style="list-style-type: none"> <li>◆ ipv4 ipv6 ipv4z ipv6z: common INTERNET address type.</li> <li>◆ &lt;ip_addr&gt;: the IP address.</li> <li>◆ &lt;0-32&gt;: length of the byte controlling the InetAddress.</li> </ul> For IPv4, the value is set to 4.<br>For IPv6, the value is set to 16.<br>For IPv4z, the value is set to 8.<br>For IPv6z, the value is set to 20.<br>The value ranges from 0 to 32. The default value is 0, indicating that the length of the byte controlling the InetAddress is 0. | Optional  |

| Parameter                                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Attribute |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| {[sec_dns] [ipv4 ipv6 ipv4z ipv6z] <sec_dns> <0-32>}*1 | <p>The standby DNS</p> <ul style="list-style-type: none"> <li>◆ ipv4 ipv6 ipv4z ipv6z: common INTERNET address type.</li> <li>◆ &lt;ip_addr&gt;: the IP address</li> <li>◆ &lt;0-32&gt;: length of the byte controlling the InetAddress.</li> </ul> <p>For IPv4, the value is set to 4.<br/>For IPv6, the value is set to 16.<br/>For IPv4z, the value is set to 8.<br/>For IPv6z, the value is set to 20.<br/>The value ranges from 0 to 32. The default value is 0, indicating that the length of the byte controlling the InetAddress is 0.</p> | Optional  |
| {[protocol] [tcp udp]}*1                               | <p>The network protocol.</p> <ul style="list-style-type: none"> <li>◆ tcp: the TCP protocol.</li> <li>◆ udp: the UDP protocol.</li> </ul> <p>The default value is UDP.</p>                                                                                                                                                                                                                                                                                                                                                                         | Optional  |
| {[port] <0-65535>}*1                                   | <p>The network port number.</p> <p>The value ranges from 0 to 65535.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Optional  |
| {[priority] <0-63>}*1                                  | <p>Priority.</p> <p>The value ranges from 0 to 63. The default value is 0.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Optional  |
| {[tag_type] [tag untag]}*1                             | <p>The TAG attribute</p> <p>The default value is untag.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Optional  |
| {[svlan_label] <hexnum>}*1                             | <p>The SVLAN protocol identifier.</p> <p>The value ranges from 1 to 65534, or can be set to 0xffff.<br/>The default value is 0x8100.</p>                                                                                                                                                                                                                                                                                                                                                                                                           | Optional  |
| {[svlanid] [<1-4085> null]}*1                          | <p>SVLAN ID.</p> <ul style="list-style-type: none"> <li>◆ &lt;1-4085&gt;: The value ranges from 1 to 4085. The default value is 0xffff.</li> <li>◆ null: not configured.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                | Optional  |
| {[svlan_cos] [<0-7> null]}*1                           | <p>The SVLAN priority</p> <p>The value ranges from 0 to 7, or can be set to 0xffff. The default value is 0xffff.</p>                                                                                                                                                                                                                                                                                                                                                                                                                               | Optional  |
| {[cvlan_label] <hexnum>}*1                             | <p>The CVLAN protocol identifier.</p> <p>The value ranges from 1 to 65534, or can be set to 0xffff.<br/>The default value is 0xffff.</p>                                                                                                                                                                                                                                                                                                                                                                                                           | Optional  |
| {[cvlanid] [<1-4085> null]}*1                          | <p>CVLAN ID.</p> <p>The value ranges from 1 to 4085. The default value is 0xffff.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Optional  |
| {[cvlan_cos] [<0-7> null]}*1                           | <p>The CLAN priority.</p> <p>The value ranges from 0 to 7, or can be set to 0xffff. The default value is 0xffff.</p>                                                                                                                                                                                                                                                                                                                                                                                                                               | Optional  |

## Command Example

Configure the VLAN for number1 VEIP port of the ONU with the authorization number of 2 at number 1 PON port in slot 14, setting the management ID to 1, the management VLAN name to test, the way to obtain the IP address to static, the IP address type to IPv4, the IP address to 10.19.8.15, the length of the byte controlling the InetAddress to 4, the IP address type of the gateway to IPv4, the gateway address to 10.92.1.254, and the length of the byte controlling the InetAddress to 4.

```
Admin\gpononu#set veip_mgr_vlan slot 14 link 1 onu 2 veip_port 1 mgr_id 1 name test
ip_type static ip_addr ipv4 10.19.8.15 4 gateway ipv4 10.92.1.254 4
set ONU port manage vlan ok!
Admin\gpononu#
```

## 10.9 Configuring ONU VEIP Management Parameters

### Command Function

This command is used to configure the ONU VEIP management parameters.

### Command Format

```
set veip_mgr_par slot [<1-8>|<11-18>] link <1-8> onu <1-128> veip_port
<veip_port> port_type [veip] mgr_channel [enable|disable] {model [tr069|
snmp] item<item>}*1
```

### Parameter Description

| Parameter             | Parameter Description                                                                                                          | Parameter Property   |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]  | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                     | Compulsory parameter |
| link <1-8>            | The number of the PON port.<br>The value ranges from 1 to 8.                                                                   | Compulsory parameter |
| onu <1-128>           | The ONU authorization number.<br>The value ranges from 1 to 128.                                                               | Compulsory parameter |
| veip_port <veip_port> | The VEIP port number. The ONU VEIP port number.<br>Each ONU has only one VEIP port currently, and the port number is set to 1. | Compulsory parameter |

| Parameter                    | Parameter Description                                                                                                                                    | Parameter Property   |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| port_type [veip]             | Port type.<br>Set the value to VEIP.                                                                                                                     | Compulsory parameter |
| mgr_channel [enable disable] | Non-OMCI management channel<br>◆ enable: Enables the management channel.<br>◆ disable: Disables the management channel.<br>The default value is disable. | Compulsory parameter |
| model [tr069 snmp]           | The management model<br>◆ tr069: the TR069 model.<br>◆ snmp: the SNMP model (not available now).<br>The default value is tr069.                          | Optional parameter   |
| item <item>                  | The number of the management VLAN items.<br>The value is currently set to 1.                                                                             | Optional parameter   |

### Command example

Configure the management parameters for number 1 VEIP port of the ONU with the authorization number of 2 under number 1 PON port in slot 14, setting the port type to VEIP, the non-OMCI management channel to enabled, the management model to TR069, and the number of the management VLAN item to 1.

```
Admin\gpononu#set veip_mgr_par slot 14 link 1 onu 2 veip_port 1 port_type veip
mgr_channel enable model tr069 item 1
set onu port manage param ok!
Admin\gpononu#
```

## 10.10 Deleting Management VLAN of ONU VEIP

### Command Function

This command is used to delete the management VLAN of a designated ONU port.

### Command Format

```
del veip_mgr_vlan slot [<1-8>|<11-18>] link <1-8> onu <1-128> veip_port
<veip_port> mgr_id <mgr_id>
```

## Parameter Description

| Parameter             | Parameter Description                                                                                                          | Parameter Property   |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]  | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                     | Compulsory parameter |
| link <1-8>            | The number of the PON port.<br>The value ranges from 1 to 8.                                                                   | Compulsory parameter |
| onu <1-128>           | The ONU authorization number.<br>The value ranges from 1 to 128.                                                               | Compulsory parameter |
| veip_port <veip_port> | The VEIP port number. The ONU VEIP port number.<br>Each ONU has only one VEIP port currently, and the port number is set to 1. | Compulsory parameter |
| mgr_id <mgr_id>       | The management ID.<br>The value is fixed and set to 1 currently.                                                               | Compulsory parameter |

## Command Example

Delete the management VLAN with the management ID of 1 for number 1 VEIP port of the ONU with the authorization number of 2 at number 1 PON port in slot 14.

```
Admin\gpononu#del veip_mgr_vlan slot 14 link 1 onu 2 veip_port 1 mgr_id 1
delete onu port manage vlan 1 ok!
Admin\gpononu#
```

# 10.11 Applying Management VLAN of ONU VEIP

## Command Function

This command is used to apply the management VLAN of the ONU VEIP.

## Command Format

```
apply veip_mgr_vlan slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

## Command Example

Apply the VEIP management VLAN of the ONU with the authorization number of 2 under number 1 PON interface in slot 14.

```
Admin\gpononu#apply veip_mgr_vlan slot 14 link 1 onu 2
apply onu veip manage ok!
Admin\gpononu#
```

# 10.12 Viewing ONU VEIP Management VLAN

## Command Function

This command is used to view the management VLAN of the ONU VEIP.

## Command Format

```
show [dos_attack_defend|vlan_mapping|fan_control|aging_time|fec_enable|
ps_mode_cfg|veip_mgr] slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter Description

| Parameter            | Parameter Description                                           | Parameter Property   |
|----------------------|-----------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.    | Compulsory parameter |
| onu <1-128>          | The ONU authorization number<br>The value ranges from 1 to 128. | Compulsory parameter |

## Command example

View the VEIP management VLAN of the ONU with the authorization number 2 at PON port 1 in Slot 14.

```
Admin\gpononu#show veip_mgr slot 14 link 1 onu 2
```

```
----- SLOT 14 PON 1 ONU 2 VEIP PORT 1-----
PORT TYPE      : VEIP
MANAGE FLAG    : enable
MANAGE MODEL   : tr069
MANAGE ITEM    : 1
ONU Manage ID  =1
NAME           : test
IP TYPE        : static
STATIC IP      : 10.19.8.15
STATIC MASK    : 4
GATEWAY        : 10.92.1.254
GATEWAY MASK   : 4
PRIMARY DNS    : unKnown
SECOND DNS     : unKnown
PROTOCOL       : udp
PORT           : 65535
PRIORITY       : 0
TAG            : untag
SVLAN TPID     =8100
SVLAN ID       =65535
SVLAN COS      =7
CVLAN TPID     =ffff
CVLAN ID       =65535
CVLAN COS      =65535
Admin\gpononu#
```

## Result Description

| Parameter     | Parameter Description                                         |
|---------------|---------------------------------------------------------------|
| PORT TYPE     | Port type                                                     |
| MANAGE FLAG   | The identifier of a non-OMCI management channel being enabled |
| MANAGE MODEL  | The management model                                          |
| MANAGE ITEM   | The number of the management VLAN items                       |
| ONU Manage ID | The management ID                                             |
| NAME          | The name of the management VLAN                               |

| Parameter        | Parameter Description                    |
|------------------|------------------------------------------|
| IP TYPE          | The way to obtain IP address             |
| STATIC IP        | Static IP address                        |
| STATIC MASK      | Static mask                              |
| GATEWAY          | Gateway                                  |
| GATEWAY MASK     | Gateway mask                             |
| PRIMARY DNS      | The primary DNS                          |
| PRIMARY DNS MASK | The primary DNS mask                     |
| SECOND DNS       | The standby DNS                          |
| SECOND DNS MASK  | The standby DNS mask                     |
| PROTOCOL         | The network protocol                     |
| PORT             | The network port number                  |
| PRIORITY         | Priority                                 |
| TAG              | The TAG attribute                        |
| SVLAN TPID       | The management SVLAN protocol identifier |
| SVLAN ID         | The management SVLAN                     |
| SVLAN COS        | The management SVLAN priority            |
| CVLAN TPID       | The management CVLAN protocol identifier |
| CVLAN ID         | The management CVLAN                     |
| CVLAN COS        | The management CVLAN priority            |

## 10.13 Configuring VLAN Mapping of ONU

### Command Function

This command is used to configure the VLAN mapping function of an ONU.

### Command Format

```
set vlan_mapping slot [<1-8>|<11-18>] link <1-8> onu <1-128> domain_rule
[eth_type|tls] rule_id <rule_id> vlan_id <0-4085>
```

## Parameter Description

| Parameter                  | Parameter Description                                                                       | Parameter Property   |
|----------------------------|---------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]       | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                  | Compulsory parameter |
| link <1-8>                 | The number of the PON port.<br>The value ranges from 1 to 8.                                | Compulsory parameter |
| onu <1-128>                | The ONU authorization number.<br>The value ranges from 1 to 128.                            | Compulsory parameter |
| domain_rule [eth_type tls] | The rule domain.<br>The value is fixed and set to 5 currently (based on the Ethernet type). | Compulsory parameter |
| rule_id <rule_id>          | The rule domain value.<br>The value ranges from 0 to 65534. The default value is 33024.     | Compulsory parameter |
| vlan_id <0-4085>           | VLAN ID.<br>The value ranges from 0 to 4085.                                                | Compulsory parameter |

## Command Example

Set the rule domain of the ONU with the authorization number of 1 under number 1 PON port in slot 14 to 0x8100, and set the VLAN ID to 10.

```
Admin\gpononu#set vlan_mapping slot 14 link 1 onu 1 domain_rule eth_type rule_id
0x8100 vlan_id 10
set onu vlan mapping ok!
Admin\gpononu#
```

## 10.14 Deleting VLAN Mapping of ONU

### Command Function

This command is used to delete the VLAN mapping of an ONU.

### Command Format

```
del vlan_mapping slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

## Command Example

Delete the VLAN mapping of the ONU with the authorization number of 1 at PON port 1 in slot 14.

```
Admin\gpononu#del vlan_mapping slot 14 link 1 onu 1
delete onu vlan mapping ok!
Admin\gpononu#
```

# 10.15 Applying VLAN Mapping of ONU

## Command Function

This command is used to apply the VLAN mapping function of the ONU.

## Command Format

```
apply vlan_mapping slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

## Command Example

Apply the VLAN mapping of the ONU with the authorization number of 1 at PON port 1 in slot 14.

```
Admin\gpononu#apply vlan_mapping slot 14 link 1 onu 1
apply onu vlan mapping ok!
Admin\gpononu#
```

# 10.16 Viewing VLAN Mapping of the ONU

## Command Function

Views the VLAN mapping function of the ONU.

## Command Format

```
show [dos_attack_defend|vlan_mapping|fan_control|aging_time|fec_enable|
ps_mode_cfg|veip_mgr] slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

## Command Example

View the VLAN mapping of the ONU with the authorization number of 1 under number 1 PON port in slot 14.

```
Admin\gpononu#show vlan_mapping slot 14 link 1 onu 1
----- ONU VLAN MAPPING ITEM(1) -----
RULE DOMAIN : ETHERNET TYPE
NO. DOMAIN VALUE VLANID
-----
      1          0x8100      10
Admin\gpononu#
```

## Result Description

| Parameter    | Parameter Description          |
|--------------|--------------------------------|
| RULE DOMAIN  | The VLAN mapping rule domain.  |
| DOMAIN VALUE | The VLAN mapping domain value. |
| VLANID       | The VLAN ID of VLAN mapping.   |

## 10.17 Binding ONU Port to Traffic Policy

### Command Function

This command is used to bind an ONU port to designated traffic policies. After being bound to the traffic policies, the ONU port will have its uplink service flow and downlink service flow processed according to the traffic policies.

### Command Format

```
bind acl_qos_rule slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
{uplink_profile <1-128> downlink_profile <1-128>}*8
```

### Parameter Description

| Parameter            | Description                                                      | Attribute  |
|----------------------|------------------------------------------------------------------|------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory |
| port <1-32>          | The ONU port number.<br>The value ranges from 1 to 32.           | Compulsory |

| Parameter                                   | Description                                                                                                                                                                                                                                         | Attribute |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <code>uplink_profile &lt;1-128&gt;</code>   | The uplink traffic policy ID, i.e., the ID of the traffic policy that the ONU uplink service flow is to be bound to.<br>Omitting this parameter means unbinding the port from the traffic policy. The parameter value ranges between 1 and 128.     | Optional  |
| <code>downlink_profile &lt;1-128&gt;</code> | The downlink traffic policy ID, i.e., the ID of the traffic policy that the ONU downlink service flow is to be bound to.<br>Omitting this parameter means unbinding the port from the traffic policy. The parameter value ranges between 1 and 128. | Optional  |

## Command Example

Bind uplink / downlink traffic policy 1 with Port 1 on the ONU with the authorization number of 1 under number 1 PON port in slot 14.

```
Admin\gpononu#bind acl_qos_rule slot 14 link 1 onu 1 port 1 uplink_profile 1
downlink_profile 1
bind onu fe port acl/qos rule ok!
Admin\gpononu#
```

## 10.18 Viewing Traffic Policy Bound to ONU Port

### Command Function

This command is used to view the traffic policies bound to an ONU port.

### Command Format

```
show acl_qos_rule slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
```

### Parameter Description

| Parameter                                     | Parameter Description                                        | Parameter Property   |
|-----------------------------------------------|--------------------------------------------------------------|----------------------|
| <code>slot [&lt;1-8&gt; &lt;11-18&gt;]</code> | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.   | Compulsory parameter |
| <code>link &lt;1-8&gt;</code>                 | The number of the PON port.<br>The value ranges from 1 to 8. | Compulsory parameter |

| Parameter   | Parameter Description                                            | Parameter Property   |
|-------------|------------------------------------------------------------------|----------------------|
| onu <1-128> | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |
| port <1-32> | The ONU port number.<br>The value ranges from 1 to 32.           | Compulsory parameter |

### Command Example

View the traffic policies bound to port 1 of the ONU with the authorization number of 1 under number 1 PON port in slot 14.

```
Admin\gpononu#show acl_qos_rule slot 14 link 1 onu 1 port 1
----- ONU ACL & QOS 14.1.1.1 -----
ITEM NO=1
NO1      UPLINK=1,DOWNLINK=1
Admin\gpononu#
```

### Result Description

| Parameter | Parameter Description                                                                             |
|-----------|---------------------------------------------------------------------------------------------------|
| ITEM NO   | The number of items, i.e., the number of items on the list of traffic policies bound to the port. |
| NOx       | The xth item.                                                                                     |
| UPLINK    | The ID of the traffic policy bound to the uplink service.                                         |
| DOWNLINK  | The ID of the traffic policy bound to the downlink service.                                       |

## 10.19 Binding Ethernet Queue Scheduling Algorithm to ONU

### Command Function

This command is used to bind the Ethernet queue scheduling algorithm to an ONU.

### Command Format

```
bind ethernet_schedule slot [<1-8>|<11-18>] link <1-8> onu <1-128> prof_id
<0-128>
```

## Parameter Description

| Parameter            | Parameter Description                                                                                                                 | Parameter Property   |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                            | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.                                                                          | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                      | Compulsory parameter |
| prof_id <0-128>      | The ID of the Ethernet switch queue scheduling algorithm profile.<br>The value ranges between 0 and 128. The value 0 means unbinding. | Compulsory parameter |

## Command Example

Bind the Ethernet queue scheduling algorithm to the ONU with the authorization number of 1 under number 1 PON port in slot 14. Set the ID of the Ethernet switch queue scheduling algorithm profile to 2.

```
Admin\gpononu#bind ethernet_schedule slot 14 link 1 onu 1 prof_id 2
bind ethernet_schedule arithmetic ok!
Admin\gpononu#
```

## 10.20 Viewing Ethernet Queue Scheduling Mechanism Profile bound to ONU

### Command Function

This command is used to view the Ethernet queue scheduling mechanism profile bound to an ONU.

### Command Format

```
show ethernet_schedule slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

## Command Example

View the the Ethernet queue scheduling mechanism profile bound to the ONU whose authorization number is 1 under the number 1 PON port of slot 14.

```
Admin\gpononu#show ethernet_schedule slot 14 link 1 onu 1
Admin\gpononu#
```

## Result Description

| Parameter  | Parameter Description                                            |
|------------|------------------------------------------------------------------|
| PROFILE ID | The ID of the bound Ethernet queue scheduling mechanism profile. |

# 10.21 Binding Alarm Threshold Profile to ONU and ONU Port

## Command Function

This command is used to bind the alarm threshold profile to ONU and ONU ports.

## Command Format

```
bind optmodule_alarm_threshold slot [<1-8>|<11-18>] link <1-8> onu <1-128>
port [<0-24>|null] prof_id [<1-64>|null]
```

## Parameter Description

| Parameter             | Parameter Description                                                                                                                                                                                                                                                      | Parameter Property   |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]  | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                 | Compulsory parameter |
| link <1-8>            | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                               | Compulsory parameter |
| onu <1-128>           | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                           | Compulsory parameter |
| port [<0-24> null]    | The ONU port number.<br>◆ <0-24>: ONU port number; the value range is from 0 to 24. When the value is 0, the alarm threshold profile is bound to the ONU; for other values, binds the alarm threshold profile to the ONU port.<br>◆ null: idle, binds to the ONU PON port. | Compulsory parameter |
| prof_id [<1-64> null] | The alarm threshold profile ID.<br>◆ <1-64>: The value ranges from 1 to 64.<br>◆ null: Unbinds.                                                                                                                                                                            | Compulsory parameter |

## Command example

Bind the alarm threshold profile to port 1 of the ONU with the authorization number 1 under number 1 PON port in slot 14, and set the number of the ONU packet suppression profile to 1.

```
Admin\gpononu#bind optmodule_alarm_threshold slot 14 link 1 onu 1 port 1 prof_id 1
bind alarm threshold ok!
Admin\gpononu#
```

## 10.22 Viewing Alarm Threshold Profiles Bound to ONU and ONU Port

### Command Function

This command is used to view alarm threshold profiles bound to the ONU and ONU port.

## Command Format

```
show optmodule_alarm_threshold slot [<1-8>|<11-18>] link <1-8> onu <1-128>
port [<0-24>|null]
```

## Parameter Description

| Parameter            | Description                                                                                                                                                                                                                                                                                                                              | Attribute  |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                                                               | Compulsory |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                                                                                             | Compulsory |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                                                                                         | Compulsory |
| port [<0-24> null]   | The ONU port number.<br><ul style="list-style-type: none"> <li>◆ &lt;0-24&gt;: ONU port number; the value range is from 0 to 24. When the value is 0, the alarm threshold profile is bound to the ONU; for other values, binds the alarm threshold profile to the ONU port.</li> <li>◆ null: idle, binds to the ONU PON port.</li> </ul> | Compulsory |

## Command Example

View the the alarm threshold profile bound to the ONU whose authorization number is 1 under number 1 port of slot 14.

```
Admin\gpononu#show optmodule_alarm_threshold slot 14 link 1 onu 1 port 0
PROF ID = 65535
Admin\gpononu#
```

## Result Description

| Parameter  | Description                                 |
|------------|---------------------------------------------|
| PROFILE ID | The ID of the bound alarm threshold profile |

## 10.23 Configuring ONU Service Bandwidth Profile

### Command Function

The command is used to configure the bandwidth allocation profile for manually allocating bandwidth to the uplink service of each ONU. The bandwidth allocation profile includes fixed bandwidth, assured bandwidth and maximum bandwidth.

### Command Format

```
set bandwidth_profile id <1-256> name <profile_name> type [iptv|data|voice|
tdm|integrated|data2|data3|data4|com] fix <16-128000> assure <0-128000>
max <48-128000>
```

### Parameter Description

| Parameter                                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                          | Attribute            |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| id <1-256>                                                  | The service bandwidth profile ID.<br>The value ranges from 1 to 256.                                                                                                                                                                                                                                                                                                                                                                 | Compulsory           |
| name <profile_name>                                         | The service bandwidth profile name.<br>The identifier is a character string not exceeding 16 bytes.                                                                                                                                                                                                                                                                                                                                  | Compulsory           |
| type [iptv data voice tdm integrated data2 data3 data4 com] | Service type.<br><ul style="list-style-type: none"> <li>◆ iptv: IPTV.</li> <li>◆ data: accessing Internet via broadband.</li> <li>◆ voice: voice.</li> <li>◆ tdm: TDM.</li> <li>◆ integrated: hybrid data service.</li> <li>◆ data2: accessing Internet via broadband 2.</li> <li>◆ data3: accessing Internet via broadband 3.</li> <li>◆ data4: accessing Internet via broadband 4.</li> <li>◆ com: serial port service.</li> </ul> | Compulsory           |
| fix <16-128000>                                             | The fixed bandwidth.<br>The parameter value ranges between 16 and 128 000, and the unit is kbit/s.                                                                                                                                                                                                                                                                                                                                   | Compulsory           |
| assure <0-128000>                                           | The assured bandwidth.<br>The parameter value ranges between 0 and 128 000, and the unit is kbit/s.                                                                                                                                                                                                                                                                                                                                  | Compulsory           |
| max <48-128000>                                             | The maximum bandwidth.<br>The parameter value ranges between 48 and 128 000, and the unit is kbit/s.                                                                                                                                                                                                                                                                                                                                 | Compulsory parameter |

## Command Example

Configure the ID of the service bandwidth profile as 1 and name as fh. The service type is TDM and the fixed bandwidth is 6400 kbit/s; the assured bandwidth is 32 kbit/s; the maximum bandwidth is 10 000 kbit/s.

```
Admin\gpononu#set bandwidth_profile id 1 name fh type tdm fix 6400 assure 32 max
10000
set onu service profile (tdm) bandwidth ok.
Admin\gpononu#
```

## 10.24 Deleting ONU Service Bandwidth Profile

### Command Function

The command is used to delete the bandwidth profile.

### Command Format

```
del bandwidth_profile id <1-256> name <profile_name> type [iptv|data|voice|
tdm|integrated|data2|data3|data4|com]
```

### Parameter Description

| Parameter                                                   | Parameter Description                                                                                                                                                                                                                                                                                                                                                                                                                | Parameter Property   |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| id <1-256>                                                  | The service bandwidth profile ID.<br>The value ranges from 1 to 256.                                                                                                                                                                                                                                                                                                                                                                 | Compulsory parameter |
| name <profile_name>                                         | The service bandwidth profile name.<br>The identifier is a character string not exceeding 16 bytes.                                                                                                                                                                                                                                                                                                                                  | Compulsory parameter |
| type [iptv data voice tdm integrated data2 data3 data4 com] | Service type.<br><ul style="list-style-type: none"> <li>◆ iptv: IPTV.</li> <li>◆ data: Accessing Internet via broadband.</li> <li>◆ voice: voice.</li> <li>◆ tdm: TDM.</li> <li>◆ integrated: Hybrid data service.</li> <li>◆ data2: Accessing Internet via broadband 2.</li> <li>◆ data3: Accessing Internet via broadband 3.</li> <li>◆ data4: Accessing Internet via broadband 4.</li> <li>◆ com: serial port service.</li> </ul> | Compulsory parameter |

## Command Example

Delete the service bandwidth profile whose profile ID is 1, name is fh, and service type is TDM.

```
Admin\gpononu#del bandwidth_profile id 1 name fh type tdm
del onu service profile (tdm) bandwidth ok.
Admin\gpononu#
```

## 10.25 Configuring Management VLAN for ONU

### Command Function

This command is used to configure the management VLAN for an ONU.

### Command Format

```
set manage_vlan slot [<1-8>|<11-18>] link <1-8> onu <1-128> mgr_id <1-4>
{ [name] <mgr_name>*1 { [port] <0-3>*1 { [tag_type] [tag|untag]}*1
{ [svlan_label] <hexnum>*1 { [svlanid] <1-4085>*1 { [svlan_cos] [<0-7>|
null]}*1 { [cvlan_label] <hexnum>*1 { [cvlanid] [<1-4085>|null]}*1
{ [cvlan_cos] [<0-7>|null]}*1 { [ip] <A.B.C.D>*1 { [mask] <1-32>*1
{ [gateway] <A.B.C.D>*1
```

### Parameter Description

| Parameter             | Description                                                                                                                                                                                                                                                          | Attribute  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| slot [<1-8> <11-18>]  | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                           | Compulsory |
| link <1-8>            | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                         | Compulsory |
| onu <1-128>           | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                     | Compulsory |
| mgr_id <1-4>          | The management ID<br><ul style="list-style-type: none"> <li>◆ 15 represents the AN5006-15. It supports one management VLAN at present.</li> <li>◆ 20 represents the AN5006-20. It supports four management VLANs at most. .</li> </ul> The value ranges from 1 to 4. | Compulsory |
| { [name] <mgr_name>*1 | The name of the management VLAN<br>The password is a character string not exceeding 16 bytes. The default value is manage.                                                                                                                                           | Optional   |

| Parameter                     | Description                                                                                                | Attribute |
|-------------------------------|------------------------------------------------------------------------------------------------------------|-----------|
| {[port] <0-3>}*1              | The port number.<br>◆ 0: all ports.<br>◆ 1: PON port.<br>◆ 2: GE1.<br>◆ 3: GE2.<br>The default value is 0. | Optional  |
| {[tag_type] [tag untag]}*1    | The TAG attribute                                                                                          | Optional  |
| {[svlan_label] <hexnum>}*1    | The management SVLAN protocol identifier.<br>The value ranges from 1 to 65534. The default value is 33024. | Optional  |
| {[svlanid] <1-4085>}*1        | The management SVLAN ID value.<br>The value ranges from 1 to 4085.                                         | Optional  |
| {[svlan_cos] [<0-7> null]}*1  | The management SVLAN priority.<br>The value ranges from 0 to 7. The default value is 7.                    | Optional  |
| {[cvlan_label] <hexnum>}*1    | The management CVLAN protocol identifier<br>The value ranges from 1 to 65534. The default value is 65534.  | Optional  |
| {[cvlanid] [<1-4085> null]}*1 | The management CVLAN ID value.<br>The value ranges from 1 to 4085.                                         | Optional  |
| {[cvlan_cos] [<0-7> null]}*1  | The management CVLAN priority<br>The value ranges from 0 to 7.                                             | Optional  |
| {[ip] <A.B.C.D>}*1            | IP address<br>The parameter value ranges between 0 and 4294967295, and should be a unicast address.        | Optional  |
| {[mask] <1-32>}*1             | The mask.<br>The value ranges from 1 to 32. The default value is 32.                                       | Optional  |
| {[gateway] <A.B.C.D>}*1       | Gateway<br>The value ranges from 0 to 4294967295.                                                          | Optional  |

## Command Example

Configure the management ID of ONU whose authorization number is 4 of PON port 1 in slot 14 as 1. The name of management VLAN is manager0 and ports are all ports; Tag attribute is untag; management SVLAN protocol label is 0x8100; management SVLAN ID is 2; management SLVAN ID is 7; management CVLAN protocol label is 0xffff, management CVLAN ID is NULL; management CVLAN priority is NULL; the IP address is 1.1.1.1; the mask is 32 and the gateway is 0.0.0.0.

```
Admin\gpononu#set manage_vlan slot 14 link 1 onu 4 mgr_id 1 name manager0 port 0
tag_type untag svlan_label 0x8100 svlanid 2 svlan_cos 7 cvlan_label 0xffff cvlanid null
cvlan_cos null ip 1.1.1.1 mask 32 gateway 0.0.0.0
set ONU 15/20 manage_vlan ok!
Admin\gpononu#
```

## 10.26 Deleting Management VLAN of ONU

### Command Function

This command is used to delete the management VLAN of an ONU.

### Command Format

```
del manage_vlan slot [<1-8>|<11-18>] link <1-8> onu <1-128> mgr_id <1-4>
```

### Parameter Description

| Parameter            | Parameter Description                                                                                                                                                                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                       | Compulsory parameter |
| slot [<1-8> <11-18>] | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                 | Compulsory parameter |
| onu <1-128>          | The management ID.<br>◆ 15 represents the AN5006-15. It supports one management VLAN at present.<br>◆ 20 represents the AN5006-20. It supports four management VLANs at most. .<br>The value ranges from 1 to 4. | Compulsory parameter |

### Command Example

Delete the management VLAN of the ONU whose authorization number is 4 under number 1 PON port in slot 14. The management ID is 1.

```
Admin\gpononu#del manage_vlan slot 14 link 1 onu 4 mgr_id 1
del ONU 15/20 manage_vlan 1 ok!
Admin\gpononu#
```

## 10.27 Viewing ONU Management VLAN

### Command Function

This command is used to view the management VLAN of the ONU.

### Command Format

```
show [rstp_bridge|cpu_using|optic_module|multicast_table|onu_time|
manage_vlan|el_status|rtt_value] slot [<1-8>|<11-18>] link <1-8> onu <1-
128>
```

### Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

### Command Example

View the management VLAN of the ONU with the authorization number 4 under number 1 PON port in slot 14.

```
Admin\gpononu#show manage_vlan slot 14 link 1 onu 4
SLOT=14 PON=1 ONU=4
SN=
----- ONU Manage VLAN,ITEM=1 -----
ONU Manage ID =1
NAME      : manager0
PORT      : 0
TAG       : untag
SVLAN TPID =33024
SVLAN ID  =2
SVLAN COS =7
CVLAN TPID =65535
CVLAN ID  =65535
CVLAN COS =65535
```

```

IP      :1.1.1.1/32
MASK   :0.0.0.0
Admin\gpononu#

```

## Result Description

| Parameter     | Parameter Description                       |
|---------------|---------------------------------------------|
| ONU Manage ID | The management ID.                          |
| NAME          | The name of the management VLAN.            |
| PORT          | The port number.                            |
| TAG           | The TAG attribute.                          |
| SVLAN TPID    | The management SVLAN protocol identifier.   |
| SVLAN ID      | The management SVLAN.                       |
| SVLAN COS     | The management SVLAN priority.              |
| CVLAN TPID    | The management CVLAN protocol identifier.   |
| CVLAN ID      | The management CVLAN.                       |
| CVLAN COS     | The management CVLAN priority.              |
| IP            | The management IP address of the equipment. |
| MASK          | The management IP mask of the equipment.    |

## 10.28 Configuring ONU Service Bandwidth

### Command Function

This command is used to configure the ONU service bandwidth.

### Command Format

```

set service_bandwidth slot [<1-8>|<11-18>] link <1-8> onu <1-128> type [iptv|
data|voice|tdm|integrated|data2|data3|data4|com] fix <16-128000> assure
<0-128000> max <48-128000>

```

### Parameter Description

| Parameter            | Description                                                  | Attribute  |
|----------------------|--------------------------------------------------------------|------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.   | Compulsory |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8. | Compulsory |

| Parameter                                                               | Description                                                                                                                                                                                                                                                                                                                        | Attribute  |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| onu <1-128>                                                             | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                                                                                   | Compulsory |
| type [iptv data <br>voice tdm <br>integrated data2 <br>data3 data4 com] | Service type.<br>◆ iptv: IPTV.<br>◆ data: accessing Internet via broadband.<br>◆ voice: voice.<br>◆ tdm: TDM.<br>◆ integrated: hybrid data service.<br>◆ data2: accessing Internet via broadband 2.<br>◆ data3: accessing Internet via broadband 3.<br>◆ data4: accessing Internet via broadband 4.<br>◆ com: serial port service. | Compulsory |
| fix <16-128000>                                                         | The fixed bandwidth.<br>The parameter value ranges between 16 and 128 000, and the unit is kbit/s.                                                                                                                                                                                                                                 | Compulsory |
| assure <0-128000>                                                       | The assured bandwidth.<br>The parameter value ranges between 0 and 128 000, and the unit is kbit/s.                                                                                                                                                                                                                                | Compulsory |
| max <48-128000>                                                         | The maximum bandwidth.<br>The parameter value ranges between 48 and 128 000, and the unit is kbit/s.                                                                                                                                                                                                                               | Compulsory |

## Command Example

Configure the service type of the ONU with authorization number 1 on PON port 1 in slot 14 as voice, setting the fixed bandwidth to 6400 kbit/s, the assured bandwidth to 100 kbit/s, and the maximum bandwidth to 7000 kbit/s.

```
Admin\gpononu#set service_bandwidth slot 14 link 1 onu 1 type voice fix 6400 assure 100
max 7000
set onu service (voice) bandwidth ok.
Admin\gpononu#
```

## 10.29 Deleting ONU Service Bandwidth

### Command Function

This command is used to delete the ONU service bandwidth.

## Command Format

```
del service_bandwidth slot [<1-8>|<11-18>] link <1-8> onu <1-128> type [iptv|
data|voice|tdm|integrated|data2|data3|data4|com]
```

## Parameter Description

| Parameter                                                   | Parameter Description                                                                                                                                                                                                                                                                                                                                                                                                                | Parameter Property   |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]                                        | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                                                                                                                                                           | Compulsory parameter |
| link <1-8>                                                  | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                                                                                                                                                                                         | Compulsory parameter |
| onu <1-128>                                                 | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                                                                                                                                                                                     | Compulsory parameter |
| type [iptv data voice tdm integrated data2 data3 data4 com] | Service type.<br><ul style="list-style-type: none"> <li>◆ iptv: IPTV.</li> <li>◆ data: accessing Internet via broadband.</li> <li>◆ voice: voice.</li> <li>◆ tdm: TDM.</li> <li>◆ integrated: hybrid data service.</li> <li>◆ data2: accessing Internet via broadband 2.</li> <li>◆ data3: accessing Internet via broadband 3.</li> <li>◆ data4: accessing Internet via broadband 4.</li> <li>◆ com: serial port service.</li> </ul> | Compulsory parameter |

## Command Example

Delete the voice service for the ONU with the authorization number of 1 under PON port 1 in slot 14.

```
Admin\gpononu# del service_bandwidth slot 14 link 1 onu 1 type voice
```

```
del onu service (voice) bandwidth ok.
```

```
Admin\gpononu#
```

## 10.30 Viewing ONU Service Bandwidth

### Command Function

This command is used to view the ONU service bandwidth.

### Command Format

```
show service_bandwidth slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

### Command Example

View the service bandwidth of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\gpononu#show service_bandwidth slot 14 link 1 onu 1
SLOT=14 PON=1 ONU=1, ITEM=3
TYPE      FIX      ASSURE  MAX      (Unit:Kbit/s)
-----
IPTV      16       0       64
Data      16       0       128000
Voice     6400    96       7000
-----
Admin\gpononu#
```

### Result Description

| Parameter | Parameter Description       |
|-----------|-----------------------------|
| TYPE      | The service bandwidth type. |
| FIX       | The fixed bandwidth.        |

| Parameter | Parameter Description  |
|-----------|------------------------|
| ASSURE    | The assured bandwidth. |
| MAX       | The maximum bandwidth. |

## 10.31 Configuring ONU WLAN Service

### Command Function

This command is used to configure the WLAN service for an ONU.

### Command Format

```
set wifi_serv_wlan slot [<1-8>|<11-18>] link <1-8> onu <1-128> index <1-4>
ssid [enable|disable] <ssid> hide [enable|disable] authmode [open|shared|
wepauto|wpa_psk|wpa|wpa2psk|wpa2|wpa/wpa2|wpa_psk/wpa2psk] encrypt_type
[none|wep|tkip|aes|tkipaes] wpakey [<wpakey>|null] interval <0-4194303>
{ [radius_serv] [unknown|ipv4|ipv6|ipv4z|ipv6z|dns] <radius_serv> port <0-
65535> pswd <pswd>} *1 { [wep_length] [40bit|104bit] key_index <1-4> wep_key
[<wep_key1>|null] [<wep_key2>|null] [<wep_key3>|null] [<wep_key4>|null]}
*1
```

### Parameter Description

| Parameter             | Description                                                                                                                                                                                                                                                                                                                                 | Attribute            |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]  | Slot number<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                                                                   | Compulsory parameter |
| link <1-8>            | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                                                                                                | Compulsory parameter |
| onu <1-128>           | The ONU authorization number<br>The value ranges from 1 to 128.                                                                                                                                                                                                                                                                             | Compulsory parameter |
| index <1-4>           | SSID index.<br>The value ranges from 1 to 4.                                                                                                                                                                                                                                                                                                | Compulsory parameter |
| ssid [enable disable] | SSID enable.<br>◆ enable: Enabling.<br>◆ disable: Disabling.                                                                                                                                                                                                                                                                                | Compulsory parameter |
| <ssid>                | Service Set Identifier, the name of Wireless Local Area Network, is used to differentiate various networks. Users who pass the identify verification can access the corresponding network. This prevents unauthorized operators from accessing the network. The maximum length is 32 byte.<br>It should include no more than 32 characters. | Compulsory parameter |

| Parameter                                                                        | Description                                                                                                                                                                                                                                                                                                                                                                          | Attribute            |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| hide [enable disable]                                                            | Whether to hide SSID. If the SSID is hidden, user's PC can not find the SSID. Users can connect the wireless network via configuring SSID manually.<br><ul style="list-style-type: none"> <li>◆ enable: Hide.</li> <li>◆ disable: Does not hide.</li> </ul>                                                                                                                          | Compulsory parameter |
| authmode [open shared wepauto wpa_psk wpa/wpa2psk wpa2 wpa/wpa2 wpa_psk/wpa2psk] | The WLAN authentication mode.                                                                                                                                                                                                                                                                                                                                                        | Compulsory parameter |
| encrypt_type [none wep tkip aes tkipaes]                                         | WLAN encryption type.<br><ul style="list-style-type: none"> <li>◆ When the WLAN encryption mode is OPEN, the WLAN encryption type includes NONE and WEP.</li> <li>◆ When the WLAN encryption mode is SHARED, the WLAN encryption type is WEP.</li> <li>◆ When the WLAN authentication mode is WPAPSK or WPA2PSK, the WLAN encryption mode includes TKIP, AES and TKIPAES.</li> </ul> | Compulsory parameter |
| wpakey [<wpakey> null]                                                           | Pre-shared key of WPA encryption method. WPA is the upgrade release of WEP and reinforces the key protection and the 802.1X protocol.<br>The value should be NULL or less than 64 byte character string.<br>When the authentication mode is WPAPSK or WPA2PSK, the field is valid.                                                                                                   | Compulsory parameter |
| interval <0-4194303>                                                             | Upgrade interval of WPA pre-shared key.<br>The value range is from 0 to 4194303. The default value is 86400 and the unit is s.                                                                                                                                                                                                                                                       | Compulsory parameter |
| [radius_serv]<br>[unknown ipv4 ipv6 ipv4z ipv6z dns]<br><radius_serv>            | RADIUS server. The common INTERNET address.                                                                                                                                                                                                                                                                                                                                          | Optional parameter   |
| port <0-65535>                                                                   | RADIUS server port.<br>The value ranges from 0 to 65535. The default value is 0.                                                                                                                                                                                                                                                                                                     | Optional parameter   |
| pswd <pswd>}                                                                     | RADIUS server password. The identifier is a character string not exceeding 32 bytes.                                                                                                                                                                                                                                                                                                 | Optional parameter   |
| [wep_length] [40bit 104bit]                                                      | WEP key length. When the key mode is WEP, the field is valid.<br>Applicable value:<br><ul style="list-style-type: none"> <li>◆ 1: 40 bit.</li> <li>◆ 2: 104 bit.</li> </ul> The default value is 1.                                                                                                                                                                                  | Optional parameter   |

| Parameter                                                                                       | Description                                                                                                                                                                                                                              | Attribute          |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| key_index <1-4>                                                                                 | Key index. When the key mode is WEP, the field is valid.<br>The value ranges from 1 to 4. The default value is 1.                                                                                                                        | Optional parameter |
| wep_key [<wep_key1> <br>null] [<wep_key2> <br>null] [<wep_key3> <br>null] [<wep_key4> <br>null] | WEP key.<br>◆ <wep_key1>: the first WEP key.<br>◆ <wep_key2>: the second WEP key.<br>◆ <wep_key3>: the third WEP key.<br>◆ <wep_key4>: the fourth WEP key.<br>The value should be NULL or a character string with no more than 32 bytes. | Optional parameter |

## Command Example

Configure the ONU with authorization number 2 of number 1 PON port in slot 14 as follows: The SSID index is 1; enables SSID; the SSID is 1; hides the SSID; the WLAN authorization mode is OPEN; the WLAN key type is NONE; the pre-shared key of WPA encryption mode is NULL; the WPA key upgrade interval is 86400.

```
Admin\gpononu#set wifi_serv_wlan slot 14 link 1 onu 2 index 1 ssid enable 1 hide enable
authmode open encrypt_type none wpakey null interval 86400
set hg wifi config ok!
Admin\gpononu#
```

## 10.32 Deleting ONU WLAN Service

### Command Function

This command is used to delete the ONU WLAN service configuration.

### Command Format

```
del wifi_serv_wlan slot [<1-8>|<11-18>] link <1-8> onu <1-128> [index <1-4>|
all]
```

## Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |
| index [<1-4> all]    | SSID index.<br>The value ranges from 1 to 4.                     | Compulsory parameter |

## Command Example

Delete the ONU whose authorization number is 2 under number 1 PON port in slot 14. Delete the ONU WLAN service configuration whose SSID index is 1.

```
Admin\gpononu#del wifi_serv_wlan slot 14 link 1 onu 2 1
del hg wifi config 1 ok!
Admin\gpononu#
```

## 10.33 Restarting ONU LAN Port

### Command Function

This command is used to restart the ONU LAN port.

### Command Format

```
reset feport slot [<1-8>|<11-18>] link <1-8> onu <1-128> fe <fe_list>
```

## Parameter Description

| Parameter            | Description                                                  | Attribute  |
|----------------------|--------------------------------------------------------------|------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.   | Compulsory |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8. | Compulsory |

| Parameter    | Description                                                                                                                                                                                                                                                                                                                                                                                       | Attribute  |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| onu <1-128>  | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                                                                                                                                                  | Compulsory |
| fe <fe_list> | LAN port number of ONU.<br>The port list can be entered in the following three forms: <ul style="list-style-type: none"> <li>◆ Single selection mode: The user can select a single port like 1, 2 or 3.</li> <li>◆ Multiple selection mode: The user can select multiple ports like 1 to 3 or 1 to 3, 4 and 5..</li> <li>◆ Overall selection mode: all.</li> </ul> The value ranges from 1 to 32. | Compulsory |

### Command Example

Restart all LAN ports of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\gpononu#reset feport slot 14 link 1 onu 1 fe all
reset feport ok!
Admin\gpononu#
```

## 10.34 Restarting ONU

### Command Function

The command is used to restart an ONU. After being restarted, the ONU will be re-registered to the OLT.

### Command Format

```
reset slot [<1-8>|<11-18>] link <1-8> onulist <onulist>
```

### Parameter Description

| Parameter            | Description                                                      | Attribute  |
|----------------------|------------------------------------------------------------------|------------|
| slot [<1-8> <11-18>] | The slot number.<br>The value ranges from 1 to 8 and 11 to 18.   | Compulsory |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory |
| onulist <onulist>    | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory |

## Command Example

Restart the ONU with the authorization number of 1 under PON port 1 in slot 14.

```
Admin\gpononu#reset slot 14 link 1 onulist 1
reset onu ok!
Admin\gpononu#
```

## 10.35 Configuring ONU MAC Address Aging Time

### Command Function

This command is used to configure the ONU aging time. This command is used to configure the ONU MAC address aging time. The aging time is counted from the time a MAC address joining the MAC address table. If the ports fail to receive the frames whose source address is the MAC address in the aging time, this MAC address will be deleted from the dynamic MAC address table.

### Command Format

```
set aging_time slot [<1-8>|<11-18>] link <1-8> onu <1-128> time <0-300>
```

### Parameter Description

| Parameter            | Description                                                                                                 | Attribute  |
|----------------------|-------------------------------------------------------------------------------------------------------------|------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                  | Compulsory |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.                                                | Compulsory |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128.                                            | Compulsory |
| time <0-300>         | The ONU aging time.<br>The value ranges between 0 and 300; the unit is second; and the default value is 80. | Compulsory |

### Command Example

Configure the MAC address aging time of the ONU whose authorization number is 1 under number 1 PON port in slot 14 as 300.

```
Admin\gpononu#set aging_time slot 14 link 1 onu 1 time 300
```

```
set onu mac address ageing time ok!
Admin\gpononu#
```

## 10.36 Viewing ONU MAC Address Aging Time

### Command Function

This command is used to view the ONU MAC address aging time.

### Command Format

```
show aging_time slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

### Command Example

View the aging time of the ONU MAC address whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\gpononu#show aging_time slot 14 link 1 onu 1
ONU MAC ADDRESS AGING TIME = 300s
Admin\gpononu#
```

### Result Description

| Parameter                  | Parameter Description           |
|----------------------------|---------------------------------|
| ONU MAC ADDRESS AGING TIME | The ONU MAC address aging time. |

## 10.37 Configuring ONU Authorization Type

### Command Function

This command is used to configure the ONU authorization type.

### Command Format

```
set auth_type slot [<1-8>|<11-18>] link <1-8> onu <1-128> type [mac|loid|
loidonceon|psw|pswonceon]
```

### Parameter Description

| Parameter                                | Parameter Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Parameter Property   |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]                     | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Compulsory parameter |
| link <1-8>                               | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Compulsory parameter |
| onu <1-128>                              | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Compulsory parameter |
| type [mac loid loidonceon psw pswonceon] | The ONU authentication mode. <ul style="list-style-type: none"> <li>◆ mac: physical address authentication.</li> <li>◆ loid: logical SN authentication, enabling the ONU MAC automatic changing function in the logical SN authentication mode.</li> <li>◆ loidonceon: logical SN authentication, disabling the ONU MAC automatic changing function in the logical SN authentication mode.</li> <li>◆ psw: GPON password authentication, enabling the ONU MAC automatic changing function in the GPON password mode.</li> <li>◆ pswon: GPON password authentication, disabling the ONU MAC automatic changing function in the GPON password mode.</li> </ul> | Compulsory parameter |

### Command Example

Configure the authorization mode of the ONU based on the MAC address authentication. The ONU's authorization number is 1, under number 1 PON port in slot 14.

```
Admin\gpononu#set auth_type slot 14 link 1 onu 1 type mac
set onu authtype ok!
Admin\gpononu#
```

## 10.38 Viewing ONU Authorization Type

### Command Function

This command is used to view the ONU authorization type.

### Command Format

```
show auth_type slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

### Command Example

View the authorization type of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\gpononu# show auth_type slot 14 link 1 onu 1
```

```
AUTH TYPE STR : mac
```

```
Admin\gpononu#
```

### Result Description

| Parameter     | Parameter Description                |
|---------------|--------------------------------------|
| AUTH TYPE STR | Authorization type character string. |

## 10.39 Authorizing an ONU

### Command function

This command is used to authorize an ONU.

### Command format

```
set authorization slot [<1-8>|<11-18>] link <1-8> type [5006-02|5006-02A|
5006-03|5006-04|5006-05|5006-05A|5006-06A|5006-06B|5006-06C|5006-06D|
5006-07A|5006-07B|5006-08A|5006-08B|other1|other2|other3|other4|other6|
other7|5006-03C|5006-04C|5006-02C|5006-05C|5006-09A|5006-09B|5006-10|
5006-12|5006-07C|5006-16|5006-06A-A|5006-10B|HG220|5006-04-P1|5006-01-
A|5006-04-P2|5006-01-B|5200-04-A|5200-10-A|5200-10-B|HG226|5006-03-AK|
5006-09-AK|other|5506-04-B|5506-04-A|5506-06-E|5506-07-B|5506-07-A2|
5506-04-C1|5506-07-A1|5506-07-B1|5506-09-A1|5506-09-B1|5506-10-A1|5506-
10-B1|5506-04-F1|5506-04-G1|5506-04-A1G|5506-04-B2G|5506-01-A1|5506-01-
B1|5506-04-P1|HG260|5006-15|5006-20|5006-11|HG266|5506-06-A|5506-09-
A1K] onuid <1-128> phy_id <phy_id_str> {[password] [<password>|null]}*1
{[logic_sn] <logic_sn_str> password [<password>|null]}*1
```

### Parameter description

| Parameter                        | Parameter description                                                                               | Parameter Property   |
|----------------------------------|-----------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]             | Slot number<br>The value ranges from 1 to 8 and 11 to 18.                                           | Compulsory parameter |
| link <1-8>                       | The number of the PON interface<br>The value ranges from 1 to 8.                                    | Compulsory parameter |
| type [...]                       | ONU type                                                                                            | Compulsory parameter |
| onuid <1-128>                    | The ONU authorization number<br>The value ranges from 1 to 128.                                     | Compulsory parameter |
| phy_id <phy_id_str>              | The physical identifier<br>The value is a 12-byte character string like FH11223344 or 000AC2112233. | Compulsory parameter |
| {[password] [<password> null]}*1 | The physical password<br>The password is a character string not exceeding 10 bytes or NULL.         | Optional parameter   |

| Parameter                  | Parameter description                                                                      | Parameter Property |
|----------------------------|--------------------------------------------------------------------------------------------|--------------------|
| [logic_sn] <logic_sn_str>  | The logical identifier<br>The identifier is a character string not exceeding 24 bytes.     | Optional parameter |
| password [<password> null] | The logical password<br>The password is a character string not exceeding 10 bytes or NULL. | Optional parameter |

### Command example

Authorize a 5506-04-b2g type ONU at No.1 PON interface in Slot 14. The authorization number is 1, the physical address is FHTT00030405, and the password is NULL.

```
Admin\gpononu# set authorization slot 14 link 1 type 5506-04-b2g onuid 1 phy_id
FHTT00030405 password null
```

```
set onu authcated cmd ok!
```

```
Admin\gpononu#
```

## 10.40 Configuring ONU Deauthorization

### Command Function

This command is used to deauthorize an ONU.

### Command Format

```
set unauthorization slot [<1-8>|<11-18>] link <1-8> onu [<1-128>|all]
```

## Parameter Description

| Parameter            | Parameter Description                                                                                                   | Parameter Property   |
|----------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                              | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.                                                            | Compulsory parameter |
| slot [<1-128> all]   | The ONU authorization number.<br>◆ <1-128>: The value ranges from 1 to 128.<br>◆ all: Deauthorizes all authorized ONUs. | Compulsory parameter |

## Command Example

Deauthorize the number 1 ONU under number 1 PON port in slot 14.

```
Admin\gpononu#set unauthorization slot 14 link 1 onu 1
set onu unauthcated ok!
Admin\gpononu#
```

# 10.41 Viewing ONU Authorization Table

## Command Function

This command is used to view the ONU authorization table.

## Command Format

```
show [authorization|discovery] slot [<1-8>|<11-18>] link <1-8>
```

## Parameter Description

| Parameter            | Parameter Description                                        | Parameter Property   |
|----------------------|--------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.   | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8. | Compulsory parameter |

## Command Example

View the authorization table of the number 1 PON port in slot 14.

```
Admin\gpononu#show authorization slot 14 link 1
----- ONU Auth Table, ITEM=1 -----
SLOT PON ONU      TYPE      ST      PHY_ID      PWD      SN LOID, SN PWD
-----
   14   1   1 AN5506-04-B2G   A FHTT00030405
A: Authorized P: Preauthorized R: System Reserved
Admin\gpononu#
```

## Result Description

| Parameter | Parameter Description           |
|-----------|---------------------------------|
| SLOT      | Slot number.                    |
| PON       | The number of the PON port.     |
| ONU       | The ONU authorization number.   |
| TYPE      | The ONU authorization type.     |
| ST        | The ONU authorization status.   |
| PHY_ID    | The ONU physical identifier.    |
| PWD       | The ONU physical password.      |
| SN LOID   | The logical SN of the ONU       |
| SN PWD    | The logical password of the ONU |

## 10.42 Viewing ONU Discovery Table

### Command Function

This command is used to view the ONU discovery table.

### Command Format

```
show [authorization|discovery] slot [<1-8>|<11-18>] link <1-8>
```

## Parameter Description

| Parameter            | Parameter Description                                        | Parameter Property   |
|----------------------|--------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.   | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8. | Compulsory parameter |

## Command Example

View the ONU discovery table of number 1 PON port in slot 14. The ONU authorization number is 1.

```
Admin\gpononu#show discovery slot 14 link 1
----- ONU Unauth Table ,SLOT=11 PON=2 ,ITEM=1-----
NO          TYPE          PHY_ID          PWD          SN LOID, SN PWD
--  -----  -
01          HG266          FHTT00266b15          hg26677715,
Admin\gpononu#
```

## Result Description

| Parameter | Parameter Description                        |
|-----------|----------------------------------------------|
| NO        | The entry number of the ONU discovery table. |
| TYPE      | The ONU authorization type.                  |
| PHY_ID    | The ONU physical identifier.                 |
| PWD       | The ONU physical password.                   |
| SN LOID   | The logical SN of the ONU.                   |
| SN PWD    | The logical password of the ONU.             |

# 10.43 Viewing ONU Online Table

## Command Function

This command is used to view the ONU online table.

## Command Format

```
show online slot [<1-8>|<11-18>] link <1-8>
```

## Parameter Description

| Parameter            | Parameter Description                                        | Parameter Property   |
|----------------------|--------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.   | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8. | Compulsory parameter |

## Command Example

View the ONU online table of number 1 PON port in slot 14.

```
Admin\gpononu#show online slot 14 link 1
ONLINE ONU TOTAL NUM = 1
ONU     ONUTYPE      SN          PASSWORD    LOGICAL SN
-----
01     AN5506-04-B2G  FHTT00030405      ,
Admin\gpononu#
```

## Result Description

| Parameter                                               | Parameter Description         |
|---------------------------------------------------------|-------------------------------|
| ONU     ONUTYPE      SN          PASSWORD    LOGICAL SN | The ONU authorization number. |
| ONUTYPE                                                 | The ONU authorization type.   |
| SN                                                      | The ONU physical identifier.  |
| PASSWORD                                                | The ONU physical password.    |
| SN LOID                                                 | The ONU logical SN.           |
| SN PWD                                                  | The ONU logical password.     |

# 10.44 Configuring ONU Authorization Status

## Command Function

This command is used to configure the ONU authorization status.

## Command Format

```
set authstatus slot [<1-8>|<11-18>] link <1-8> onu <1-128> status [auth|
preauth|reserved]
```

## Parameter Description

| Parameter                      | Parameter Description                                                                                                                                                                   | Parameter Property   |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]           | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                              | Compulsory parameter |
| link <1-8>                     | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                            | Compulsory parameter |
| onu <1-128>                    | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                        | Compulsory parameter |
| status [auth preauth reserved] | The ONU authorization status.<br><ul style="list-style-type: none"> <li>◆ auth: authorized.</li> <li>◆ preauth: pre-authorized.</li> <li>◆ reserved: reserved by the system.</li> </ul> | Compulsory parameter |

## Command Example

Configure the authorization status of the ONU whose authorization number is 1 under number 1 PON port in slot 14 as authorized.

```
Admin\gpononu# set authstatus slot 14 link 1 onu 1 status auth
```

```
set onu authstatus cmd ok!  
Admin\gpononu#
```

## 10.45 Limiting the Number of MAC Addresses on ONU LAN Port

### Command Function

This command is used to limit the number of MAC addresses on an ONU LAN port. Only a specified number of MAC addresses under each port are allowed to be on line. Limit the number of computers that use the port at the same time, so as to control the network traffic and avoid congestion.

This command is supported by the AN5006-04B, AN5006-07B and HG220.

## Command Format

```
set mac_limit slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <0-24> limit
<0-255>
```

## Parameter Description

| Parameter            | Description                                                                                                                                                                                                                                                                                                                         | Attribute            |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                                                                                                                                                                                                                                          | Compulsory           |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                                                                                                                                                                                                        | Compulsory           |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128.                                                                                                                                                                                                                                                                    | Compulsory           |
| port <0 - 24>        | The ONU port number.<br>The value ranges from 1 to 32.                                                                                                                                                                                                                                                                              | Compulsory           |
| limit <0-255>        | The limit to the number of authorized MAC addresses, i. e., the maximum number of MAC addresses allowed for each LAN port. The maximum allowable number of MAC addresses under a LAN port refers to the maximum number of MAC addresses allowed to be on line under it.<br>The value ranges from 0 to 255. The default value is 64. | Compulsory parameter |

## Command Example

Specify the maximum of MAC addresses of LAN port 1 on the following ONU as 64: the ONU's authorization number is 1, under number 1 PON port in slot 14.

```
Admin\gpononu#set mac_limit slot 14 link 1 onu 1 port 1 limit 64
set fe port mac limit ok!
Admin\gpononu#
```

## 10.46 Viewing the Maximum Number of MAC Addresses of ONU LAN Port

### Command Function

This command is used to view the maximum number of MAC addresses of the ONU LAN port.

## Command Format

```
show mac_limit slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter Description

| Parameter            | Description                                                      | Attribute  |
|----------------------|------------------------------------------------------------------|------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory |
| port <1 - 24>        | The ONU port number.<br>The value ranges from 1 to 24.           | Compulsory |

## Command Example

View the maximum number of MAC addresses of the ONU whose authorization number is 1 of number 1 LAN port in slot 14.

```
Admin\gpononu#show mac_list slot 14 link 1 onu 1 port 1
SLOT=14 PON=1 ONU=1
-----
PORT=0 , MAC LIMIT NUM : 0
PORT=1 , MAC LIMIT NUM : 64
PORT=2 , MAC LIMIT NUM : 0
PORT=3 , MAC LIMIT NUM : 0
PORT=4 , MAC LIMIT NUM : 0
Admin\gpononu#
```

## Result Description

| Parameter     | Description                                                                                        |
|---------------|----------------------------------------------------------------------------------------------------|
| SLOT          | Slot number.                                                                                       |
| PON           | The number of the PON port.                                                                        |
| ONU           | The ONU authorization number.                                                                      |
| PORT          | The ONU LAN port number.                                                                           |
| MAC LIMIT NUM | The limit to the number of authorized MAC addresses for the corresponding port of the port number. |

## 10.47 Viewing MAC Address Table of ONU LAN Port

### Command Function

This command is used to view the MAC address table of the ONU LAN port.

### Command Format

```
show mac_list slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <0-24> {lookup
<mac_address>}*1
```

### Parameter Description

| Parameter                    | Parameter Description                                            | Parameter Property   |
|------------------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>]         | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>                   | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>                  | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |
| port <0 - 24>                | The ONU port number.<br>The value ranges from 1 to 32.           | Compulsory parameter |
| {lookup <mac_address>}<br>*1 | MAC address.                                                     | Optional parameter   |

### Command Example

View the MAC address table of LAN port 1 of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\gpononu#show mac_list slot 14 link 1 onu 1 port 1
SLOT=14 PON=1 ONU=1 PORT=1
-----MAC LIST, ITEM =1
1 544B900386C0 Vid:100
Admin\gpononu#
```

### Result Description

| Parameter | Parameter Description       |
|-----------|-----------------------------|
| SLOT      | Slot number.                |
| PON       | The number of the PON port. |

| Parameter        | Parameter Description                   |
|------------------|-----------------------------------------|
| ONU              | The ONU authorization number.           |
| PORT             | The ONU port number.                    |
| MAC LIST, ITEM=1 | The number of the displayed entry is 1. |
| Vid:100          | The VLAN ID value is 1.                 |

## 10.48 Configuring Feed Mode for ONU

### Command Function

This command is used to configure the feed mode of an ONU.

### Command Format

```
set ps_mode_cfg slot [<1-8>|<11-18>] link <1-8> onu <1-128> mode [auto|
manual]
```

### Parameter Description

| Parameter            | Parameter Description                                               | Parameter Property   |
|----------------------|---------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.          | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.        | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128.    | Compulsory parameter |
| mode [auto manual]   | The feed mode.<br>◆ auto: automatic mode.<br>◆ manual: manual mode. | Compulsory parameter |

### Command Example

Configure the feed mode of the ONU whose authorization number is 1 under number 1 PON port in slot 14 as auto.

```
Admin\gpononu#set ps_mode_cfg slot 14 link 1 onu 1 mode auto
set onu ps mode cfg ok!
Admin\gpononu#
```

## 10.49 Viewing Feed Mode of ONU

### Command Function

This command is used to view the feed mode of an ONU.

### Command Format

```
show [ps_mode_cfg] slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

### Command Example

View the feed mode of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\gpononu# show ps_mode_cfg slot 14 link 1 onu 1
```

```
PS MODE CFG : auto
```

```
Admin\gpononu#
```

### Result Description

| Parameter   | Parameter Description |
|-------------|-----------------------|
| PS MODE CFG | The feed mode.        |

## 10.50 Viewing Feed Information of ONU

### Command Function

This command is used to view the feed information of an ONU.

### Command Format

```
show [ps_info] slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

### Command Example

View the feed information of the ONU whose authorization number is 3 under number 1 PON port in slot 5.

```
Admin\gpononu# show ps_info slot 5 link 1 onu 3
```

```
POW POWER : 4.40 (W)
```

```
Admin\gpononu#
```

### Result Description

| Parameter | Parameter Description              |
|-----------|------------------------------------|
| POW OWER  | The ONU POE actual supplied power. |

## 10.51 Configuring ONU Remote Management

### Command Function

The command is used to configure the ONU remote management, i.e., configure the TR069 remote management function.

The HG260 supports the command.

### Command Format

```
set remote_manage_cfg slot [<1-8>|<11-18>] link <1-8> onu <1-128> {[tr069]
[enable|disable] acs_url <acs_url> acl_user <acl_user> acl_pswd <acl_pswd>}
*1 {[inform] [enable|disable] interval <0-4294967295> port <0-65534> user
<user> pswd <pswd>}*1 {[middleware] [enable|disable] url <url> port <0-
65534>}*1
```

### Parameter Description

| Parameter                | Description                                                                                                                                             | Attribute  |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| slot [<1-8> <11-18>]     | Slot number<br>The value ranges from 1 to 8 and 11 to 18.                                                                                               | Compulsory |
| link <1-8>               | The number of the PON port.<br>The value ranges from 1 to 8.                                                                                            | Compulsory |
| onu <1-128>              | The ONU authorization number<br>The value ranges from 1 to 128.                                                                                         | Compulsory |
| [tr069] [enable disable] | TR069 function.<br>◆ enable: Enabling.<br>◆ disable: Disabling.                                                                                         | Optional   |
| acs_url <acs_url>        | The URL of ACS server provided by the ISP.                                                                                                              | Optional   |
| acl_user <acl_user>      | The user name to connect with the ACS server. The authentication user name which the terminal equipment sends the connection request to the ACS server. | Optional   |
| acl_pswd <acl_pswd>      | The password to connect with the ACS server. The authentication password which the terminal equipment sends the connection request to the ACS server.   | Optional   |

| Parameter                     | Description                                                                                                                                                                                                                                                                                                               | Attribute |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| [inform] [enable disable]     | The periodical notification function, performs periodical communication between the equipment and the ACS server of the ISP. After reaching the reporting period, the equipment automatically reports the Inform message, so as to realize the communication interaction.<br>◆ enable: Enabling.<br>◆ disable: Disabling. | Optional  |
| interval <0-4294967295>       | The periodical notification interval. When the periodical notification function is enabled, after the preset interval, the equipment will automatically perform verification connection with the ISP's ACS server.<br>The value range is from 0 to 4294967295. The default value is 43200 and the unit is s.              | Optional  |
| port <0-65534>                | The port of reverse connection. The port which the ACS server initiates the connection request with the terminal equipment to perform user authentication.<br>The value ranges from 0 to 65534. The default value is 8099.                                                                                                | Optional  |
| user <user>                   | The user name of reverse connection. The user name which the ACS server initiates the connection request with the terminal equipment to perform user authentication.                                                                                                                                                      | Optional  |
| pswd <pswd>                   | The password of reverse connection. The password which the ACS server initiates the connection request with the terminal equipment to perform user authentication.                                                                                                                                                        | Optional  |
| [middleware] [enable disable] | Middleware function.<br>◆ enable: Enabling.<br>◆ disable: Disabling.                                                                                                                                                                                                                                                      | Optional  |
| url <url>                     | The middleware URL. The URL which the ISP designates the middleware server.                                                                                                                                                                                                                                               | Optional  |
| port <0-65534>                | The middleware port. The port which the ISP designates the middleware server.<br>The value ranges from 0 to 65534.                                                                                                                                                                                                        | Optional  |

### Command Example

Configure the remote management of ONU whose authorization number of No.1 PON port in slot 14 is 2. Configure as follows: Enable the TR069; the ACS server's URL is fh. The user name to connect the ACS server is customer; The key to connect the ACS server is en. Enable the middleware. The middleware URL is fht. The middleware port is 20.

```
Admin\gpononu#set remote_manage_cfg slot 14 link 1 onu 2 tr069 enable acs_url fh
acl_user customer acl_pswd en inform enable interval 43200 port 8099 user fhtx pswd en
middleware enable url fht port 20
set hg remote manage config ok!
Admin\gpononu#
```

## 10.52 Configuring ONU Static Route

### Command Function

This command is used to configure the static route information from the ONU to the destination network.

### Command Format

```
set static_route slot [<1-8>|<11-18>] link <1-8> onu <1-128> {route <A.B.C.D>
mask <1-32> gateway <A.B.C.D>} *8
```

### Parameter Description

| Parameter            | Parameter Description                                                         | Parameter Property   |
|----------------------|-------------------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                    | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.                  | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128.              | Compulsory parameter |
| route <A.B.C.D>      | Address of the destination network.<br>The value ranges from 0 to 4294967295. | Optional parameter   |
| mask <1-32>          | The mask.<br>The value ranges from 1 to 32.                                   | Optional parameter   |
| gateway <A.B.C.D>    | The gateway.<br>The value ranges from 0 to 4294967295.                        | Optional parameter   |

### Command Example

Configure the items of the ONU whose authorization number is 2 under number 1 PON port in slot 14 as follows: The destination network address is 10.10.1.120, the mask is 16 and the gateway is 10.10.1.254.

```
Admin\gpononu# set static_route slot 14 link 1 onu 2 route 10.10.1.120 mask 16 gateway 10.10.1.254
```

```
set ONU 20 static route ok!
```

```
Admin\gpononu#
```

## 10.53 Viewing ONU Static Route

### Command Function

This command is used to view the ONU static route.

### Command Format

```
show static_route slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter Description

| Parameter            | Parameter Description                                            | Parameter Property   |
|----------------------|------------------------------------------------------------------|----------------------|
| slot [<1-8> <11-18>] | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.       | Compulsory parameter |
| link <1-8>           | The number of the PON port.<br>The value ranges from 1 to 8.     | Compulsory parameter |
| onu <1-128>          | The ONU authorization number.<br>The value ranges from 1 to 128. | Compulsory parameter |

### Command Example

View the static route of the ONU whose authorization number is 2 under number 1 PON port in slot 14.

```
Admin\gpononu# show static_route slot 14 link 1 onu 2
```

```
----- ONU VLAN MULTICAST STATISTIC ITEM(1) -----
NO.   ROUTE           MASK   GATEWAY
-----
  1   10.10.1.120     16    10.10.1.254
```

Admin\gpononu#

## Result Description

| Parameter    | Parameter Description                       |
|--------------|---------------------------------------------|
| NO           | The entry number of the static route table. |
| ROUTE        | The route destination IP.                   |
| MASK GATEWAY | The mask.                                   |
| GATEWAY      | The gateway.                                |

## 10.54 Configuring ONU White List

### Command Function

The command is used to configure the ONU physical identifier authentication white list. The ONU in the white list can be authorized only when the EPON ONU authentication mode is the physical identifier authentication and the physical address/logical identifier hybrid authentication or physical identifier/logical identifier (without key) hybrid authentication and when the GPON ONU authentication mode is physical identifier authentication or physical identifier plus key authentication.

### Command Format

```
set whitelist { [phy_addr] address <address> password [ <pwd_str> | null ] } *1
{ [password] password <pwd_str> } *1 { [logic_sn] sn <sn_str> password
[ <pswd_str> | null ] } *1 action [ add | delete ] { slot [ <1-8> | <11-18> | null ] link
[ <1-8> | null ] onu [ <1-128> | null ] type [ 5006-02 | 5006-02A | 5006-03 | 5006-04 |
5006-05 | 5006-05A | 5006-06A | 5006-06B | 5006-06C | 5006-06D | 5006-07A | 5006-07B |
5006-08A | 5006-08B | other1 | other2 | other3 | other4 | other6 | other7 | 5006-03C |
5006-04C | 5006-02C | 5006-05C | 5006-09A | 5006-09B | 5006-10 | 5006-12 | 5006-07C |
5006-16 | 5006-06A-A | 5006-10B | 5006-04-P1 | 5006-01-A | 5006-04-P2 | 5006-01-B |
5200-04-A | 5200-10-A | 5200-10-B | HG226 | 5006-03-AK | 5006-09-AK | other | 5506-
04-B | 5506-04-A | 5506-06-E | 5506-07-B | 5506-07-A2 | 5506-04-C1 | 5506-07-A1 |
5506-07-B1 | 5506-09-A1 | 5506-09-B1 | 5506-10-A1 | 5506-10-B1 | 5506-04-F1 | 5506-
04-G1 | 5506-04-A1G | 5506-04-B2G | 5506-01-A1 | 5506-01-B1 | 5506-04-P1 | HG220 |
HG260 | 5006-15 | 5006-20 | 5006-11 | HG266 | 5506-06-A | 5506-09-A1K | null ] } *1
```

## Description

| Parameter                            | Description                                                                                               | Attribute                                                                                                                                            |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| [phy_addr] address<br><address>      | The ONU physical address.<br>The value is a 12-byte character string like FHTT11223344 or 000AC2112233.   | Compulsory                                                                                                                                           |
| password [<pwd_str> <br>null]        | The ONU password.<br>◆ The identifier is a character string not exceeding 10 bytes.<br>◆ null: null.      | Compulsory                                                                                                                                           |
| { [password] password<br><pwd_str>*1 | The physical password.<br>The identifier is a character string not exceeding 10 bytes.                    | Is an optional parameter in the physical address / logical SN authentication mode.<br>Is a compulsory parameter in the password authentication mode. |
| [logic_sn] sn <sn_<br>str>           | The ONU logical identifier.<br>The value is a 12-byte character string like FHTT11223344 or 000AC2112233. | Optional                                                                                                                                             |
| password [<pwd_str> <br>null]        | The logical password<br>◆ The identifier is a character string not exceeding 10 bytes.<br>◆ null: null.   | Optional                                                                                                                                             |
| action [add delete]                  | Action<br>◆ add: Adds the white list.<br>◆ delete: Deletes the white list.                                | Compulsory                                                                                                                                           |
| slot [<1-8> <11-18> <br>null]        | Slot number.<br>The value ranges from 1 to 8 and 11 to 18.                                                | Optional                                                                                                                                             |
| link [<1-8> null]                    | The number of the PON port.<br>The value ranges from 1 to 8.                                              | Optional                                                                                                                                             |
| onu [<1-128> null]                   | The ONU authorization number.<br>The value ranges from 1 to 128.                                          | Optional                                                                                                                                             |
| type [.....]                         | ONU type.<br>The ONU types are EPON, GPON and OEM. Select NULL not to designate the ONU type.             | Optional                                                                                                                                             |

## Command Example

Configure the ONU physical address as FHTT00030405 and the password as null, add the white list, and configure the ONU type whose authorization number is 1 under number 1 PON port in slot 14 as 5506-04-b2g.

```
Admin\gpononu#set whitelist phy_addr address FHTT00030405 password null action add
slot 14 link 1 onu 1 type 5506-04-b2g
set onu whitelist ok!
Admin\gpononu#
```

## 10.55 Viewing the ONU White List

### Command Function

This command is used to view the ONU white list.

### Command Format

```
show whitelist [phy_addr|password|logic_sn]
```

### Parameter Description

| Parameter                              | Parameter Description                                                                                                                                                                                   | Parameter Property   |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| whitelist [phy_addr password logic_sn] | White list. <ul style="list-style-type: none"> <li>◆ phy_addr: physical identifier white list.</li> <li>◆ password: password white list.</li> <li>◆ logic_sn: logical identifier white list.</li> </ul> | Compulsory parameter |

### Command Example

View the physical identifier white list.

```
Admin\gpononu# show whitelist phy_addr

----- Physical Address Whitelist, ITEM=1 -----
SLOT  PON   ONU   TYPE           PHY_ID          PWD
-----
    14    1     1  AN5506-04-B2G  FHTT00030405
```

Admin\gpononu#

## Result Description

| Parameter | Parameter Description                        |
|-----------|----------------------------------------------|
| SLOT      | Slot number of the white list.               |
| PON       | PON port number of the white list.           |
| ONU       | ONU authorization number of the white list.  |
| TYPE      | ONU type of the white list.                  |
| PWD       | Password character string of the white list. |

## 10.56 Viewing ONU White List Status

### Command Function

This command is used to view the ONU white list status.

### Command Format

```
show whitelist_status [phy_addr|password|logic_sn] [select|all] {[address]
<address>}*1 {[password] <pwd_str>}*1 {[sn] <sn_str> password <sn_str>}*1
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
[phy_addr password logic_sn]	<ul style="list-style-type: none"> <li>◆ phy_addr: physical identifier white list.</li> <li>◆ password: password white list.</li> <li>◆ logic_sn: logical identifier white list.</li> </ul>	Compulsory parameter
[select all]	<ul style="list-style-type: none"> <li>◆ select: Selects a certain white list.</li> <li>◆ all: All white lists.</li> </ul>	Compulsory parameter
{[address] <address>}*1	The physical identifier.	Optional parameter
{[password] <pwd_str>}*1	The physical identifier password.	Optional parameter
[sn] <sn_str>	The logical identifier.	Optional parameter
password <sn_str>	The logical identifier password.	Optional parameter

## Command Example

View the physical identifier white list status.

```
Admin\gpononu#show whitelist_status phy_addr all
----- Physical Address Whitelist Status, ITEM=1 -----
  SLOT  PON   ONU      TYPE          STATUS  PHY_ID
-----
      14    1     1  AN5506-04-B2G  Auth   FHTT00030405
Admin\gpononu#
```

## Result Description

Parameter	Parameter Description
SLOT	Slot number of the white list.
PON	PON port number of the white list.
ONU	ONU authorization number of the white list.
TYPE	ONU type of the white list.
STATUS	Authorization status of the white list.
PHY_ID	Password character string of the white list.

# 10.57 Configuring ONU Wi-Fi Service Parameter

## Command Function

The command is used to configure the ONU Wi-Fi service, i.e., configure the Wi-Fi service parameters of the ONU or HG.

The HG260 supports the command.

## Command Format

```
set wifi_serv_cfg slot [<1-8>|<11-18>] link <1-8> onu <1-128> wifi [enable|
disable] district [etsi|fcc] channel <0-13> {[standard] [802.11b|802.11g|
802.11b/g|802.11n|802.11bgn]}*1 {[txpower] <0-20>}*1
```

## Parameter Description

Parameter	Description	Attribute
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter
wifi [enable disable]	Wi-Fi enable function. ◆ enable: Enabling. ◆ disable: Disabling.	Compulsory parameter
district [etsi fcc]	Wireless area. The wireless standard which the Wi-Fi service uses. ◆ etsi: Europe. ◆ fcc: America. The default value is etsi.	Compulsory parameter
channel <0-13>	Wireless channel number. The wireless channel number occupied by the service. ◆ When the wireless area is Europe, the value range is from 0 to 13. ◆ When the wireless area is America, the value range is from 0 to 11. The default value is 0 and indicates the wireless channel number is selected automatically.	Compulsory parameter
{[standard] [802.11b 802.11g 802.11b/g 802.11n 802.11bgn]}*1	Wireless standard. The default value is 802.11bgn.	Optional parameter
{[txpower] <0-20>}*1	Tx power. The value range is from 0 to 20. The default value is 20 and the unit is dBm.	Optional parameter

## Command Example

Configure the Wi-Fi enable wireless area as Europe of the ONU whose authorization number is 2 under PON port 1 in slot 14.

```
Admin\gpononu#set wifi_serv_cfg slot 14 link 1 onu 2 wifi enable district etsi channel 10
standard 802.11bgn txpower 4
set hg wifi server config ok!
Admin\gpononu#
```

## 10.58 Viewing ONU Activation Status

### Command Function

This command is used to view the ONU activation status.

### Command Format

```
show onu_state slot [<1-8>|<11-18>] link <1-8> onulist <onulist>
```

### Parameter Description

Parameter	Description	Attribute
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu < onulist >	The ONU authorization number. The port list can be entered in the following three forms: <ul style="list-style-type: none"> <li>◆ Single selection mode: The user can select a single ONU like 1, 2 or 3.</li> <li>◆ Multiple selection mode: The user can select multiple ONUs like 1 to 3 or 1 to 3, 4 and 5.</li> <li>◆ Overall selection mode: all.</li> </ul> The value ranges from 1 to 128.	Compulsory parameter

### Command Example

View the activation status of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\gpononu# show onu_state slot 14 link 1 onulist 1
```

```
onu 1 is active.
```

```
Admin\gpononu#
```

## Result Description

Parameter	Parameter Description
onu	The ONU authorization number.
[active inactive]	The activation status character.

## 10.59 Viewing ONU Version Information

### Command Function

This command is used to view the version information of an ONU.

### Command Format

```
show onu_ver slot [<1-8>|<11-18>] link <1-8>
```

### Description

Parameter	Description	Attribute
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory

### Command Example

View the version information of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\gpononu#show onu_ver slot 14 link 1
----- ONU Version Info.  SLOT=14,PON=1,ITEM=1 -----
ONU_ID  CONFIG_TYPE      REAL_TYPE          SOFT_VER          HARD_VER
-----
      01      AN5506-04-B2G    AN5506-04-B2G    RP2108    WKE2.119.379R1B
Admin\gpononu#
```

### Result Description

Parameter	Description
ONU_ID	The ONU authorization number.
CONFIG_TYPE	ONU type.

Parameter	Description
REAL_TYPE	ONU actual type.
SOFT_VER	The ONU software version.
HARD_VER	The ONU hardware version.

## 10.60 Viewing ONU LAN Port Status

### Command Function

This command is used to view the ONU LAN port status.

### Command Format

```
show feport_status slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter

### Command Example

View the LAN port status of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\gpononu#show feport_status slot 14 link 1 onu 1
----- ONU FE PORT STATUS -----
SLOT:14 PON:1 ONU:1 , ITEM=4

PORT ID = 1
PORT CONNECT : Not Linked
FLOW CONTROL : disable
PORT PHY STATE : enable
AUTO NEGOTIATE : enable
PORT RATE : 10M
```

```

PORT CONNECT      : half
LOOPBACK STATUS  : normal

PORT ID = 2
PORT CONNECT      : Not Linked
FLOW CONTROL      : disable
PORT PHY STATE    : enable
AUTO NEGOTIATE    : enable
PORT RATE         : 10M
PORT CONNECT      : half
LOOPBACK STATUS   : normal

PORT ID = 3
PORT CONNECT      : Not Linked
FLOW CONTROL      : disable
PORT PHY STATE    : enable
AUTO NEGOTIATE    : enable
PORT RATE         : 10M
PORT CONNECT      : half
LOOPBACK STATUS   : normal

PORT ID = 4
PORT CONNECT      : Not Linked
FLOW CONTROL      : disable
PORT PHY STATE    : enable
AUTO NEGOTIATE    : enable
PORT RATE         : 10M
PORT CONNECT      : half
LOOPBACK STATUS   : normal
Admin\gpononu#

```

## Result Description

Parameter	Parameter Description
PORT ID	LAN port ID.
PORT CONNECT	LAN port connection status.
FLOW CONTROL	LAN port flow control status.
PORT PHY STATE	LAN port enabling status.
AUTO NEGOTIATE	LAN port adaptive status.
PORT RATE	LAN port rate.
PORT CONNECT	LAN port connection status (full / half duplex status).
LOOPBACK STATUS	LAN port loopback status.

## 10.61 Configuring Performance Threshold of ONU LAN Port

### Command Function

This command is used to configure the performance threshold of the ONU LAN port.

It is applicable for the ONU of the AN5506-06-E type.

### Command Format

```
set crc_threshold slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <portlist>
up_threshold <value> down_threshold <value>
```

### Parameter Description

Parameter	Description	Attribute
crc_threshold	The CRC threshold.	Compulsory parameter
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter
port <portlist>	The ONU port number. The value ranges from 1 to 32. The portlist allows users to type 1, 2, 3 or 1 to 3 or the combination mode, such as 1-3 / 4 / 5 to indicate that multiple ports are selected.	Compulsory parameter
up_threshold <value>	Threshold value of the uplink CRC. The value ranges from 0 to 4294967294.	Compulsory parameter
down_threshold <value>	Threshold value of the downlink CRC. The value ranges from 0 to 4294967294.	Compulsory parameter

### Command Example

The ONU's authorization number is 3 under number 1 PON port in slot 14.  
Configure the uplink CRC threshold value of the ONU's port 1 as 100000 and the downlink CRC threshold as 2000.

```
Admin\gpononu#set crc_threshold slot 14 link 1 onu 3 port 1 up_threshold 100000
down_threshold 2000
set crc threshold of onu ok!
Admin\gpononu#
```

## 10.62 Viewing the ONU's CPU and Memory Utilization Ratio

### Command Function

This command is used to view the ONU's CPU and memory utilization ratio.

### Command Format

```
show cpu_using slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter

### Command Example

View the CPU and the memory utilization ratio of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\gpononu#show cpu_using slot 14 link 1 onu 1
----- ONU CPU & Memory Using -----
CPU      : 0.00%
Memory   : 60.90%
Admin\gpononu#
```

## Result Description

Parameter	Parameter Description
CPU	The CPU utilization ratio of the ONU.
Memory	The memory utilization ratio of the ONU.

## 10.63 Viewing the Information on ONU Optical Module Parameters

### Command Function

This command is used to view the parameter information of the optical module on an ONU.

### Command Format

```
show optic_module slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter

### Command Example

View the optical module parameter information of ONU 16 under number 2 PON port in slot 11.

```
Admin\gpononu#show optic_module slot 11 link 2 onu 16
----- ONU OPTIC MODULE PAR INFO 11.2.16-----
NAME          VALUE      UNIT
-----
TYPE           : 20      (KM)
TEMPERATURE    : 33.07   ('C)
VOLTAGE        : 3.28   (V)
BIAS CURRENT   : 7.50   (mA)
```

```

SEND POWER   : -0.10    (Dbm)
RECV POWER   : -13.07   (Dbm)
OLT RECV POWER : -16.17 (Dbm)
Admin\gpononu#

```

## Result Description

Parameter	Parameter Description
TYPE	Optical module type.
TEMPERATURE	Temperature of the optical module.
VOLTAGE	Voltage of the optical module.
BIAS CURRENT	Optical module bias current.
SEND POWER	Tx optical power of the optical module.
RECV POWE	Rx Optical Power of the optical module.
OLT RECV POWER	The optical power of the ONU optical module received by the OLT.

## 10.64 Viewing ONU Multicast Address Table

### Command Function

This command is used to view the ONU multicast address table.

### Command Format

```
show multicast_table slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter

### Command Example

View the multicast address table of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```

Admin\gpononu#show multicast_table slot 14 link 1 onu 1
ONU Multicast Table ,ITEM=16
PORT 1 ,MULTICAST IP : 226.2.2.1
PORT 1 ,MULTICAST IP : 226.2.2.2
PORT 1 ,MULTICAST IP : 226.2.2.3
PORT 1 ,MULTICAST IP : 226.2.2.4
PORT 1 ,MULTICAST IP : 226.2.2.5
PORT 1 ,MULTICAST IP : 226.2.2.6
PORT 1 ,MULTICAST IP : 226.2.2.7
PORT 1 ,MULTICAST IP : 226.2.2.8
PORT 1 ,MULTICAST IP : 226.2.2.9
PORT 1 ,MULTICAST IP : 226.2.2.10
PORT 1 ,MULTICAST IP : 226.2.2.11
PORT 1 ,MULTICAST IP : 226.2.2.12
PORT 1 ,MULTICAST IP : 226.2.2.13
PORT 1 ,MULTICAST IP : 226.2.2.14
PORT 1 ,MULTICAST IP : 226.2.2.15
PORT 1 ,MULTICAST IP : 226.2.2.16

```

## Result Description

Parameter	Parameter Description
ITEM	The multicast entry items which the ONU adds.
PORT	The LAN port which the current multicast table entry belongs to.
MULTICAST IP	The multicast IP of the current multicast table entry.

## 10.65 Viewing ONU's Current Time

### Command Function

This command is used to view the ONU current time.

### Command Format

```
show onu_time slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
onu_time	The ONU's current time.	Compulsory parameter
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter

## Command Example

View the current time of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\gpononu#show onu_time slot 14 link 1 onu 1
CARD 14 PON 1 ONU 1,TIMESHOW
Sys Date: 2011-11-21 14:42:44
Run Time: 0days 3h 11m 38s
Admin\gpononu#
```

## Result Description

Parameter	Parameter Description
Sys Date	The ONU system date.
Run Time	The ONU in-service time.

# 10.66 Viewing ONU Distance Value

## Command Function

This command is used to view the ONU distance value.

## Command Format

```
show rtt_value slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter Description

Parameter	Description	Attribute
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter

## Command Example

View the distance value of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\gpononu# show rtt_value slot 14 link 1 onu 1
```

```
ONU RTT VALUE = 16 (m)
```

```
Admin\gpononu#
```

## Result Description

Parameter	Description
ONU RTT VALUE	The ONU distance value.

# 11 GPONLINE Directory Command

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The following introduces the functions, formats, parameters, and examples of various commands under the GPONLINE directory.

- Binding QinQ Profile
- Unbinding QinQ Profile
- Viewing QinQ Profile
- Configuring Line Card PON Port Packet Suppression
- Applying Line Card PON Port Packet Suppression Function
- Viewing Information on the Line Card PON Port Packet Suppression
- Binding Alarm Profile to Line Card and PON Port
- Viewing Alarm Profile Bound to Line Card and PON Port
- Configuring PON Protection Group
- Deleting PON Protection Group
- Viewing PON Protection Group
- Viewing PON Protection Group Status
- Configuring Forced Switch of PON Protection Group
- Configuring PON Port Bandwidth
- Viewing PON Port Bandwidth
- Configuring Alarm Threshold for the Line Card CPU / Memory Utilization Ratio
- Viewing Alarm Threshold of Line Card CPU / Memory Utilization Ratio
- Configuring PON Port Shutdown

- Viewing PON Interface Shutdown
- Configuring ONU Automatic Discovery
- Viewing ONU Automatic Discovery Status
- Configuring Optical Module Type
- Viewing Optical Module Type
- Configuring the Alarm Thresholds for the Optical Module
- Viewing Alarm Thresholds for Optical Module
- Configuring PON Port Authentication Mode
- Viewing PON Port Authentication Mode
- Viewing ONU Batch Upgrade Status
- Viewing the Line Card's CPU and Memory Utilization Ratio
- Viewing the Line Card's Multicast Address Table
- Viewing Parameter Information of the Optical Module on a PON Port
- Viewing PON Port's MAC Address Table
- Viewing Line Card's Current Time
- Configuring Recognition Mode of Universal ONU
- Viewing Recognition Mode of Universal ONU

## 11.1 Binding QinQ Profile

### Command Function

This command is used to bind the QinQ profile to the line card and the PON port.

### Command Format

```
set attach_qinq_profile slot [<1-8>|<11-18>] link <1-8> id <idlist>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
id <idlist>	The ID of the GPON OLT VLAN table. The value ranges from 1 to 4096.	Compulsory parameter

### Command Example

Bind the QinQ profile to the PON port 1 in slot 15 and the table ID is 1.

```
Admin\gponline# set attach_qinq_profile slot 15 link 1 id 1
```

```
attach qinq profile 1 ok!
```

```
Admin\gponline#
```

## 11.2 Unbinding QinQ Profile

### Command Function

This command is used to unbind the QinQ profile from the line card and the PON port.

## Command Format

```
set unattach_qinq_profile slot [<1-8>|<11-18>] link <1-8> id <idlist>
```

## Parameter Description

Parameter	Description	Attribute
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory
id <idlist>	The ID of the GPON OLT VLAN table. The value ranges from 1 to 4096.	Compulsory

## Command Example

Unbind the Qinq profile whose table ID is 1 of number 1 PON port in slot 15.

```
Admin\gponline#set unattach_qinq_profile slot 15 link 1 id 1
unattach qinq profile 1 ok!
Admin\gponline#
```

# 11.3 Viewing Qinq Profile

## Command Function

The command is used to view the Qinq profile binding condition of the PON port in the line card.

## Command Format

```
show attach_qinq_profile slot [<1-8>|<11-18>]
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter

## Command Example

View the binding situation of the QinQ profile in slot 15.

```
Admin\gponline# show attach_qinq_profile slot 15
```

```
SLOT=15, PON=1, ACTION=1, ITEM=1
```

```
NO0001 PROF ID      :1
```

```
SLOT=15, PON=2, ACTION=1, ITEM=1
```

```
NO0001 PROF ID      :2
```

```
SLOT=15, PON=3, ACTION=1, ITEM=0
```

```
SLOT=15, PON=4, ACTION=1, ITEM=0
```

```
Admin\gponline#
```

## Result Description

Parameter	Parameter Description
SLOT	Slot number.
PON	The number of the PON port.
ACTION=1	The action rule is 1.
ITEM=1	The number of the displayed entry is 1.
NO0001 PROF ID	The ID of the GPON OLT VLAN table.

# 11.4 Configuring Line Card PON Port Packet Suppression

## Command Function

This command is used to configure the suppression function of broadcast / multicast / unknown packets of the PON port in the line card. This can avoid the broadcast storm in the system, so as to improve the system performance.

## Command Format

```
set packet_control slot [<1-8>|<11-18>] link <1-8> {type [broadcast|
multicast|unknown] status [enable|disable] rate [<1-262142>|default]}*3
```

## Parameter Description

Parameter	Description	Attribute
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
type [broadcast  multicast unknown]	The packet type. ◆ broadcast: broadcast packets. ◆ multicast: multicast packets. ◆ unknown: unknown packets.	Compulsory parameter
status [enable disable]	Status function. ◆ enable: Enables the function. ◆ disable: Disables the function. The default value is enable.	Compulsory parameter
rate [<1-262142>  default]}*3	Rate control. The number of the data packets that pass the PON port per second. The system discards the data packet which exceeds the rate control. The value range is from 1 to 262142, or 4 294 967 295. The unit is packet per second. The default value is 150. When the user status is disable, the field delivers the value of 4 294 967 295.	Optional parameter

## Command Example

Configure the packet suppression type of number 1 PON port in slot 14 as multicast packet, enable status and the rate control is default.

```
Admin\gponline#set packet_control slot 14 link 1 type multicast status enable rate default
command execute ok!
Admin\gponline#
```

## 11.5 Applying Line Card PON Port Packet Suppression Function

### Command Function

This command is used to apply the packet suppression function to one or more line card PON ports.

### Command Format

```
applypacket_control slot [<1-8>|<11-18>] link <linklist>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <linklist>	The number of the PON port. The port list can be entered in the following three forms: <ul style="list-style-type: none"> <li>◆ Enter the PON port numbers one by one, e.g. 1, 2, 3.</li> <li>◆ Enter multiple PON port numbers at a time, e.g. 1-3 or 1-3, 4, 5.</li> <li>◆ Enter all to select all PON ports.</li> </ul> The value ranges from 1 to 8.	Compulsory parameter

### Command Example

Apply the packet suppression function to PON port 1 in slot 14.

```
Admin\gponline#apply packet_control slot 14 link 1
command execute ok!
Admin\gponline#
```

## 11.6 Viewing Information on the Line Card PON Port Packet Suppression

### Command Function

This command is used to view the packet suppression status to one or more line card PON ports.

## Command Format

```
show packet_control slot [<1-8>|<11-18>] link <1-8>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter

## Command Example

View the packet suppression status of PON port 1 in slot 14.

```
Admin\gponline#show packet_control slot 14 link 1
----- PON PACET CONTROL -----
TYPE          STATUS  RATE, Item=3
-----
broadcast     enable  500
multicast     enable   0
unknown       enable  500
Admin\gponline#
```

## Result Description

Parameter	Parameter Description
TYPE	The packet type.
STATUS	Enable status of the packet suppression.
RATE	Packet suppression rate.
Item	Rate control, i.e., packet suppression entry items.

# 11.7 Binding Alarm Profile to Line Card and PON Port

## Command Function

This command is used to bind the alarm profile to the line card and the PON port.

## Command Format

```
bind alarm_threshold_prf slot [<1-8>|<11-18>|<19-20>] link [<1-8>|null]
prof_id [<id>|null]
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18> <19-20>]	Slot number. The value ranges from 1 to 8, 11 to 18, and 19 to 20.	Compulsory parameter
link [<1-8> null]	The number of the PON port. ◆ <1-8>: The value ranges from 1 to 8. ◆ null: Binds to the slot.	Compulsory parameter
prof_id [<id> null]	The threshold profile ID. ◆ <id>: The value range is from 1 to 64. ◆ null: Unbinds.	Compulsory parameter

## Command Example

Bind the alarm profile to the number 1 PON port in slot 14 and the threshold ID is 2.

```
Admin\gponline#bind alarm_threshold_prf slot 14 link 1 prof_id 2
bind alarm threshold profile ok!
Admin\gponline#
```

# 11.8 Viewing Alarm Profile Bound to Line Card and PON Port

## Command Function

This command is used to view the alarm profile bound to the line card and PON port.

## Command Format

```
show alarm_threshold_prf slot [<1-8>|<11-18>|<19-20>] link [<1-8>|null]
```

## Parameter Description

Parameter	Description	Attribute
slot [<1-8> <11-18> <19-20>]	Slot number. The value ranges from 1 to 8, 11 to 18, and 19 to 20.	Compulsory parameter
link [<1-8> null]	The PON port number. ◆ <1-8>: The value ranges from 1 to 8. ◆ null: Views the alarm threshold of the line card's PON port.	Compulsory parameter

## Command Example

View the alarm profile bound to number 1 PON port in slot 14.

```
Admin\gponline#show alarm_threshold_prf slot 14 link 1
PROF ID = 65535
Admin\gponline#
```

## Result Description

Parameter	Parameter Description
PROF ID	The alarm profile bound to the line card and PON port.

# 11.9 Configuring PON Protection Group

## Command Function

The command sets the active / standby PON port to the PON port protection group and switches the active / standby PON port according to the PON port status, so as to ensure the downlink line security.

## Command Format

```
set protection_group id <1-64> slot1 [<1-8>|<11-18>] link1 <1-8> slot2 [<1-8>|<11-18>] link2 <1-8>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
id <1-64>	PON protection group number. The value ranges from 1 to 64.	Compulsory parameter
slot1 [<1-8> <11-18>]	The slot number of the master port. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link1 <1-8>	Number of the master port. The value ranges from 1 to 8.	Compulsory parameter
slot2 [<1-8> <11-18>]	The slot number of the slave port. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link2 <1-8>	Number of the slave port. The value ranges from 1 to 8.	Compulsory parameter

## Command Example

Configure the PON protection group number as 3. Set the number 1 and number 2 PON ports respectively to master and slave ports of the PON protection group.

```
Admin\gponline# set protection_group id 3 slot1 14 link1 1 slot2 14 link2 2

create pon protect group ok!

Admin\gponline#
```

## 11.10 Deleting PON Protection Group

### Command Function

This command is used to delete the PON protection group.

### Command Format

```
del protection_group id <1-64>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
protection_group	PON protection group.	Compulsory parameter
id <1-64>	PON protection group number. The value ranges from 1 to 64.	Compulsory parameter

## Command Example

Delete the PON protection group whose group number is 3.

```
Admin\gponline# del protection_group id 3
```

```
delete pon protect group ok!
```

```
Admin\gponline#
```

# 11.11 Viewing PON Protection Group

## Command Function

This command is used to view the PON protection group configuration.

## Command Format

```
show protection_config id [<1-64>|all]
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
id [<1-64> all]	PON protection group number. <ul style="list-style-type: none"> <li>◆ &lt;1-64&gt;: The value ranges from 1 to 64.</li> <li>◆ all: Views all PON protection groups.</li> </ul>	Compulsory parameter

## Command Example

View all PON protection groups,

```
Admin\gponline# show protection_config id all

----- PON PROTECT GROUP INFO, ITEM=1 -----
GROUP ID      :3
SLOT[14] PON[1]
SLOT[14] PON[2]

Admin\gponline#
```

## Result Description

Parameter	Parameter Description
ITEM	The table entry number of the PON protection group.
GROUP ID	The PON protection group ID.
SLOT[] PON[]	The member slot number and PON port number of the PON protection group.

## 11.12 Viewing PON Protection Group Status

### Command Function

This command is used to view the PON protection group status.

### Command Format

```
show protection_status id [<1-64>|all]
```

### Description

Parameter	Description	Attribute
id [<1-64> all]	PON protection group number. ◆ <1-64>: The value ranges from 1 to 64. ◆ all: Views statuses of all PON protection groups.	Compulsory

### Command Example

View statuses of all PON protection groups.

```
Admin\gponline# show protection_status id all
----- PON PROTECT GROUP STATUS, ITEM=1 -----
```

```

GROUP ID      :3
GROUP STATUS  :Stable
SLOT[14] PON[1], Master
SLOT[14] PON[2], Master

```

```
Admin\gponline#
```

## Result Description

Parameter	Description
ITEM	The number of entries in the PON protection group table.
GROUP ID	The PON protection group ID.
GROUP STATUS	The group status of the PON port protection group. Includes the stable status and detect status. <ul style="list-style-type: none"> <li>◆ When the PON port status is stable, the group status is stable.</li> <li>◆ When the PON port status is detect, the group status is detect.</li> </ul>
SLOT[] PON[]	The PON port status of the PON port protection group. Includes: detect status and stable active / standby status. <ul style="list-style-type: none"> <li>◆ The stable status means the normal operating status.</li> <li>◆ The detect status means the abnormal operating status.</li> </ul>

## 11.13 Configuring Forced Switch of PON Protection Group

### Command Function

This command is used to perform forced switch between the active and standby PON ports in the PON port protection group.

### Command Format

```
set protection_switch id <1-64>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
id <1-64>	PON protection group number. The value ranges from 1 to 64.	Compulsory parameter

## Command Example

Configure forced switch of PON protection group 3.

```
Admin\gponline#set protection_switch id 3
switch pon protection group ok!
Admin\gponline#
```

## 11.14 Configuring PON Port Bandwidth

### Command Function

This command is used to configure the uplink and downlink bandwidth of the PON port.

### Command Format

```
set bandwidth slot [<1-8>|<11-18>] link <1-8> dir [upstream|downstream|all]
bandwidth <20000-1250000>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
dir [upstream downstream all]	Direction. ◆ upstream: uplink. ◆ downstream: downlink. ◆ all: uplink and downlink.	Compulsory parameter
bandwidth <20000-1250000>	Bandwidth. The value ranges between 20 000 and 1 250 000; the unit is kbit/s; and the default value is 125 000.	Compulsory parameter

### Command Example

Configure the uplink and downlink bandwidth of number 1 PON port in slot 14 as 200 000.

```
Admin\gponline#set bandwidth slot 14 link 1 dir all bandwidth 200000
set pon bandwidth cmd ok!
```

```
Admin\gponline#
```

## 11.15 Viewing PON Port Bandwidth

### Command Function

The command is used to view the PON port bandwidth.

### Command Format

```
show bandwidth slot [<1-8>|<11-18>]
```

### Parameter Description

Parameter	Description	Attribute
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory

### Command Example

View the PON port bandwidth in slot 14.

```
Admin\gponline# show bandwidth slot 14
```

```
ITEM(8)  DIR      VALUE (Kbit/s)
-----
1        UP       200000
2        UP       1250000
3        UP       1250000
4        UP       1250000
5        UP       1250000
6        UP       1250000
7        UP       1250000
8        UP       1250000
```

```
Admin\gponline#
```

## Result Description

Parameter	Description
ITEM	The number of PON port bandwidth entries.
DIR	The PON port bandwidth direction.
VALUE (Kbit/s)	The PON port bandwidth rate.

## 11.16 Configuring Alarm Threshold for the Line Card CPU / Memory Utilization Ratio

### Command Function

This command is used to set the alarm threshold for the line card CPU / memory utilization ratio.

### Command Format

```
set cpu_threshold slot <1-18> cpu <0-100> mem <0-100>
```

### Parameter Description

Parameter	Description	Attribute
slot <1-18>	Slot number. The value ranges from 1 to 18.	Compulsory
cpu <0-100>	Alarm threshold of the CPU utilization ratio. The parameter value ranges between 0 and 100, and the unit is %.	Compulsory
mem <0-100>	Alarm threshold of the memory utilization ratio. The parameter value ranges between 0 and 100, and the unit is %.	Compulsory

### Command Example

For the line card in slot 14, configure the alarm threshold of the CPU utilization ratio as 60, and that of the memory utilization ratio as 50.

```
Admin\gponline#set cpu_threshold slot 14 cpu 60 mem 50
set cpu using threshold ok!
Admin\gponline#
```

## 11.17 Viewing Alarm Threshold of Line Card CPU / Memory Utilization Ratio

### Command Function

The command is used to check the alarm threshold of the line card CPU / memory utilization ratio.

### Command Format

```
show cpu_threshold slot <1-18>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
slot <1-18>	Slot number. The value ranges from 1 to 18.	Compulsory parameter

### Command Example

View the alarm threshold of the memory utilization ratio for the line card 14.

```
Admin\gponline#show cpu_threshold slot 14
----- SLOT 14 CPU & Memory Using Threshold-----
CPU      : 60.00%
Memory   : 50.00%
Admin\gponline#
```

### Result Description

Parameter	Parameter Description
CPU	Alarm threshold of the line card CPU utilization ratio.
Memory	Alarm threshold of the line card memory utilization ratio.

## 11.18 Configuring PON Port Shutdown

### Command Function

This command is used to switch on or shut off the ONU PON port.

The AN5506-04B and the AN5506-10B support this command.

## Command Format

```
set onoff slot [<1-8>|<11-18>] link <1-8> status [on|off]
```

## Description

Parameter	Description	Attribute
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory
status [on off]	PON port switch. <ul style="list-style-type: none"> <li>◆ on: Switches on.</li> <li>◆ off: Shuts off.</li> </ul> The default setting is on.	Compulsory

## Command Example

Configure the switch of the number 1 PON port in slot 14 as on.

```
Admin\gponline#set onoff slot 14 link 1 status on
set pon on-off ok!
Admin\gponline#
```

# 11.19 Viewing PON Interface Shutdown

## Command Function

This command is used to view the shutdown status of the PON port.

## Command Format

```
show onoff slot [<1-8>|<11-18>]
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter

## Command Example

View the PON interface shutdown status in slot 14.

```
Admin\gponline# show onoff slot 14
```

```
ITEM(8)  STATUS
-----
1        ON
2        OFF
3        ON
4        ON
5        ON
6        ON
7        ON
8        ON
```

```
Admin\gponline#
```

## Result Description

Parameter	Parameter Description
ITEM	The entry items of PON interface shutdown.
STATUS	The PON interface shutdown status.

# 11.20 Configuring ONU Automatic Discovery

## Command Function

This command is used to configure the ONU automatic discovery.

## Command Format

```
set onu_auto_discover slot [<1-8>|<11-18>] status [enable|disable]
{aging_period <aging_period>} *1
```

## Parameter Description

Parameter	Description	Attribute
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory
status [enable disable]	Switch of automatically discovering the ONU. ◆ enable: Enables the function. ◆ disable: Disables the function.	Compulsory
{aging_period <aging_period>}*1	Aging period of automatically discovering the ONU . The aging period is larger or equal to 120 seconds, and the default value is 120 seconds.	Optional

## Command Example

Enable slot 14 to automatically discover the ONU and set the automatic discovery aging time of the ONU to 120.

```
Admin\gponline#set onu_auto_discover slot 14 status enable aging_period 120
set auto upgrade cfg ok!
Admin\gponline#
```

# 11.21 Viewing ONU Automatic Discovery Status

## Command Function

This command is used to view the ONU automatic discovery status.

## Command Format

```
show onu_auto_discover slot [<1-8>|<11-18>]
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter

## Command Example

View the ONU automatic discovery status in slot 14.

```
Admin\gponline# show onu_auto_discover slot 14
```

```
FLAG    = 1  
PERIOD  = 120
```

```
Admin\gponline#
```

## Result Description

Parameter	Parameter Description
FLAG	Enable status of the ONU automatic discovery
PERIOD	ONU automatic discovery period

# 11.22 Configuring Optical Module Type

## Command Function

This command is used to configure the optical module type.

## Command Format

```
set opt_module_type slot [<1-8>|<11-18>] {link<1-8> type [lte3678|  
lte3678m|lte3680|sogp4321-psga|sogp4321-psgb|sogq4321-psgb|rtxm167-521|  
rtxm167-522|rtxm167-526|ptb38j0-6538e|sps-43-48h-hp-cde-fh|sps-43-48h-  
hp-cde|null]}*8
```

## Parameter Description

Parameter	Description	Attribute
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Optional
type [...]	Optical module type. The default value is null, which means the module type is identified by the line card.	Optional

## Command Example

Configure the optical module type of number 1 PON port in slot 14 as null.

```
Admin\gponline# set opt_module_type slot 14 link 1 type null
```

```
set pon opt module type ok!
```

```
Admin\gponline#
```

## 11.23 Viewing Optical Module Type

### Command Function

This command is used to view the optical module type.

### Command Format

```
show opt_module_type slot [<1-8>|<11-18>]
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter

## Command Example

View the optical module type of line card 14.

```
Admin\gponline# show opt_module_type slot 14
```

```
link 1, type = null
link 2, type = null
link 3, type = null
link 4, type = null
link 5, type = null
link 6, type = null
link 7, type = null
link 8, type = null
```

```
Admin\gponline#
```

## Result Description

Parameter	Parameter Description
link	The PON number.
type	Optical module type.

# 11.24 Configuring the Alarm Thresholds for the Optical Module

## Command Function

This command is used to configure the optical module alarm thresholds. The parameters include temperature, voltage, bias current, Tx and Rx optical power.

## Command Format

```
set optmodule_thresholdmodule_type [olt|onu] max_temperature <max_t>
min_temperature <min_t> max_voltage <max_v> min_voltage <min_v>
max_bias_current <max_bc> min_bias_current <min_bs> max_TX_optical_power
<max_t_op> min_TX_optical_power <min_t_op> max_RX_optical_power <max_r_op>
min_RX_optical_power <min_r_op>
```

## Parameter Description

Parameter	Description	Attribute
module_type [olt onu]	Optical module type. <ul style="list-style-type: none"> <li>◆ olt: the OLT type.</li> <li>◆ onu: the ONU type.</li> </ul>	Compulsory parameter
max_temperature <max_t>	The alarm threshold for maximum temperature The value ranges between -4000 and 100000; the unit is degree centigrade; and the default value is 10000.	Compulsory parameter
min_temperature <min_t>	The alarm threshold for minimum temperature The value ranges between -4000 and 100000; the unit is degree centigrade; and the default value is -4000.	Compulsory parameter
max_voltage <max_v>	The alarm threshold for maximum voltage The value ranges between 300 and 360; the unit is voltage; and the default value is 360.	Compulsory parameter
min_voltage <min_v>	The alarm threshold for minimum voltage The value ranges between 300 and 360; the unit is voltage; and the default value is 300.	Compulsory parameter
max_bias_current <max_bc>	The alarm threshold for maximum bias current The value ranges between 0 and 1000; the unit is milliampere; and the default value is 1000.	Compulsory parameter
min_bias_current <min_bs>	The alarm threshold for minimum bias current The value ranges between 0 and 1000; the unit is milliampere; and the default value is 0.	Compulsory parameter
max_TX_optical_power <max_t_op>	The alarm threshold for maximum Tx optical power <ul style="list-style-type: none"> <li>◆ OLT: The value ranges between -400 and 1000; the unit is dBm; and the default value is 1000.</li> <li>◆ ONU: The value ranges between -400 and 800; the unit is dBm; and the default value is 800.</li> </ul>	Compulsory parameter
min_TX_optical_power <min_t_op>	The alarm threshold for minimum Tx optical power <ul style="list-style-type: none"> <li>◆ OLT: The value ranges between -400 and 1000; the unit is dBm; and the default value is -400.</li> <li>◆ ONU: The value ranges between -400 and 800; the unit is dBm; and the default value is -400.</li> </ul>	Compulsory parameter

Parameter	Description	Attribute
<code>max_RX_optical_power &lt;max_r_op&gt;</code>	<p>The alarm threshold for maximum Rx optical power</p> <ul style="list-style-type: none"> <li>◆ OLT: The value ranges between -3200 and -100; the unit is dBm; and the default value is -100.</li> <li>◆ ONU: The value ranges between -2800 and -300; the unit is dBm; and the default value is -300.</li> </ul>	Compulsory parameter
<code>min_RX_optical_power &lt;min_r_op&gt;</code>	<p>The alarm threshold for minimum Rx optical power</p> <ul style="list-style-type: none"> <li>◆ OLT: The value ranges between -3200 and -100; the unit is dBm; and the default value is -3200.</li> <li>◆ ONU: The value ranges between -2800 and -300; the unit is dBm; and the default value is -2800.</li> </ul>	Compulsory parameter

## Command Example

Set the module type to ONU, the maximum temperature threshold to 10000, the minimum temperature threshold to -4000, the maximum voltage threshold to 360, the minimum voltage threshold to 300, the maximum bias current threshold to 1000, the minimum bias current threshold to 0, the maximum Tx optical power threshold to -400, the minimum Tx optical power threshold to -800, the maximum Rx optical power threshold to -300, and the minimum Rx optical power threshold to -3200.

```
Admin\gponline# set optmodule_threshold module_type onu max_temperature 10000
min_temperature -4000 max_voltage 360 min_voltage 300 max_bias_current 1000
min_bias_current 0 max_tx_optical_power -400 min_tx_optical_power -800
max_rx_optical_power -300 min_rx_optical_power -3200
```

```
set onu optic module threshold ok!
```

```
Admin\gponline#
```

## 11.25 Viewing Alarm Thresholds for Optical Module

### Command Function

This command is used to view the optical module alarm thresholds.

### Command Format

```
show optmodule_threshold module_type [olt|onu]
```

## Parameter Description

Parameter	Description	Attribute
module_type [olt onu]	Optical module type. ◆ olt: the OLT type. ◆ onu: the ONU type.	Compulsory

## Command Example

View the alarm threshold of the ONU optical module.

```
Admin\gponline# show optmodule_threshold module_type onu
```

```
ONU optic module threshold
NAME                VALUE          UNIT
-----
MAX TEMPERATURE    : 100.00      ('C)
MIN TEMPERATURE    : -40.00      ('C)
MAX VOLTAGE        : 3.60        (V)
MIN VOLTAGE        : 3.00        (V)
MAX BIAS CURRENT   : 100.0       (mA)
MIN BIAS CURRENT   : 0.0         (mA)
MAX TX OPTIC PWR   : -4.00       (Dbm)
MIN TX OPTIC PWR   : -8.00       (Dbm)
MAX RX OPTIC PWR   : -3.00       (Dbm)
MIN RX OPTIC PWR   : -32.00      (Dbm)
-----
```

```
Admin\gponline#
```

## Result Description

Parameter	Description
MAX TEMPERATURE	Over-high temperature threshold.
MIN TEMPERATURE	Over-low temperature threshold.
MAX VOLTAGE	Over-high voltage threshold.
MIN VOLTAGE	Over-low voltage threshold.
MAX BIAS CURRENT	Over-high bias current threshold.
MIN BIAS CURRENT	Over-low bias current threshold.
MAX TX OPTIC PWR	Over-high threshold of Tx optical power.

Parameter	Description
MIN TX OPTIC PWR	Over-low threshold of Tx optical power.
MAX RX OPTIC PWR	Over-high threshold of Rx optical power.
MIN RX OPTIC PWR	Over-low threshold of Rx optical power.

## 11.26 Configuring PON Port Authentication Mode

### Command Function

This command is used to configure the authentication mode of the PON port. The interface card's each PON port has nine authentication modes.

- ◆ The EPON authentication modes are physical identifier authentication, logical identifier authentication, physical address / logical identifier hybrid authentication, non-authentication, logical identifier authentication (without password), physical/logical identifier (without password) hybrid authentication
- ◆ The GPON authentication modes are physical identifier authentication, logical identifier authentication, physical address/logical identifier hybrid authentication, non-authentication, logical identifier authentication (without password), physical / logical identifier (without password) hybrid authentication

### Command Format

```
set pon_auth slot [<1-8>|<11-18>] link <1-8> mode [phy_id|phy_id+psw|  
password|loid+psw|phy_id/loid+psw|no_auth|loid|phy_id/loid|phy_id/psw]
```

## Description

Parameter	Description	Attribute
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory
mode [phy_id phy_id+psw password loid+psw phy_id/loid+psw no_auth loid phy_id/loid phy_id/psw]	The authentication mode. <ul style="list-style-type: none"> <li>◆ phy_id: physical identifier authentication.</li> <li>◆ phy_id+psw: physical identifier plus password authentication</li> <li>◆ password: password authentication.</li> <li>◆ loid+psw: logical identifier authentication.</li> <li>◆ phy_id/loid+psw: physical address / logical identifier hybrid authentication.</li> <li>◆ no_auth: non-authentication.</li> <li>◆ loid: logical identifier authentication (without password).</li> <li>◆ phy_id/loid: physical / logical identifier (without password) hybrid authentication.</li> <li>◆ phy_id+psw: physical identifier / password hybrid authentication.</li> </ul> The default value is the physical identifier authentication.	Compulsory

## Command Example

Configure the authentication mode of number 1 PON port in slot 14 as phy\_id.

```
Admin\gponline#set pon_auth slot 14 link 1 mode phy_id
set pon authorizable mode ok!
Admin\gponline#
```

# 11.27 Viewing PON Port Authentication Mode

## Command Function

This command is used to view the authentication mode of the PON port.

## Command Format

```
show pon_auth [select|all] {slot [<1-8>|<11-18>] link <1-8> }*1
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
pon_auth	PON port authentication mode.	Compulsory parameter
[select all]	<ul style="list-style-type: none"> <li>◆ select: Views a certain PON port.</li> <li>◆ all: Views all PON ports.</li> </ul>	Compulsory parameter
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Optional parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Optional parameter

## Command Example

View the authentication mode of number 1 PON port in slot 14.

```
Admin\gponline#show pon_auth select slot 14 link 1
slot 14 link 1 ,auth mode is physical id.
Admin\gponline#
```

## Result Description

Parameter	Parameter Description
auth mode	The authentication mode.

# 11.28 Viewing ONU Batch Upgrade Status

## Command Function

This command is used to view the ONU batch upgrade status.

## Command Format

```
show batch_upgrade slot [<1-8>|<11-18>]
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter

## Command Example

View the ONU batch upgrade status in slot 18.

```
Admin\gponline#show batch_upgrade slot 18
----- ONU UPGRADE STATUS (10/1024) -----
PON 8 ONU 1, STATUS upgrading
PON 8 ONU 2, STATUS waiting
PON 8 ONU 3, STATUS waiting
PON 8 ONU 4, STATUS waiting
PON 8 ONU 6, STATUS waiting
PON 8 ONU 7, STATUS waiting
PON 8 ONU 8, STATUS waiting
PON 8 ONU 9, STATUS waiting
PON 8 ONU 10, STATUS waiting
Admin\gponline#
```

## Result Description

Parameter	Parameter Description
PON	The PON number.
ONU	The ONU authorization number.
STATUS	The ONU batch upgrade status.

# 11.29 Viewing the Line Card's CPU and Memory Utilization Ratio

## Command Function

This command is used to view the line card's CPU and memory utilization ratio.

## Command Format

```
show cpu_using slot [<1-8>|<11-18>]
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter

## Command Example

View the CPU and memory utilization ratio of the line card in slot 14.

```
Admin\gponline#show cpu_using slot 14
----- OLT CPU & Memory Using -----
CPU      : 1.72%
Memory   : 39.63%
Admin\gponline#
```

## Result Description

Parameter	Parameter Description
CPU	The CPU utilization ratio.
Memory	The memory utilization ratio.

# 11.30 Viewing the Line Card's Multicast Address Table

## Command Function

This command is used to view the line card's multicast address table.

## Command Format

```
show multicast_table slot [<1-8>|<11-18>]
```

## Parameter Description

Parameter	Description	Attribute
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory

## Command Example

View the multicast address table of line card 11.

```
Admin\gponline# show multicast_table slot 11
```

```

OLT 11 Multicast Table ,ITEM=17
PON 2 ONU 65535,MULTICAST IP : 226.2.2.17
PON 2 ONU 65535,MULTICAST IP : 226.2.2.18
PON 2 ONU 65535,MULTICAST IP : 226.2.2.19
PON 2 ONU 65535,MULTICAST IP : 226.2.2.20
PON 2 ONU 65535,MULTICAST IP : 226.2.2.21
PON 2 ONU 65535,MULTICAST IP : 226.2.2.22
PON 2 ONU 65535,MULTICAST IP : 226.2.2.23
PON 2 ONU 65535,MULTICAST IP : 226.2.2.24
PON 2 ONU 65535,MULTICAST IP : 226.2.2.25
PON 2 ONU 65535,MULTICAST IP : 226.2.2.26
PON 2 ONU 65535,MULTICAST IP : 226.2.2.27
PON 2 ONU 65535,MULTICAST IP : 226.2.2.28
PON 2 ONU 65535,MULTICAST IP : 226.2.2.29
PON 2 ONU 65535,MULTICAST IP : 226.2.2.30
PON 2 ONU 65535,MULTICAST IP : 226.2.2.31
PON 2 ONU 65535,MULTICAST IP : 226.2.2.32
PON 2 ONU 65535,MULTICAST IP : 226.2.2.33

```

Admin\gponline#

## Result Description

Parameter	Description
ITEM	The number of multicast entries that the ONU adds.
PON	The PON which the current multicast table entry belongs to.
ONU	The ONU which the current multicast table entry belongs to.
MULTICAST IP	The multicast IP of the current multicast table entry.

## 11.31 Viewing Parameter Information of the Optical Module on a PON Port

### Command Function

This command is used to view the parameter information of the optical module on a PON port.

### Command Format

```
show optic_module_par slot [<1-8>|<11-18>] link <1-8>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter

## Command Example

View the optical module parameter information of the number 1 PON port in slot 11.

```
Admin\gponline#show optic_module_par slot 11 link 1
----- PON OPTIC MODULE PAR INFO -----
NAME          VALUE      UNIT
-----
TYPE           : 20        (KM)
TEMPERATURE    : 38.88     ('C)
VOLTAGE        : 3.24     (V)
BIAS CURRENT   : 2.96     (mA)
SEND POWER     : 3.26     (Dbm)

ONU_NO  RECV_POWER , ITEM=1
1       0.00    (Dbm)
Admin\gponline#
```

## Result Description

Parameter	Parameter Description
TYPE	Optical module type.
TEMPERATURE	Temperature.
VOLTAGE	Voltage.
BIAS CURENT	Bias current.
SEND POWER	The Tx optical power.
ONU_NO	The ONU authorization number.
RECV_POWER	The Rx optical power.

## 11.32 Viewing PON Port's MAC Address Table

### Command Function

This command is used to view the PON port's MAC address table.

### Command Format

```
show pon_mac slot [<1-8>|<11-18>] link <1-8> {lookup <mac_address>}*1
```

### Parameter Description

Parameter	Description	Attribute
slot [<1-8> <11-18>]	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory
link <1-8>	The number of the PON port. The value ranges from 1 to 8.	Compulsory
lookup <mac_address>	MAC address.	Optional

### Command Example

View the MAC address table of the number 1 PON port in slot 14.

```
Admin\gponline#show pon_mac slot 14 link 1
----- PON MAC ADDRESS, ITEM=1 -----
001      22:3E:44:55:66:11      Vid:4091
Admin\gponline#
```

### Result Description

Parameter	Description
ITEM	The MAC address entry items of the PON port.
XX:XX:XX:XX:XX:XX	The MAC address of the MAC address table of the PON port.
Vid	The VLAN ID of the MAC address table of the PON port.

## 11.33 Viewing Line Card's Current Time

### Command Function

The command is used to view the line card's current time.

## Command Format

```
show time slot [<1-8>|<11-18>]
```

## Parameter Description

Parameter	Description	Attribute
time	The line card's current time.	Compulsory parameter
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory

## Command Example

View the 11th line card's current time.

```
Admin\gponline# show time slot 11
```

```
CARD 11 TIMESHOW  
Sys Date: 2009-1-10 22:0:55  
Run Time: 9days 20h 59m 54s
```

```
Admin\gponline#
```

## Result Description

Parameter	Description
Sys Date	The system time.
Run Time	The in-service time.

# 11.34 Configuring Recognition Mode of Universal ONU

## Command Function

This command is used to configure the recognition mode of a universal ONU.

## Command Format

```
set onu_rec_mode slot <slot_no> link <link_list> mode [normal|sfu_mode|
oth2] {[other_sfu_mode] [normal|sfu_mode|oth2]}*1 {[other_hgu_mode]
[normal|sfu_mode|oth2]}*1
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot <slot_no>	The slot number for the PON interface card. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <link_list>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
mode [normal sfu_mode oth2]	SFU recognition mode. ◆ 0: common mode. ◆ 1: universal SFU. ◆ 2: OTH2 type. The default value is 0.	Compulsory parameter
[other_sfu_mode] [normal sfu_mode oth2]	Other SFU recognition mode. ◆ 1: universal SFU. ◆ 2: OTH2 type. The default value is 2.	Optional parameter
[other_hgu_mode] [normal sfu_mode oth2]	Other HGU recognition mode. ◆ 1: universal SFU. ◆ 2: OTH2 type. The default value is 2.	Optional parameter

## Command Example

Configure the SFU recognition mode under PON port 1 in slot 6 as universal SFU.

```
Admin\gponline#set onu_rec_mode slot 6 link 1 mode sfu_mode
Admin\gponline#
```

# 11.35 Viewing Recognition Mode of Universal ONU

## Command Function

This command is used to view the recognition mode of an ONU under a certain PON interface card.

## Command Format

```
show onu_rec_mode slot <slot_no>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot <slot_no>	The slot number for the PON interface card. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter

## Command Example

View the recognition mode of the ONU under the PON interface card in slot 6.

```
Admin\gponline#show onu_rec_mode slot 6
Link 1 Sfu Mode : sfu_mode,Other Sfu Mode : oth2, Other Hgu Mode : oth2
Link 2 Sfu Mode : normal,Other Sfu Mode : oth2, Other Hgu Mode : oth2
Link 3 Sfu Mode : normal,Other Sfu Mode : oth2, Other Hgu Mode : oth2
Link 4 Sfu Mode : normal,Other Sfu Mode : oth2, Other Hgu Mode : oth2
Link 5 Sfu Mode : normal,Other Sfu Mode : oth2, Other Hgu Mode : oth2
Link 6 Sfu Mode : normal,Other Sfu Mode : oth2, Other Hgu Mode : oth2
Link 7 Sfu Mode : normal,Other Sfu Mode : oth2, Other Hgu Mode : oth2
Link 8 Sfu Mode : normal,Other Sfu Mode : oth2, Other Hgu Mode : oth2
Admin\gponline#
```

## Result Description

Parameter	Parameter Description
Sfu Mode	SFU recognition mode.
Other Sfu Mode	Other SFU recognition mode.
Other Hgu Mode	Other HGU recognition mode.

# 12 IGMP Directory Commands

---

The following introduces the functions, formats, parameters, and examples of various commands under the IGMP directory.

- Creating / Deleting Multicast Profile
- Adding Multicast VLAN
- Deleting Multicast VLAN
- Adding IP Address for Mapping Source
- Deleting IP Address of Multicast Mapping Source
- Configuring Multicast Group Parameter
- Configuring Maximum Multicast Bandwidth for Uplink Port
- Configuring Multicast Protocol Parameter
- Configuring Multicast Profile
- Configuring Multicast Proxy IP Address
- Configuring Multicast Address Range of the Mapping Multicast Source Address
- Configuring Multicast Protocol Version
- Configuring Multicast Default VLAN
- Configuring Multicast Mode
- Viewing Multicast Group Information
- Viewing Multicast Profile
- Viewing Multicast Global Configuration
- Enabling / disabling Dynamic VLAN

- Configuring Cascade Port
- Viewing Multicast Group Information at Router Side
- Viewing Multicast Group Information at Host Side
- Enabling Commissioning Command
- Disabling Commissioning Command

## 12.1 Creating / Deleting Multicast Profile

### Command Function

This command is used to create or delete a multicast profile.

### Command Format

```
[create|delete] igmp profile <name>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
[create delete]	<ul style="list-style-type: none"> <li>◆ create: Creates a multicast profile.</li> <li>◆ delete: Deletes a multicast profile.</li> </ul>	Compulsory parameter
<name>	The profile name.	Compulsory parameter

### Command Example

Create a multicast profile named test.

```
Admin\igmp# create igmp profile test
```

```
Admin\igmp#
```

## 12.2 Adding Multicast VLAN

### Command Function

This command is used to add the multicast VLAN.

### Command Format

```
add igmpv3 vlan <vid>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
vlan <vid>	Multicast VLAN ID. The value ranges from 1 to 4094.	Compulsory Parameter

## Command Example

Add the multicast VLAN whose ID is 3.

```
Admin\igmp# add igmpv3 vlan 3
```

```
Admin\igmp#
```

# 12.3 Deleting Multicast VLAN

## Command Function

This command is used to delete the multicast VLAN.

## Command Format

```
delete igmpv3 vlan <vid>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
vlan <vid>	Multicast VLAN ID. The value ranges from 1 to 4094.	Compulsory Parameter

## Command Example

Delete the multicast VLAN whose ID is 3.

```
Admin\igmp# delete igmpv3 vlan 3
```

```
Admin\igmp#
```

## 12.4 Adding IP Address for Mapping Source

### Command Function

The command is used to add an IP address for the mapping source. Taking into account some possible limitations considered in the SSM network, users can configure the IGMP SSM Mapping function in the router to provide the SSM service for the receivers' hosts that can only run the IGMPv1 or IGMPv2.

### Command Format

```
set igmp ssm-map <A.B.C.D>
```

### Parameter Description

Parameter	Description	Attribute
<A.B.C.D>	The source IP address, which must be Class A to Class C only.	Compulsory

### Command Example

Add the IP address of 10.92.20.1 for the mapping source.

```
Admin\igmp# set igmp ssm-map 10.92.20.1
```

```
Admin\igmp#
```

## 12.5 Deleting IP Address of Multicast Mapping Source

### Command Function

This command is used to delete the designated IP address of multicast mapping source. Taking into account some possible limitations considered in the SSM network, users can configure the IGMP SSM Mapping function in the router to provide the SSM service for the receivers' hosts that can only run the IGMPv1 or IGMPv2.

## Command Format

```
delete igmp ssm-map <A.B.C.D>
```

## Parameter Description

Parameter	Description	Attribute
<A.B.C.D>	IP address of the multicast mapping source.	Compulsory

## Command Example

Delete the multicast mapping source whose IP address is 10.92.20.1.

```
Admin\igmp# delete igmp ssm-map 10.92.20.1
```

```
Admin\igmp#
```

# 12.6 Configuring Multicast Group Parameter

## Command Function

This command is used to configure multicast group parameters, including the IP address of the multicast group, the multicast group bandwidth, the multicast group leave latency, etc.

## Command Format

```
set igmp group <A.B.C.D> {[bandwidth] <0-30000>}*1 {[leave_delay] <0-255>}*1  
{[vlan] <0-4088>}*1 {[uplink_vlan] <0-4088>}*1
```

## Parameter Description

Parameter	Description	Attribute
<A.B.C.D>	IP address of the multicast group.	Compulsory
{[bandwidth] <0-30000>}*1	Multicast group bandwidth. The parameter value ranges between 0 and 30000, and the unit is kbit/s.	Optional

Parameter	Description	Attribute
{[leave_delay]<0-255>}*1	Multicast group leave latency. The parameter value ranges between 0 and 255, and the unit is second.	Optional
{[vlan]<0-4088>}*1	Multicast group VLAN, used to designate the data VLAN and protocol VLAN of the multicast group. The value ranges from 0 to 255.	Optional
{[uplink_vlan]<0-4088>}*1	Uplink signaling VLAN of the multicast group. <ul style="list-style-type: none"> <li>◆ If the uplink signaling VLAN is configured, the protocol VLAN is equal to the uplink signaling VLAN.</li> <li>◆ If the uplink signaling VLAN is not configured, the protocol VLAN is equal to the data VLAN.</li> </ul> The value ranges from 0 to 4088.	Optional

## Command Example

Configure the multicast group bandwidth whose IP address is 224.0.1.0 as 1500 kbit/s. The leave latency is 100 seconds and the multicast group VLAN is 5. The uplink signaling VLAN of the multicast group is 2.

```
Admin\igmp# set igmp group 224.0.1.0 bandwidth 1500 leave_delay 100 vlan 5
uplink_vlan 2
```

```
Admin\igmp#
```

## 12.7 Configuring Maximum Multicast Bandwidth for Uplink Port

### Command Function

This command is used to configure the maximum multicast bandwidth for an uplink port.

### Command Format

```
set igmp max bandwidth <0-7000000>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
bandwidth <0-7000000>	Total bandwidth of multicast source. The parameter value ranges between 0 and 7000000, and the unit is kbit/s.	Compulsory parameter

## Command Example

Configure the maximum multicast bandwidth for an uplink port as 60000 kbit/s.

```
Admin\igmp#set igmp max bandwidth 60000
Admin\igmp#
```

# 12.8 Configuring Multicast Protocol Parameter

## Command Function

This command is used to configure the multicast parameters.

## Command Format

```
set igmp parameters [robustness|old|last_query_interval|last_query_count|
query_interval|query_response_interval]<0-65535>
```

## Description

Parameter	Description	Attribute
[robustness old last_query_interval last_query_count query_interval query_response_interval]	<p>Configuration of multicast protocol parameters. Select and configure one among the following parameters each time.</p> <ul style="list-style-type: none"> <li>◆ robustness: the robustness issue of the IGMP protocol stack against packet loss, that is, how many times the multicast downlink query packets are transmitted. Value range: 2 to 16, and the default value is 2.</li> <li>◆ old: the multicast member aging time. If exceeding the aging time, the multicast member with no response will be deleted from the multicast group (As for the IGMPv3, the value is invalid.) Value range: 0 to 65535. The unit is second and the default value is 260 seconds.</li> <li>◆ last_query_interval : querying interval of the designated group. Refers to the querying interval which the equipment transmits designated groups. Value range: 1 to 255. The unit is second and the default value is 1 second.</li> <li>◆ last_query_count : querying times of the designated group. Refers to the querying times which the equipment transmits designated groups. Value range: 1 to 16, and the default value is 2.</li> <li>◆ query_interval : querying interval of the common group. Refers to the querying interval which the equipment transmits common groups. Value range: 11 to 255. The unit is second and the default value is 125 seconds.</li> <li>◆ query_response_interval: querying response time of the common group. Refers to the maximum time interval which the user's response of querying common groups. Value range: 1 to 255. The unit is second and the default value is 10 seconds.</li> </ul>	Compulsory
<0-65535>	<p>Configure the value range of above parameters according to the specific parameter configuration. The value ranges from 0 to 65535.</p>	Compulsory

## Command Example

Set the aging time to 260 seconds.

```
Admin\igmp#set igmp parameters old 260
Admin\igmp#
```

## 12.9 Configuring Multicast Profile

### Command Function

This command is used to add the multicast group in the created multicast profile and configure the authority for subscribers to view multicast programs.

Below are two functions of the multicast profile:

- ◆ In the controllable mode, bind the multicast profile to verify each subscriber's authority level when subscribers view multicast programs.
- ◆ In the non-controllable mode, create the multicast profile first, then add the designated multicast group to the multicast profile, and then configure the parameter of designated multicast group.

### Command Format

```
set igmp profile <name> [add|delete] <GroupAddress> [preview|normal] }
```

### Description

Parameter	Description	Attribute
<name>	Multicast profile name.	Compulsory
[add delete]	Adds or deletes the designated multicast group in the profile.	Compulsory
<GroupAddress>	The group address. This parameter can be input repeatedly. Eight multicast programs can be added at most.	Optional
[preview normal]	The corresponding authority of the multicast group address. ◆ preview: preview authority. Subscribers can only view the program within a specified time limit. ◆ normal: normal authority. Subscribers can view the program without restriction.	Optional

### Command Example

Add the multicast program whose IP address is 224.0.1.0 to the multicast profile named test, and configure the authority for subscribers to view the program as preview.

```
Admin\igmp#set igmp profile test add 224.0.1.0 preview
Admin\igmp#
```

## 12.10 Configuring Multicast Proxy IP Address

### Command Function

This command is used to configure the multicast proxy IP address as the source IP address for the equipment to transmit the multicast protocol message.

### Command Format

```
set igmp proxy ip [<A.B.C.D>|default]
```

### Parameter Description

Parameter	Description	Attribute
[<A.B.C.D> default]	The multicast proxy IP address. It must be an address of Class A to C. If default is selected, users configure the IP address as 10.25.14.57, which is the system default proxy IP address.	Compulsory

### Command Example

Configure the multicast proxy IP address as 10.92.20.100.

```
Admin\igmp# set igmp proxy ip 10.92.20.100
```

```
Admin\igmp#
```

## 12.11 Configuring Multicast Address Range of the Mapping Multicast Source Address

### Command Function

This command is used to configure the designated multicast source address range. The multicast stack performs some special processing to the multicast address in the designated source multicast and source address to support the SSM (Source-Specific Multicast), so as to provide a kind of transmission service in the client-side designated multicast source.

### Command Format

```
set igmp-ssm ip-range <A.B.C.D/M>
```

### Parameter Description

Parameter	Description	Attribute
<A.B.C.D/M>	Group IP address / mask. The IP address must be of Class D.	Compulsory

### Command Example

Configure the multicast address range of the mapping multicast source address as 232.0.0.0/8.

```
Admin\igmp#set igmp-ssm ip-range 232.0.0.0/8
Admin\igmp#
```

## 12.12 Configuring Multicast Protocol Version

### Command Function

The command is used to configure the IGMP protocol version which the equipment uses. The IGMP protocol version is v1 / v2 / v3. RFC1112 defines the IGMPv1, RFC2236 defines IGMPv2, and RFC3376 defines IGMPv3.

### Command Format

```
set igmp stack [v1|v2|v3]
```

## Description

Parameter	Description	Attribute
[v1 v2 v3]	The multicast protocol version. <ul style="list-style-type: none"> <li>◆ v1: IGMP version 1.</li> <li>◆ v2: IGMP version 2.</li> <li>◆ v3: IGMP version 3.</li> </ul>	Compulsory

## Command Example

Configure the multicast protocol version as V3.

```
Admin\igmp#set igmp stack v3
Admin\igmp#
```

# 12.13 Configuring Multicast Default VLAN

## Command Function

This command is used to configure the multicast default VLAN. If a multicast group has not configured a designated VLAN, this multicast group will add the default VLAN.

## Command Format

```
set igmp vlan {[default]}*1 {<1-4088>}*1
```

## Parameter Description

Parameter	Description	Attribute
{[default]}*1	Default value of the multicast default VLAN. The default value is 4088.	Optional
{<1-4088>}*1	Configuration value of the multicast default VLAN. The value ranges from 1 to 4088.	Optional

## Command Example

Configure the multicast default VLAN as 1500.

```
Admin\igmp#set igmp vlan 1500
Admin\igmp#
```

## 12.14 Configuring Multicast Mode

### Command Function

This command is used to configure the multicast mode.

### Command Format

```
set igmp mode [control|proxy-proxy|snooping|proxy-snooping|disable]
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
[control proxy-proxy snooping proxy-snooping disable]	The multicast mode. <ul style="list-style-type: none"><li>◆ control: controllable mode.</li><li>◆ proxy-proxy: proxy mode.</li><li>◆ snooping: snooping mode.</li><li>◆ proxy-snooping: proxy snooping mode.</li><li>◆ disable: Disables the function.</li></ul>	Compulsory parameter

### Command Example

Configure the proxy mode to the multicast mode.

```
Admin\igmp# set igmp mode proxy-proxy
```

```
Admin\igmp#
```

## 12.15 Viewing Multicast Group Information

### Command Function

This command is used to view the configured multicast group information.

### Command Format

```
show igmp auth group {<A.B.C.D>} *1
```

## Description

Parameter	Description	Attribute
{<A.B.C.D>}*1	The group address. All authorized group information will be displayed if no specific group address is input.	Optional

## Command Example

View the designated multicast group information.

```
Admin\igmp#show igmp auth group 224.0.1.0
*****Auth Group Info*****
Group Address      : 224.0.1.0
Preview times     : 4
Preview duration  : 10 (min)
Preview interval  : 30 (min)
preview rese      : 24 (hr)
preview total     : 254 (min)
Leave delay        : 100 (sec)
Protocol vlan     : 2
VLAN ID           : 5
Bandwidth         : 1500 (Kbps)
Authorized ports  :
14:1: 1: 1,
Total ports       : 1
*****E N D*****
Admin\igmp#
```

## Result Description

Parameter	Description
Group Address	The group address.
Preview times	The preview times.
Preview duration	The preview duration.
Preview interval	The preview interval.
preview reset	The preview reset time.
preview total	Total time of preview.
Leave delay	Leave latency.
Protocol vlan	Signaling VLAN.
VLAN ID	Group VLAN ID.

Parameter	Description
Bandwidth	Bandwidth.
Authorized ports	Bound ports.
Total ports	The total number of bound ports.

## 12.16 Viewing Multicast Profile

### Command Function

This command is used to view the related information of the multicast profile.

### Command Format

```
show igmp profile {<name>} *1
```

### Parameter Description

Parameter	Description	Attribute
{<name>} *1	The profile name. All configured multicast groups will be displayed if no specific parameter is input.	Optional

### Command Example

View the information of multicast profile test.

```
Admin\igmp# show igmp profile test

*****Profile NO. 1*****
Name:test
Normal Groups:
224.0.1.0-224.0.1.1
224.0.1.10
Preview Groups:
224.0.11.10
Binded Ports:
14:1:1:1,
*****E n d*****
```

Admin\igmp#

## Result Description

Parameter	Description
Name	The profile name.
Normal Groups	The group address of the normal authority in the profile.
Preview Groups	The group address of the preview authority in the profile.
Binded Ports	The ONU port bound with the profile (Slot number: PON port number: ONU authorization number: ONU port number).

## 12.17 Viewing Multicast Global Configuration

### Command Function

This command is used to view the multicast global configuration.

### Command Format

```
show igmpv3 goble
```

### Description

None

### Command Example

View the global configuration information of all authorized groups in the system.

```
Admin\igmp#show igmpv3 goble
=====
Version                :V3
Work mode              :proxy
Vlan learning          :Enable
Fase leave             :Disable
Max Transmit Unit      :1500
Proxy ip address       :10.92.20.100
SSM ip address         :232.0.0.0
SSM ip mask            :255.0.0.0
SSM mapping ip        :10.92.1.1 10.92.20.1
General Member Interval :260
QueryInterval          :125
```

```

Robustness                :2
Last member query interval :1
Last member query count   :2
Query response interval   :10
Input buffer size         :3072000 Bytes
Output buffer size        :1500 Bytes
Admin\igmp#

```

## Result Description

Parameter	Description
Version	The multicast protocol version.
Work mode	The multicast mode.
Vlan learning	The VLAN learning function.
Fase leave	Fast leave mode.
Max Transmit Unit	The maximum transmission unit.
Proxy ip address	The proxy IP address.
SSM ip address	IP address of the mapping source.
SSM ip mask	Mapping source mask.
General Member Interval	Group member aging time.
Query Interval	Querying interval for common group.
Robustness	Robustness.
Last member query interval	Querying interval for designated group.
Last member query count	Querying times for designated group.
Query response interval	Querying response time for common group.
Input buffer size	The size of the Rx buffer area of the core control (core switch card) multicast protocol stack
Output buffer size	The size of the Tx buffer area of the core control (core switch card) multicast protocol stack

## 12.18 Enabling / disabling Dynamic VLAN

### Command Function

This command is used to enable or disable the dynamic VLAN.

### Command Format

```
set igmp dynamic_vlan [enable|disable]
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
[enable disable]	Dynamic VLAN enabling switch. <ul style="list-style-type: none"> <li>◆ enable: Enables the function.</li> <li>◆ disable: Disables the function.</li> </ul>	Compulsory parameter

## Command Example

Enable the dynamic VLAN.

```
Admin\igmp#set igmp dynamic_vlan enable
Admin\igmp#
```

# 12.19 Configuring Cascade Port

## Command Function

This command is used to configure multicast service's cascade port. When the equipment is cascaded with other equipment's multicast service, the uplink port connecting with the cascade equipment should be configured as the cascade port

## Command Format

```
set igmp cascade port [<portlist>|none]
```

## Parameter Description

Parameter	Description	Attribute
[<portlist> none]	Cascade port. <ul style="list-style-type: none"> <li>◆ &lt;portlist&gt;: Value range is 19 : 1 to 19 : 6, 20 : 1 to 20 : 6.</li> <li>◆ none: Delete all cascade ports.</li> </ul>	Compulsory

## Command Example

Configure the cascade port as 19:2.

```
Admin\igmp#set igmp cascade port 19:2
Admin\igmp#
```

## 12.20 Viewing Multicast Group Information at Router Side

### Command Function

This command is used to view the multicast group information at the router side.

### Command Format

```
show igmpv3 group {<A.B.C.D>}*1
```

### Parameter Description

Parameter	Description	Attribute
{<A.B.C.D>}*1	The group address. All configured group addresses will be displayed if no specific group address is input.	Optional

### Command Example

View multicast group information on the router side.

#### ◆ The condition without the group address:

```
Admin\igmp#show igmpv3 group
=====Vlan 100=====
IGMP Connected Group Membership
Group Address  Interface    Uptime      Expires    Last Reporter
224.3.2.1      Interface14  00:51:40    00:02:39  192.85.1.11
-----
Admin\igmp#
```

#### ◆ The condition with the group address:

```
Admin\igmp#show igmpv3 group 224.3.2.1
=====Vlan 100=====
Interface:      Interface14
Group:          224.3.2.1
Uptime:         00:56:35
Group mode:     Exclude
                (Expires: 00:04:04)
Signal vlan:    100
IPv6 flag:      FALSE
Last reporter:  192.85.1.11
```

```
TIB-A Count:    0
TIB-B Count:    2
Group source list: (R - Remote, M - SSM Mapping, S - Static)
```

```
Exclude Source List :
```

```
Source Address  Uptime    v3 Exp    Fwd  Flags
192.168.1.1    00:56:35  stopped  No    R
192.168.1.2    00:56:35  stopped  No    R
```

```
Admin\igmp#
```

## Result Description

Parameter	Description
Group Address	The group address.
Interface	The interface name corresponds to the slot number, for example, the Interface 1 corresponds to slot 1 and the Interface 14 corresponds to slot 14.
Uptime	Online duration.
Expires	The time-out duration of corresponding group, i.e., the remaining time of group timer.
Last Reporter	The report member of the last group, i.e., the source IP address of adding the message recently.
Group	The group address.
Group mode	The group mode.
Signal vlan	VLAN of group packet.
IPv6 flag	IPv6 flag.
TIB-A Count	TIB-A count.
TIB-B Count	TIB-B count.
Source Address	The group source address.
v3 Exp	Source timer time.
Fwd	Whether to forward or not.
Flags	Status flag.

## 12.21 Viewing Multicast Group Information at Host Side

### Command Function

This command is used to view the multicast group information at the host side.

## Command Format

```
show igmpv3 host-group {<A.B.C.D>}*1
```

## Parameter Description

Parameter	Description	Attribute
{<A.B.C.D>}*1	The group address. All configured group addresses will be displayed if no specific group address is input.	Optional

## Command Example

View the multicast group information of the host side.

◆ The condition without the group address:

```
Admin\igmp#show igmpv3 host-group
=====Vlan 100=====
IGMP Connected Proxy Group Membership
Group Address      Interface          Member state
224.3.2.1         Interface29       Delay
-----
Admin\igmp#
```

◆ The condition with the group address:

```
Admin\igmp#show igmpv3 host-group 224.3.2.1
=====Vlan 100=====
Interface:         Interface29
Group:             224.3.2.1
Group mode:       Exclude
Member state:     Delay
Group source list:
                  Source Address
                  192.168.1.1
                  192.168.1.2
-----
Admin\igmp#
```

## Result Description

Parameter	Description
Group Address	The group address.
Interface	The interface name is Interface29.

Parameter	Description
Member state	The group member status.
Group	The group address.
Group mode	The group mode.
Source Address	The group source address.

## 12.22 Enabling Commissioning Command

### Command Function

This command is used to enable the commissioning command.

### Command Format

```
debug igmpv3 vlan <vid> [decode|encode|fsm|driver|event|tib|recieve_fsm|
recieve_driver|recieve_check|send|all]
```

### Description

Parameter	Description	Attribute
<vid>	VLAN ID. The value ranges from 1 to 4088.	Compulsory
[decode encode  fsm  driver event  tib  recieve_fsm  recieve_ driver recieve_ check  send all]	Commissioning level. <ul style="list-style-type: none"> <li>◆ decode: Decodes the Rx packet project.</li> <li>◆ encode: Encodes the Tx packet process.</li> <li>◆ fsm: Displays the state machine variation</li> <li>◆ driver: Displays the protocol internal drive.</li> <li>◆ event: Displays the multicast event.</li> <li>◆ tib: Displays the multicast source address.</li> <li>◆ recieve_fsm: Displays the received data packet level 3.</li> <li>◆ recieve_driver: Displays the received data packet level 1.</li> <li>◆ recieve_check: Displays the received data packet level 2.</li> <li>◆ send: Displays the Rx packet.</li> <li>◆ all: Displays all above items.</li> </ul>	Compulsory

### Command Example

The switch of enabling the Tx data packet whose VLAN ID is 1000.

```
Admin\igmp#debug igmpv3 vlan 1000 encode
Admin\igmp#
```

## 12.23 Disabling Commissioning Command

### Command Function

This command is used to disable the commissioning command.

### Command Format

```
no debug igmpv3 vlan <vid> [decode|encode|fsm|driver|event|tib|recieve|
send|all]
```

### Description

Parameter	Description	Attribute
<vid>	VLAN ID. The value ranges from 1 to 4088.	Compulsory
[decode encode  fsm  driver event  tib  recieve_fsm  recieve_ driver recieve_ check  send all]	Commissioning level. <ul style="list-style-type: none"> <li>◆ decode: Decodes the Rx packet project.</li> <li>◆ encode: Encodes the Tx packet process.</li> <li>◆ fsm: Displays the state machine variation</li> <li>◆ driver: Displays the protocol internal drive.</li> <li>◆ event: Displays the multicast event.</li> <li>◆ tib: Displays the multicast source address.</li> <li>◆ recieve_fsm: Displays the received data packet level 3.</li> <li>◆ recieve_driver: Displays the received data packet level 1.</li> <li>◆ recieve_check: Displays the received data packet level 2.</li> <li>◆ send: Displays the Rx packet.</li> <li>◆ all: Displays all above items.</li> </ul>	Compulsory

### Command Example

The switch of disabling the Tx data packet whose VLAN ID is 1000.

```
Admin\igmp#no debug igmpv3 vlan 1000 encode
Admin\igmp#
```

# 13 NGN Directory Command

---

The following introduces the functions, formats, parameters, and examples of various commands under the NGN directory.

- Configuring Parameters Related to the Softswitch Platform
- Configuring MD5 Authentication
- Configuring Softswitch Interconnection Profile
- Binding Softswitch Interconnection Profile
- Configuring Heartbeat Parameter
- Configuring NGN Softswitch Profile Parameter
- Configuring NGN Uplink DHCP Parameter
- Configuring NGN Uplink PPPoE Parameters
- Configuring NGN Uplink User Parameter
- Registering / Logging out NGN Subscriber
- Configuring ONU Voice Service Parameter
- Viewing ONU Voice Service Parameter
- Viewing Domain Name Information of MD5 Authentication
- Viewing Softswitch Interconnection Profile Binding Parameter
- Viewing IAD Softswitch Profile Parameter
- Viewing All Softswitch Interconnection Profile Parameters
- Viewing NGN Uplink DHCP Parameter
- Viewing NGN Uplink Port Parameter

- Viewing ONU Uplink PPPoE Parameter
- Configuring SIP Digitmap
- Viewing SIP Digitmap Information
- Configuring NGN Voice Port's Advanced Profile Parameter
- Viewing Voice Port's Advanced Profile Parameter
- Deleting Voice Port's Advanced Profile
- Configuring Voice Management Mode
- Viewing Voice Management Mode
- Configuring Voice Media Stream Parameter
- Viewing Voice Media Stream Parameter
- Querying Uplink User Parameters according to Port Name
- Querying Uplink User Parameters according to Telephone Number
- Configuring Voice Port's Activation Status
- Viewing Voice Port's Activation Status
- Viewing MGC Connection Status

## 13.1 Configuring Parameters Related to the Softswitch Platform

### Command Function

This command is used to configure the data for the three kinds of softswitch protocols: MGCP, H.248 and SIP.

### Command Format

```
set ngn_uplink_interface name <name> protocol_type [mgcp|h.248|sip] {[mgc]
<1-3> <addr> <0-65535>}*3 {[keepalive] [enable|disable|passive]}*1
{[m_dns] <A.B.C.D>}*1 {[s_dns] <A.B.C.D>}*1 {[dhcp] [enable|disable]}*1
{[sip_reg_addr] <addr>}*1 {[sip_reg_port] <0-65535>}*1 {[sip_proxy_addr]
<addr>}*1 {[sip_proxy_port] <0-65535>}*1 {[sip_expires] <0-4294967294>}*1
```

See the following topics for the command parameters and examples according to the protocol used.

### 13.1.1 Configuring Related Parameters of Uplink Port of the MGCP Protocol

#### Command Function

The command is used to configure the related parameters of the MGCP protocol, so as to set up normal communication between the MG and the MGC..

#### Command Format

```
set ngn_uplink_interface name <name> protocol_type mgcp {[mgc] <1-3> <addr>
<1-65535>}*3 {[keepalive] [enable|disable|passive]}*1 {[m_dns] <A.B.C.D>}
*1 {[s_dns] <A.B.C.D>}*1 {[dhcp] [enable|disable]}*1
```

## Description

Parameter	Description	Attribute
ngn_uplink_interface name <name>	The name of uplink port of NGN voice service. Identify the VLAN name of the User NGN voice service on the OLT side. The VLAN name should be consistent with the name of the data configured in the local service VLAN. The underline, letters and numbers are valid.	Compulsory
{ [mgc] <1-3> <addr> <1-65535>} *3	<ul style="list-style-type: none"> <li>◆ &lt;1-3&gt;: The MGC serial number. The equipment supports up to 3 MGCs and the serial number is 1 to 3.</li> <li>◆ &lt;addr&gt;: The MGC address. The MGC address can be the IP address or domain name in the form of character strings.</li> <li>◆ &lt;1-65535&gt;: The MGC port number of the MGCP protocol. The value range is from 1 to 65535 and 2727 by default.</li> </ul>	Optional
{ [keepalive] [enable disable passive]} *1	<p>Heartbeat function. Tests whether the communication between MG and MGC is normal. When the function is enabled, the alarm information will be displayed on the network management system if the communication between the MG and the MGC is interrupted</p> <ul style="list-style-type: none"> <li>◆ enable: Enables the proxy range.</li> <li>◆ disable: Disables the function.</li> <li>◆ passive: Self-adaptive.</li> </ul> <p>The default setting is disable.</p>	Optional
{ [m_dns] <A.B.C.D>} *1	<ul style="list-style-type: none"> <li>◆ [m_dns]: Active DNS.</li> <li>◆ &lt;A.B.C.D&gt;: The IP address of active DNS. If the MGC address is a domain name, the IP address of active DNS server should be configured. The IP address is 0 by default.</li> </ul>	Optional

Parameter	Description	Attribute
{ [s_dns] <A.B.C.D>*1	<ul style="list-style-type: none"> <li>◆ [s_dns]: Standby DNS.</li> <li>◆ &lt;A.B.C.D&gt;: The IP address of standby DNS. If the MGC address is a domain name, the IP address of standby DNS server should be configured. The IP address is 0 by default.</li> </ul>	Optional
{ [dhcp] [enable disable]}*1	<p>DHCP function. The DHCP is the dynamic host configuration protocol. After enabling the function, the ONU (IAD) automatically obtains the public network's dynamic IP address. The ONU (IAD) static IP address which is configured by other command is invalid.</p> <ul style="list-style-type: none"> <li>◆ enable: Enables the proxy range.</li> <li>◆ disable: Disables the function.</li> </ul> <p>The default setting is disable.</p>	Optional

## Command Example

Configure the voice service named ngn\_wuhan1. Use the MGCP protocol. The active MGC serial number is 1 and the IP address is 192.168.1.100 and the protocol port number is 2727.

```
Admin\ngn#set ngn_uplink_interface name ngn_wuhan1 protocol_type mgcp mgc 1
192.168.1.100 2727
Admin\ngn#
```

## 13.1.2 Configuring Related Parameters of Uplink Port of the H.248 Protocol

### Command Function

The command is used to configure the related parameters of the H.248 protocol, so as to set up normal communication between the MG and the MGC.

### Command Format

```
set ngn_uplink_interface name <name> protocol_type h.248 { [mgc] <1-3> <addr>
<1-65535>*3 { [keepalive] [enable|disable|passive]}*1 { [m_dns] <A.B.C.D>
*1 { [s_dns] <A.B.C.D>*1 { [dhcp] [enable|disable]}*1
```

## Description

Parameter	Description	Attribute
ngn_uplink_interface name <name>	The name of uplink port of NGN voice service. Identify the VLAN name of the User NGN voice service on the OLT side. The VLAN name should be consistent with the name of the data configured in the local service VLAN. The underline, letters and numbers are valid.	Compulsory
{ [mgc] <1-3> <addr> <1-65535>} *3	<ul style="list-style-type: none"> <li>◆ &lt;1-3&gt;: The MGC serial number. The equipment supports up to 3 MGCs and the serial number is 1 to 3.</li> <li>◆ &lt;addr&gt;: The MGC address. The MGC address can be the IP address or domain name in the form of character strings.</li> <li>◆ &lt;1-65535&gt;: The MGC port number of the H.248 protocol. The value range is from 1 to 65535 and 2944 by default.</li> </ul>	Optional
{ [keepalive] [enable disable passive]} *1	Heartbeat function. Tests whether the communication between MG and MGC is normal. When the function is enabled, the alarm information will be displayed on the network management system if the communication between the MG and the MGC is interrupted <ul style="list-style-type: none"> <li>◆ enable: Enables the proxy range.</li> <li>◆ disable: Disables the function.</li> <li>◆ passive: Self-adaptive.</li> </ul> The default setting is disable.	Optional
{ [m_dns] <A.B.C.D>} *1	<ul style="list-style-type: none"> <li>◆ [m_dns]: Active DNS.</li> <li>◆ &lt;A.B.C.D&gt;: The IP address of active DNS. If the MGC address is a domain name, the IP address of active DNS server should be configured. The IP address is 0 by default.</li> </ul>	Optional

Parameter	Description	Attribute
{[s_dns] <A.B.C.D>} *1	<ul style="list-style-type: none"> <li>◆ [s_dns]: Standby DNS.</li> <li>◆ &lt;A.B.C.D&gt;: The IP address of standby DNS. If the MGC address is a domain name, the IP address of standby DNS server should be configured. The IP address is 0 by default.</li> </ul>	Optional
{[dhcp] [enable disable]} *1	<p>DHCP function. The DHCP is the dynamic host configuration protocol. After enabling the function, the ONU (IAD) automatically obtains the public network's dynamic IP address. The ONU (IAD) static IP address which is configured by other command is invalid.</p> <ul style="list-style-type: none"> <li>◆ enable: Enables the proxy range.</li> <li>◆ disable: Disables the function.</li> </ul> <p>The default setting is disable.</p>	Optional

## Command Example

Configure the voice service named ngn\_wuhan2. Use the H.248 protocol. The active MGC serial number is 1 and the IP address is 192.168.1.101 and the protocol port number is 2944.

```
Admin\ngn#set ngn_uplink_interface name ngn_wuhan2 protocol_type H.248 mgc 1
192.168.1.101 2727
Admin\ngn#
```

### 13.1.3 Configuring Related Parameters of Uplink Port of the SIP Protocol

#### Command Function

The command is used to configure the related parameters of the SIP server, so as to set up normal communication between the MG and the softswitch platform.

#### Command Format

```
set ngn_uplink_interface name <name> protocol_type sip {[dhcp] [enable|
disable]} *1 {[sip_reg_addr] <addr>} *1 {[sip_reg_port] <0-65535>} *1
{[sip_proxy_addr] <addr>} *1 {[sip_proxy_port] <0-65535>} *1 {[sip_expires]
<0-4294967294>} *1
```

## Description

Parameter	Description	Attribute
ngn_uplink_interface name <name>	The name of uplink port of NGN voice service. Identify the VLAN name of the User NGN voice service on the OLT side. The VLAN name should be consistent with the name of the data configured in the local service VLAN. The underline, letters and numbers are valid.	Compulsory
{[dhcp] [enable  disable]}*1	DHCP function. The DHCP is the dynamic host configuration protocol. After enabling the function, the ONU (IAD) automatically obtains the public network's dynamic IP address. The ONU (IAD) static IP address which is configured by other command is invalid. ◆ enable: Enables the proxy range. ◆ disable: Disables the function. The default setting is disable.	Optional
{[sip_reg_addr] <addr>}*1	◆ [sip_reg_addr]: SIP register server. ◆ <addr>: The IP address of the SIP server. Null by default.	Optional
{[sip_reg_port] <0- 65535>}*1	◆ [sip_reg_port]: SIP register server port. ◆ <0-65535> : The port number of the SIP register server. The protocol port number of the MG registering to the SIP register server. The value range is 0 to 65535 and the default value is 5060.	Optional
{[sip_proxy_addr] <addr>}*1	◆ [sip_proxy_addr] : SIP proxy server. ◆ <addr>: The IP address of the SIP proxy server. Null by default.	Optional
{[sip_proxy_port] <0-65535>}*1	◆ [sip_reg_port]: SIP proxy server port. ◆ <0-65535>: The port number of SIP proxy server. The value range is from 0 to 65535. 5060 by default.	Optional
{[sip_expires] <0- 4294967294>}*1	◆ [sip_expires]: SIP register expire time. ◆ <0-4294967294>: Time range. After this time has expired, the register is unsuccessful if the MG fails to receive the corresponding information from the SIP server. The value range is from 0 to 4 294 967 294 and the default value is 3600. The unit is second.	Optional

## Command Example

Configure the voice service named ngn\_wuhan3. Use the SIP protocol. The IP address of the SIP server is 192.168.1.103 and the protocol port number is 5060.

```
Admin\ngn#set ngn_uplink_interface name ngn_wuhan3 protocol_type sip sip_reg_addr
192.168.1.103 sip_reg_port 5060
Admin\ngn#
```

## 13.2 Configuring MD5 Authentication

### Command Function

MD5 stands for message-digest algorithm 5 and is used widely in encryption and decryption. The voice uses the MD5 authentication as a kind of mechanism for the softswitch platform register, verifying the validity through the key from the register signaling.

### Command Format

```
set ngn_iad_md5 domain_name <name> md5_state [enable|disable] {[mgid]
<value>}*1 {[key] <value>}*1 {[dhg_value] <value>}*1 {[dhp_value] <value>}
*1
```

### Description

Parameter	Description	Attribute
domain_name <name>	Domain name. The domain name of the MG in the H.248 and MGCP protocols.	Compulsory
md5_state [enable disable]	MD5 function. <ul style="list-style-type: none"> <li>◆ enable: Enables the proxy range.</li> <li>◆ disable: Disables the function.</li> </ul> The default setting is disable.	Compulsory
{mgid <value>}	MGID value. The identifier of the MG, including manufacturer and equipment information. When registering in the softswitch platform, the MG uses it as the global unique identifier.	Optional
{key <value>}	MD5 public key.	Optional
{dhg_value <value>}	base g.	Optional
{dhp_value <value>}	prime p.	Optional

### Command Example

Enable the MD5 function whose domain name is fiberhome. The MGID value is 100 and the MD5 public key is 100. The base g is 100 and the prime p is 100.

```
Admin\ngn#set ngn_iad_md5 domain_name fiberhome md5_state enable mgid 100 key
100 dhg_value 100 dhp_value 100
Admin\ngn#
```

## 13.3 Configuring Softswitch Interconnection Profile

### Command Function

The command is used to configure the software interconnection profile.

### Command Format

```
set ngn_softswitch_para <profileName> fixed <value> varB <value> varE
<value> step <value> fixedLen [unfixed|fixed] beginT <value> shortT <value>
longT <value> matchEM [exclusive|immediately] switch [disable|enable] txI
<value> rxI <value> voiceC [G711U|G711A|nochange] offhkWT [unregiste|
registe] flashThd <value> 2833N [disable|enable] 2833D <value> 2198D <value>
t38EDM [default|V21|all ] callerIdM [fsk|dtmf] onHKDT <value> dailtonett
<value> Noanstt <value> Busytonett <value> ROHTt <value> Retrantt <value> ECM
[disable|enable] L [chinese|english] { [id] <0-64>*1 { [timethd] <1-3600>
userthd <1-4096>*1 { [heart] [notify|change]}*1
```

### Description

Parameter	Description	Attribute
softswitch_para <profileName>	The name of the softswitch interconnection profile.	Compulsory
fixed <value>	The fixed part of RTP source name.	Compulsory
varB <value>	The start value of variable part of RTP source name.	Compulsory
varE <value>	The end value of variable part of RTP source name.	Compulsory
step <value>	The step of variable part of RTP source name.	Compulsory
fixedLen [unfixed fixed]	The fixed length of RTP name.	Compulsory
beginT <value>	The DigitMap start timer.	Compulsory
shortT <value>	The DigitMap short timer.	Compulsory
longT <value>	The DigitMap long timer.	Compulsory
matchEM [exclusive immediately]	Report immediately after totally matching any rules.	Compulsory
switch [disable enable]	VBD enable.	Compulsory
txI <value>	Interval for VBD transmitting packet.	Compulsory

Parameter	Description	Attribute
rxI <value>	Interval for VBD receiving packet.	Compulsory
voiceC [G711U G711A nochange]	VBD encode type.	Compulsory
offhkWT [unregister register]	Time-out processing of howler tone.	Compulsory
flashThd <value>	Flash time length.	Compulsory
2833N [disable enable]	RFC2833 negotiation.	Compulsory
2833D <value>	RFC2833 default PT.	Compulsory
2198D <value>	RFC2198 default PT.	Compulsory
t38EDM [default V21 all]	Detection mode of the T.38 event.	Compulsory
callerIdM [fsk dtmf]	Caller ID display mode.	Compulsory
onHKDT <value>	Minimum hang-up detection time	Compulsory
dailtonett <value>	Dial tone time	Compulsory
Noanstt <value>	No answer for long time.	Compulsory
Busytonett <value>	Busy tone time	Compulsory
ROHTt <value>	Howler tone time	Compulsory
Retrantt <value>	Re-transmission timer	Compulsory
ECM [disable enable]	Error correction switch	Compulsory
L [chinese english]	CLI language	Compulsory
{ [id] <0-64>*1	The profile ID.	Optional
{ [timethd] <1-3600> userthd <1-4096>*1	NGN register time threshold	Optional
userthd <1-4096>	The NGN register user number threshold	Optional
{ [heart] [notify change] } *1	Heartbeat format	Optional

## Command Example

Configure the softswitch interconnection profile as follows:

- ◆ The profile name: ngn1.
- ◆ The fixed part of RTP source name: RTP/000.
- ◆ The start value of variable part of RTP source name: 0.
- ◆ The end value of variable part of RTP source name: 15.
- ◆ The step of variable part of RTP source name: 1.

- ◆ The fixed length of RTP name: non-fixed.
- ◆ The DigitMap start timer: 16.
- ◆ The DigitMap short timer: 4.
- ◆ The DigitMap long timer: 16.
- ◆ Report immediately after totally matching any rules.
- ◆ VBD enable is forbidden.
- ◆ Interval for VBD transmitting packet: 20.
- ◆ Interval for VBD receiving packet: 10.
- ◆ The VBD encode type is no change.
- ◆ The howler tone out-time processing is unregister
- ◆ Flash time length: 90.
- ◆ The RFC2833 negotiation is non-automatic negotiation.
- ◆ RFC2833 default PT: 97.
- ◆ RFC2198 default PT: 96.
- ◆ The T.38 event detection mode is normal report.
- ◆ Caller ID display mode: FSK.
- ◆ Minimum hang-up detection time: 600.
- ◆ Dial tone time: 60.
- ◆ No answer for long time: 60.
- ◆ Busy tone time: 60.
- ◆ Howler tone time: 60.
- ◆ The re-transmission timer time: 25.
- ◆ Error correction switch is disable.
- ◆ The CLI language is Chinese.
- ◆ The profile ID: 1.
- ◆ NGN register time threshold: 600.
- ◆ The NGN register user number threshold: 1
- ◆ Heartbeat format: change.

```
Admin\ngn#set ngn_softswitch_para ngn1 fixed RTP/000 varB 0 varE 15 step 1 fixedlen
unfixed beginT 16 shortT 4 longT 16 matchEM immediately switch disable txl 20 rxl 10
voiceC nochange offhkWT unregiste flashThd 90 2833N disable 2833D 97 2198D 96 t38EDM
default callerIdM fsk onHKDT 600 dailtonett 60 Noanstt 60 Busytonett 60 ROHTt 60 Retrantt
25 ECM disable L chinese id 1 timethd 600 userthd 1 heart change
Admin\ngn#
```

## 13.4 Binding Softswitch Interconnection Profile

### Command Function

This command is used to configure parameters in the interconnection with the softswitch platform. These parameters include RTP value, start timer, long timer, short timer, etc. Users can bind the profile directly with the terminal IAD. The function is disabled in the network management system by default.

### Command Format

```
set ngn_iad_ss_binding slot <value> pon <value> onu <value>
qing_IAD_softswitch_binding_profile <profileName>
```

### Parameter Description

Parameter	Description	Attribute
slot <value>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <value>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <value>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter
qing_IAD_softswitch_binding_profile <profileName>	The name of the softswitch interconnection profile. The name should be the profile name which has been configured in the softswitch profile configuration command.	Compulsory parameter

### Command Example

Bind the ONU whose authorization number is 1 under number 1 PON port in slot 14 with the profile named protest.

```
Admin\ngn#set ngn_iad_ss_binding slot 14 pon 1 onu 1
qinq_iad_softswitch_binding_profile protest
Admin\ngn#
```

## 13.5 Configuring Heartbeat Parameter

### Command Function

This command is used to configure the heartbeat interval and heartbeat timeout times controlled by the media gateway (MG) in the ONU voice service.

### Command Format

```
set ngn_keeplive servicename <name> aliveinterval <1-65535> alivetimes <1-65535>
```

### Description

Parameter	Description	Attribute
<code>servicename &lt;name&gt;</code>	The service name. Identifies the VLAN name of the user's NGN voice service at the OLT side. The VLAN name should be consistent with the data configured in the service VLAN central office. Enable the heartbeat parameter in the corresponding softswitch platform.	Compulsory
<code>aliveinterval &lt;1-65535&gt;</code>	Heartbeat interval. The MG takes the configured time as the interval to transmit the heartbeat packet. The value range is from 1 to 65535, the unit is second and the default value is 30 seconds.	Compulsory
<code>alivetimes &lt;1-65535&gt;</code>	Heartbeat timeout times. If the MG transmits the configuration parameter for many times and no response is received from the heartbeat, the connection with the MGC is interrupted. Create connection with other MGCs. The value range is from 1 to 65535 and the unit is times, 3 is by default.	Compulsory

### Command Example

Configure ngn to the name of the NGN heartbeat service. The service heartbeat interval is 30 seconds and the heartbeat timeout times is 3.

```
Admin\ngn#set ngn_keealive servicename ngn aliveinterval 30 alivetimes 3
Admin\ngn#
```

## 13.6 Configuring NGN Softswitch Profile Parameter

### Command Function

The command is used in the parameter configuration for the interconnection between the ONU VoIP service and the softswitch.

### Command Format

```
set ngn_softswitch_para <profileName> fixed <value> varB <value> varE
<value> step <value> fixedLen [unfixed|fixed] beginT <value> shortT <value>
longT <value> matchEM [exclusive|immediately] switch [disable|enable] txI
<value> rxI <value> voiceC [G711U|G711A|nochange] offhkWT [unregiste|
registe] flashThd <value> 2833N [disable|enable] 2833D <value> 2198D <value>
t38EDM [default|V21|all] callerIdM [fsk|dtmf] onHKDT <value> dailToneTt
<value> NoAnsTt <value> BusyToneTt <value> ROHTt <value> RetranTt <value> ECM
[disable|enable] L [chinese|english] {[id] <0-64>}*1 {[timethd] <1-3600>
userthd <1-4096>}*1 {[heart] [notify|change]}*1
```

### Parameter Description

Parameter	Description	Attribute
<profileName>	The NGN softswitch profile name.	Compulsory parameter
fixed <value>	The fixed part of the RTP source name. If the RTP source name is RTP/100, the fixed part should be <b>RTP/</b> , which is valid for the H.248 protocol.	Compulsory parameter
varB <value>	The start value of variable part of RTP source name. The value ranges from 0 to 65534. The default value is 4000.	Compulsory parameter
varE <value>	The end value of variable part of RTP source name. The value ranges from 0 to 65534. The default value is 9000.	Compulsory parameter

Parameter	Description	Attribute
step <value>	The step of variable part of RTP source name. The value ranges from 1 to 65534. The default value is 1.	
fixedLen [unfixed fixed]	RPT name fixed length. Used to control the length of the RTP source name. ◆ unfixed: non-fixed mode. ◆ fixed: fixed mode.	Compulsory parameter
beginT <value>	The DigitMap start timer value refers to wait-to-dail time. The value ranges between 1 and 254; the unit is second; and the default value is 16.	Compulsory parameter
shortT <value>	DigitMap ShortTimer refers to that the digit string has matched a numbering scheme of the DigitMap but with more digits it may match an alternative numbering scheme as well . Therefore, the matching result will not be reported immediately. The value ranges between 1 and 254; the unit is second; and the default value is 4.	Compulsory parameter
longT <value>	DigitMap LongTimer refers to that the digit string needs one more number to match any numbering schemes of the DigitMap. The value ranges between 1 and 254; the unit is second; and the default value is 16.	Compulsory parameter
matchEM [exclusive immediately]	The matching result will be reported immediately. After matching any numbering schemes, the digit string reports immediately. ◆ exclusive: Match and report. ◆ Immediately: Immediately report.	Compulsory parameter

Parameter	Description	Attribute
switch [disable enable]	VBD function. Selects whether to enable the interval function of adjusting Tx and Rx packet. <ul style="list-style-type: none"> <li>◆ disable: Disable VBD.</li> <li>◆ enable: Enable VBD.</li> </ul>	Compulsory parameter
txI <value>	The interval for VBD Tx packet. The value ranges between 1 and 254; the unit is ms (millisecond); and the default value is 20.	Compulsory parameter
rxI <value>	The interval for VBD Rx packet. Adjust the interval for Rx packet. The parameter value ranges between 1 and 254, and the unit is ms. The default value is 10.	Compulsory parameter
voiceC[G711U G711A nochange]	VBD encode type. After selecting the T.30 transparent transmission mode, the voice encoded mode is used. nochange is by default.	Compulsory parameter
offhkWT [unregiste registe]	The howler tone time-out processing. Register the howler tone time-out processing function, so as to stop playing the howler tone when the timer expires. <ul style="list-style-type: none"> <li>◆ unregiste: Does not register.</li> <li>◆ register: Registers.</li> </ul> Unregiste is by default.	Compulsory parameter
flashThd <value>	Flash time length. The width of the Flash low pulse signal. The value ranges between 90 and 200; the unit is ms (millisecond); and the default value is 90.	Compulsory parameter
2833N [disable enable]	RFC2833 negotiation. Whether to register the RFC2833 auto-negotiation. Encapsulate DTMF in the mode of RFC2833. <ul style="list-style-type: none"> <li>◆ disable: Non auto-negotiation.</li> <li>◆ enable: Auto-negotiation.</li> </ul> Non auto-negotiation is used by default.	Compulsory parameter

Parameter	Description	Attribute
2833D <value>	RFC2833 default PT. The value of the RFC2833 default payload mode. The value ranges from 96 to 127. The default value is 97.	Compulsory parameter
2198D <value>	RFC2198 default PT. The value of the RFC2833 redundant mode. The value ranges from 96 to 127. The default value is 96.	Compulsory parameter
t38EDM [default V21 all ]	Detection mode of the T.38 event <ul style="list-style-type: none"> <li>◆ default: Normal report. Normal reports to MGC.</li> <li>◆ V21: Only report V21. The V21 mode only reports the V21 event.</li> <li>◆ all: Report all V21. Report MGC in the mode of V21.</li> </ul> The default is normal report.	Compulsory parameter
callerIdM [fsk dtmf]	Caller ID display mode. Select the mode in the frequency shift keying control or dual tone multiple frequency mode. <ul style="list-style-type: none"> <li>◆ fsk: FSK mode.</li> <li>◆ dtmf: DTMF mode.</li> </ul> The FSK mode is used by default.	Compulsory parameter
onHKDT <value>	The minimum hang-up detection time. The detection time length of polling about the hang-up event. The value ranges between 90 and 2500; the unit is ms (millisecond); and the default value is 60.	Compulsory parameter
dailToneTt <value>	Dial tone time. The time to broadcast the dial tone. The value ranges between 1 and 254; the unit is second; and the default value is 60.	Compulsory parameter
NoAnsTt <value>	No answer for long time. If exceeding the time, the phone is not answered. The value ranges between 1 and 254; the unit is second; and the default value is 60.	Compulsory parameter

Parameter	Description	Attribute
BusyToneTt <value>	<p>Busy tone time. The time to broadcast the busy tone in the busy state.</p> <p>The value ranges between 1 and 254; the unit is second; and the default value is 60.</p>	Compulsory parameter
ROHTt <value>	<p>The howler tone time. The howler tone time after the busy tone.</p> <p>The parameter value ranges between 1 and 254, and the unit is second.</p>	Compulsory parameter
RetranTt <value>	<p>Re-transmission timer. The time length of MG transmitting the transaction request to the MGC. The MG stops transmitting the transaction request if exceeding the time.</p> <p>The value ranges between 1 and 60; the unit is second; and the default value is 25.</p>	Compulsory parameter
ECM [disable enable]	<p>Error correction switch. Error correct the data packet with faults.</p> <ul style="list-style-type: none"> <li>◆ enable: Enabling.</li> <li>◆ disable: Disabling.</li> </ul> <p>The default setting is disable.</p>	Compulsory parameter
L [chinese english]	<p>IAD command line language. Only supports the AN5006-05 at present.</p> <ul style="list-style-type: none"> <li>◆ chinese: Chinese</li> <li>◆ english: English</li> </ul> <p>English is used.</p>	Compulsory parameter
{[id] <0-64>} *1	The profile ID.	Optional parameter

Parameter	Description	Attribute
<code>{ [timethd] &lt;1-3600&gt; userthd &lt;1-4096&gt; } *1</code>	<ul style="list-style-type: none"> <li>◆ [timethd] &lt;1-3600&gt; : NGN register time threshold. The time threshold of IAD registering to the MGC. The value range is from 1 to 3600 and the unit is second and the default value is 600.</li> <li>◆ userthd &lt;1-4096&gt;: NGN user register number threshold. Within the time threshold of IAD registering to the MGC, the number of users who can not register exceeds the the NGN register threshold, alarms occur. The value range is from 1 to 4096.</li> </ul>	Optional parameter
<code>{ [heart] [notify change] } *1</code>	Heartbeat format. The format of transmitting the heartbeat.	Optional parameter

## Command Example

Configure each parameter in the softswitch profile named ngn1. The fixed part of the RTP source name is RTP/000. The RTP name fixed length is in the non-fixed mode. Report immediately after totally matching any rules. Disable the VDB function. The profile ID is 1. Other parameters use the default value.

```
Admin\ngn#set ngn_softswitch_para ngn1 fixed RTP/000 varb 4000 vare 9000 step 1
fixedlen unfixed begint 16 shortt 4 longt 16 matchem immediatly switch disable txi 20 rxi
10 voicec nochange offhkwt unregiste flashtd 90 2833n disable 2833d 97 2198d 96 t38edm
default calleridm fsk onhkdt 60 dailtonett 60 noanstt 60 busytonett 60 rohtt 60 retrantt 25
ecm disable l english id 1
Admin\ngn#
```

## 13.7 Configuring NGN Uplink DHCP Parameter

### Command Function

This command is used to configure the ONU to obtain the voice service IP in the mode of DHCP with the Option 60 identifier. The function uses DHCP SERVER and DHCP CLIENT modes. The DHCP SERVER (MGC) end can plan the IP address range section. The DHCP CLIENT (MG) end can be allocated the valid IP address randomly.

### Command Format

```
set ngn_uplink_dhcp slot <value> pon <value> onu <value> dhcp [enable|disable]
dhcp_option60 [enable|disable] {dhcp_value <value>}*1
```

### Description

Parameter	Description	Attribute
slot<value>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory
pon <value>	The number of the PON port. The value ranges from 1 to 8.	Compulsory
onu <value>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory
dhcp [enable disable]	DHCP function. When the DHCP function is enabled, the ONU public network IP will be covered with the IP which is dynamically obtained. ◆ enable: Enables the proxy range. ◆ disable: Disables the function.	Compulsory
dhcp_option60 [enable disable]	DHCP Option60 function. When the DHCP Option60 switch is enabled, the DHCP packet with Option60 will be transmitted. ◆ enable: Enables the proxy range. ◆ disable: Disables the function.	Compulsory
{dhcp_value <value>}*1	DHCP Option60 identifier suffix. Type a character string with 32 bits at most.	Optional

## Command Example

Enable the DHCP of the ONU whose authorization number is 1 under number 1 PON port in slot 14. Enable the DHCP Option60. The DHCP Option60 identifier suffix is test.

```
Admin\ngn#set ngn_uplink_dhcp slot 14 pon 1 onu 1 dhcp enable dhcp_option60 enable
dhcp_value test
Admin\ngn#
```

## 13.8 Configuring NGN Uplink PPPoE Parameters

### Command Function

This command is used to configure the ONU to use the PPPoE mode to dynamically obtain the IAD IP.

### Command Format

```
set ngn_uplink_pppoe slot <value> pon <value> onu <value> pppoe [enable|
disable] {name <name> password <pwd>}*1
```

### Description

Parameter	Description	Attribute
slot<value>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory
pon <value>	The number of the PON port. The value ranges from 1 to 8.	Compulsory
onu <value>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory
pppoe [enable disable]	Enable the ONU (IAD)'s PPPoE dialing function to obtain the IAD IP address which is used to communicate with the MGC. ◆ enable: Enables the proxy range. ◆ disable: Disables the function.	Compulsory
{name <name> password <pwd>}*1	◆ name <name>: PPPoE user name. ◆ password <pwd>: PPPoE password.	Optional

## Command Example

Enable the PPPoE function of the ONU whose authorization number is 1 under number 1 PON port in slot 14. The PPPoE user name is wuhan and the key is 123.

```
Admin\ngn#set ngn_uplink_pppoe slot 14 pon 1 onu 1 pppoe enable name wuhan
password 123
Admin\ngn#
```

## 13.9 Configuring NGN Uplink User Parameter

### Command Function

The command is used to configure the local media gateway parameter of the ONU voice service.

### Command Format

```
set ngn_uplink_user servicename <name> phone <value> {[public_ip] <A.B.C.
D>}*1 {[public_subnet] <A.B.C.D>}*1 {[public_gate] <A.B.C.D>}*1
{[domainnam] <name>}*1 {[protocol_port] <1-65535>}*1 {[username] <name>}*1
{[sip_user_name] <name>}*1 {[sip_user_password] <password>}*1
{[user_index] <value>}*1
```

### Description

Parameter	Description	Attribute
servicename <name>	The service name. Identify the VLAN name of the User NGN voice service on the OLT side. The VLAN name should be consistent with the name of the data configured in the local service VLAN. The underline, letters and numbers are valid.	Compulsory
phone <value>	The telephone number. System internal logical number is not the telephone number of the actual softswitch and only used in the system configuration index.	Compulsory

Parameter	Description	Attribute
{[public_ip] <A.B.C.D>*1	The ONU public network IP. When enabling DHCP or PPPoE, the ONU covers the the public IP configured by the system with the automatically-obtained IP, but the parameter must be configured.	Optional
{public_subnet <A.B.C.D>*1	The ONU public network IP mask. Default mask: 255.255.0.0.	Optional
{[public_gate] <A.B.C.D>*1	The ONU public network IP gateway.	Optional
{[domainnam] <name>*1	End point domain name / SIP user name suffix. The domain address of gateway. When the MGC protocol type is SIP, the SIP authentication user name exceeds 16 bytes, fill the user name's suffix.	Optional
{[protocol_port] <1-65535>*1	The ONU protocol port number. The value ranges from 1 to 65535. ◆ The protocol type is H.248 and the default value is 2944. ◆ The protocol type is MGCP and the default value is 2427. ◆ The protocol type is SIP and the default value is 5060.	Optional
{[username] <name>*1	◆ The MGCP and H.248 protocols are used, indicating the end point user name. ◆ Uses the SIP protocol, indicating the SIP telephone number.	Optional
{[sip_user_name] <name>*1	The SIP protocol authentication user name.	Optional
{[sip_user_password] <password>*1	The SIP protocol authentication user password.	Optional
{[user_index] <value>*1	The user index number.	Optional

## Command Example

Configure the telephone number of the NGN service as 11111111. The ONU public network IP is 10.10.10.101 and the ONU public network IP mask is 255.255.0.0. The ONU public network IP gateway is 10.10.1.254. The end point domain name is fiberhome. The ONU protocol port is 2944 and the end point user name is a1. The user index is 1.

```
Admin\ngn#set ngn_uplink_user servicename ngn phone 11111111 public_ip 10.10.10.101
public_subnet 255.255.0.0 public_gate 10.10.1.254 domainnam fiberhome protocol_port
2944 username a1 user_index 1
Admin\ngn#
```

## 13.10 Registering / Logging out NGN Subscriber

### Command Function

When you register or log out a signal port manually, this command can register or log out the corresponding port according to the telephone number.

### Command Format

```
set ngn_user_reg phoneno <value> [register|unregister]
```

### Description

Parameter	Description	Attribute
phoneno <value>	The telephone number. Select the telephone number configured in the NGN configuration. The value ranges from 0 to 99999999.	Compulsory
[register unregister]	Manually registers or logs out to the MGC. ◆ register: Registers. ◆ unregister: Logs out.	Compulsory

### Command Example

Configure the subscriber whose telephone number is 11111111 to register to the MGC.

```
Admin\ngn#set ngn_user_reg phoneno 11111111 register
Admin\ngn#
```

## 13.11 Configuring ONU Voice Service Parameter

### Command Function

The command is used to configure the ONU voice service parameters, including speech encoding, fax mode, mute switch, echo suppression, input / output gain, DTMF mode, etc.

The command is valid for the AN5116-06B GPON equipment.

## Command Format

```
set ngn_voice_service slot <value> pon <value> onu <value> pots <portno>
phonenum <num> vid <vid> code_mode [G.711M|G.711A|G.723|G.729] fax_mode
[transparent|t.38] slience [enable|disable] echo_cancel [enable|disable]
input_gain <num> voice_value <value> dtmf [transparent|rfc2833]
{[heartbeat] [enable|disable]}*1 {[potsqinqstate] [enable|disable] svlanid
<0-4085>}*1 {[service_cos] <value>}*1 {[customer_cos] <value>}*1
{[fax_control] [passthrough|softswitch|autovbd]}*1
```

## Parameter Description

Parameter	Description	Attribute
slot<value>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <value>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <value>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter
pots <portno>	POTS port number.	Compulsory parameter
phonenum <num>	The telephone number. The telephone number should be the configured NGN user entries and each port should not be allocated with repeat telephone number. The system ascertains the other configuration information of the ONU voice according to the telephone number. 0 is the default value. The default value is 0.	Compulsory parameter
vid <vid>	The VLAN ID. The parameter is the uplink VLAN ID value of the voice data on the port and should be consistent with the VLAN ID value of the uplink interface which the NGN user configured of the port.	Compulsory parameter
code_mode [G.711M G.711A G.723 G.729]	Speech encoding mode. The compression encoding mode of the NGN service speech flow. Select it as required. G.711A by default	Compulsory parameter

Parameter	Description	Attribute
fax_mode [transparent t.38]	<p>Fax mode.</p> <ul style="list-style-type: none"> <li>◆ transparent: Transparent mode. Fax carried by the RTP flow.</li> <li>◆ t.38 : T.38 mode. Fax via the T.38 fax encoding mode.</li> </ul> <p>The transparent mode is used by default.</p>	Compulsory parameter
silence [enable disable]	<p>Mute compression. Transmit mute compression packet when no voice is during calls.</p> <ul style="list-style-type: none"> <li>◆ enable: Enabling.</li> <li>◆ disable: Disabling.</li> </ul> <p>Enable by default</p>	Compulsory parameter
echo_cancel [enable disable]	<p>Cancel the acoustic echo when it is enabled.</p> <ul style="list-style-type: none"> <li>◆ enable: Enabling.</li> <li>◆ disable: Disabling.</li> </ul>	Compulsory parameter
input_gain <num>	<p>Input gain.</p> <p>The value ranges between -32 and +32; the unit is dB; and the default value is 0.</p>	Compulsory parameter
voice_value <value>	<p>Output gain.</p> <p>The value ranges between -32 and +32; the unit is dB; and the default value is 0.</p>	Compulsory parameter
dtmf [transparent rfc2833]	<p>DTMF mode. The transmission mode on the client side, such as butter fax event.</p> <ul style="list-style-type: none"> <li>◆ transparent: Transparent mode.DTMF carried by the RTP flow.</li> <li>◆ rfc2833: The RFC2833 mode. Encode the DTMF signal via the RFC2833 standard.</li> </ul> <p>The transparent mode is used by default.</p>	Compulsory parameter
{[heartbeat] [enable disable]} *1	<p>Heartbeat function.</p> <ul style="list-style-type: none"> <li>◆ enable: Enabling.</li> <li>◆ disable: Disabling.</li> </ul>	Optional parameter
[potsqinqstate] [enable disable]	<p>Voice QinQ function enable switch. When the Voice QinQ function is enabled, the double VLAN mode is configured. The Service VLAN ID value should be consistent with the configured service VLAN ID value.</p>	Optional parameter
svlanid <0-4085>	<p>The service VLAN ID.</p> <p>The value range is from 1 to 4085. The value should be in the range of the service VLAN central office data.</p>	Optional parameter

Parameter	Description	Attribute
{[service_cos] <value>}*1	The SVLAN priority.	Optional parameter
{[customer_cos] <value>}*1	The CVLAN ID.	Optional parameter
{[fax_control] [passthrough] softswitch autovbd]} *1	Fax control mode. ◆ passthrough: Voice path. ◆ softswitch: Softswitch controlled. ◆ autovbd: Auto-negotiation.	Optional parameter

## Command Example

Configure the No.1 POTS port parameters of the ONU whose authorization number is 1 of No.1 PON port in the slot 14. The phone number is 11111111 and the VID is 3022. The speech compression encoding mode is G.711A. The fax mode is transparent transmission. The mute compression is disabled. The echo compression is disabled. The input gain is 4 and the output gain is 0. The DTMF mode is transparent transmission.

```
Admin\ngn#set ngn_voice_service slot 14 pon 1 onu 1 pots 1 phonenum 11111111 vid 3022
code_mode g.711a fax trans slience disable echo disable input_gain 4 voice_value 0 dtmf
transparent
```

```
Admin\ngn#
```

## 13.12 Viewing ONU Voice Service Parameter

### Command Function

The command is used to check ONU voice service parameters.

### Command Format

```
show ngn_voice_service slot <value> pon <value> onu <value> pots_config
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot<value>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <value>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <value>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter

## Command Example

```
Admin\ngn#show ngn_voice_service slot 14 pon 1 onu 1 pots_config
```

```
*****
port          :1          phonenum      : 11111111
vlan id       :3022       code mode    : G.711A
fax mode      :transparent slienceSp   : disable
echo cancel   :disable    input gain   : 4
output gain   : 0         dtmf mode    : transparent
heartbeat     :disable
potsqinqstate:disable.
service cos   : disable.
customer cos  : disable.
bind type     : 0.
bind adv profile id: 0.
fax control mode : PassThrough
port activation : ACTIVE.
rms state     :disable
*****
port          :2          phonenum      : 0
vlan id       :0         code mode    : G.711A
fax mode      :transparent slienceSp   : enable
echo cancel   :enable    input gain   : 0
output gain   : 0         dtmf mode    : transparent
heartbeat     :disable
potsqinqstate:disable.
service cos   : disable.
customer cos  : disable.
bind type     : 0.
bind adv profile id: 0.
fax control mode : PassThrough.
```

```
port activation      : ACTIVE.  
rms state           :disable  
Admin\ngn#
```

## Result Description

Parameter	Parameter Description
port	The port number.
phonenum	The telephone number.
vlan id	The VLAN ID. The value is the uplink VLAN ID value of the port's voice data.
code mode	Encoding mode.
fax mode	Fax mode.
slienceSp	Mute compression.
echo cancel	Echo compression.
input gain	Input gain.
output gain	Output gain.
dtmf mode	DTMF mode.
heartbeat	Heartbeat function.
potsqingstate	QinQ enable.
service cos	Service VLAN priority.
customer cos	Customer VLAN priority.
bind type	The profile type.
bind adv profile id	The profile ID.
fax control mode	Fax control mode.
port activation	Activation status of port.
rms state	RMS status.

## 13.13 Viewing Domain Name Information of MD5 Authentication

### Command Function

This command is used to view the domain name information of the MD5 authentication.

## Command Format

```
show ngn_iad_md5 endpoint_dmname <name> information
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
endpoint_dmname <name>	End point domain name.	Compulsory parameter

## Command Example

View the MD5 authentication information with the domain name is fiberhome.

```
Admin\ngn#show ngn_iad_md5 endpoint_dmname fiberhome information
index 0-----
domain_name      :fiberhome
md5_state        :1
mgid              :100
key               :100
dhg_value        :100
dhp_value        :100
Admin\ngn#
```

## Result Description

Parameter	Parameter Description
domain_name	End point domain name.
md5_state	MD5 function.
mgid	MGID value.
key	MD5 public key.
dhg_value	base g.
dhp_value	prime p.

# 13.14 Viewing Softswitch Interconnection Profile Binding Parameter

## Command Function

This command is used to view the softswitch profile binding parameters.

## Command Format

```
show ngn_iad_ss_binding slot <value> pon <value> onu <value>
qing_IAD_softswitch_binding_profile
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot<value>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <value>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <value>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter

## Command Example

View the softswitch profile binding parameters of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\ngn#show ngn_iad_ss_binding slot 14 pon 1 onu 1
qing_iad_softswitch_binding_profile
```

```
-----IAD Softswitch profile binding information-----
slot: 14, pon: 1, onu: 1, profile: protest
Admin\ngn#
```

## Result Description

Parameter	Parameter Description
slot	Slot number.
pon	The number of the PON port.
onu	The ONU authorization number.
profile	The profile name.

# 13.15 Viewing IAD Softswitch Profile Parameter

## Command Function

The command is used to view the related parameters of the IAD softswitch profile.

## Command Format

```
show ngn_softswitch_para <profileName> parameters
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<profileName>	The profile name.	Compulsory parameter

## Command Example

View the IAD softswitch profile parameters with the profile name of protest.

```
Admin\ngn#show ngn_softswitch_para protest parameters
```

```
Profile name: protest          Profile id:1
----- RTP informaiton -----
RTP name fixed part:  RTP      | RTP name variable begin: 4000
RTP name variable end: 9000    | RTP name variable step:  1
RTP name fixed length: fixed
----- digitmap informaiton -----
digitmap begin timer: 16      | digitmap short timer:   4
digitmap long timer:  16     | notify match each map: immediately
----- VBD informaiton -----
VBD switch:   enable        | VBD TX interval: 20
VBD RX interval: 10         | VBD voice coder: no change
----- other informaiton -----
offhook warning tone timeout: unregiste | flash threshold:90
RFC2833 negotiation state:  disable     | RFC2833 default PT:97
RFC2198 default PT:         96 | T38 event detect mode: default
-----newly added informaiton -----
CallerID Mode: fsk
OnHook detect time: 600
Dail tone timeout: 60
No answer tone timeout: 60
Busy tone timeout: 60
ROH timeout: 60
Retrans timeout: 25
EC Mode: disable
Language: Chinese
Timer Threshold: 600
User Threshold: 600
heartformat: notify
```

Admin\ngn#

## Result Description

Parameter	Parameter Description
Profile name	The profile name.
Profile id	The profile ID.
RTP name fixed part	The fixed part of RTP source name.
RTP name variable begin	The start value of variable part of RTP source name
RTP name variable end	The end value of variable part of RTP source name
RTP name variable step	The step of variable part of RTP source name
RTP name fixed length	The RTP name fixed length and unfixed / fixed mode.
digitmap begin timer	The DigitMap start timer.
digitmap short timer	The DigitMap short timer.
digitmap long timer	The DigitMap long timer.
notify match each map	Match and report / immediately report
VBD switch	VBD enable / disable
VBD TX interval	Interval for VBD transmitting packet
VBD RX interval	Interval for VBD receiving packet.
VBD voice coder	VBD encode type
offhook warning tone timeout	Does not register / Register howler tone time-out processing
flash threshold	Flash time length
RFC2833 negotiation state	RFC2833 negotiation enable/disable
RFC2833 default PT	RFC2833 default PT
RFC2198 default PT	RFC2198 default PT
T38 event detect mode	Detection mode of the T.38 event
CallerID Mode	Caller ID display mode
OnHook detect time	Minimum hang-up detection time
Dial tone timeout	Dial tone time
No answer tone timeout	No answer for long time.
Busy tone timeout	Busy tone time
ROH timeout	Howler tone time
Retrans timeout	Re-transmission timer
EC Mode	Error correction switch
Language	Command line language
Timer Threshold	NGN register time threshold

Parameter	Parameter Description
User Threshold	The threshold number of NGN user registering
heartformat	Heartbeat format

## 13.16 Viewing All Softswitch Interconnection Profile Parameters

### Command Function

The command is used to view all softswitch interconnection profile parameters.

### Command Format

```
show ngn_softswitch_para all
```

### Parameter Description

None

### Command Example

View all softswitch interconnection profile parameters.

```
Admin\ngn#show ngn_softswitch_para all
Profile name: protest          Profile id:1
----- RTP informaiton -----
RTP name fixed part:  RTP      | RTP name variable begin: 4000
RTP name variable end: 9000    | RTP name variable step:  1
RTP name fixed length: fixed
----- digitmap informaiton -----
digitmap begin timer: 16      | digitmap short timer:   4
digitmap long timer:  16     | notify match each map: immediately
----- VBD informaiton -----
VBD switch:  enable          | VBD TX interval: 20
VBD RX interval: 10          | VBD voice coder: no change
----- other informaiton -----
offhook warning tone timeout: unregiste | flash threshold:90
RFC2833 negotiation state:  disable    | RFC2833 default PT:97
RFC2198 default PT:         96      | T38 event detect mode: default
----- newly added informaiton -----
CallerID Mode: fsk
OnHook detect time: 600
```

```
Dail tone timeout: 60
No answer tone timeout: 60
Busy tone timeout: 60
ROH timeout: 60
Retrans timeout: 25
EC Mode: disable
Language: Chinese
Timer Threshold: 600
User Threshold: 600
heartformat: notify
Profile name: protest1           Profile id:2
----- RTP informaiton -----
RTP name fixed part:  RTP      | RTP name variable begin: 2000
RTP name variable end: 6000    | RTP name variable step:  2
RTP name fixed length: fixed
----- digitmap informaiton -----
digitmap begin timer: 16      | digitmap short timer:   4
digitmap long timer:  16     | notify match each map: immediately
----- VBD informaiton -----
VBD switch:  enable         | VBD TX interval: 20
VBD RX interval: 10        | VBD voice coder: no change
----- other informaiton -----
offhook warning tone timeout: unregiste | flash threshold:90
RFC2833 negotiation state:  disable    | RFC2833 default PT:97
RFC2198 default PT:        96  | T38 event detect mode: default
----- newly added informaiton -----
CallerID Mode: fsk
OnHook detect time: 600
Dail tone timeout: 60
No answer tone timeout: 60
Busy tone timeout: 60
ROH timeout: 60
Retrans timeout: 25
EC Mode: disable
Language: Chinese
Timer Threshold: 500
User Threshold: 500
heartformat: notify
Admin\ngn#
```

## Result Description

Parameter	Parameter Description
Profile name	The profile name.
Profile id	The profile ID.
RTP name fixed part	The fixed part of RTP source name.
RTP name variable begin	The start value of variable part of RTP source name
RTP name variable end	The end value of variable part of RTP source name
RTP name variable step	The step of variable part of RTP source name
RTP name fixed length	The RTP name has the fixed length and unfixed/fixed mode.
digitmap begin timer	The DigitMap start timer.
digitmap short timer	The DigitMap short timer.
digitmap long timer	The DigitMap long timer.
notify match each map	Match and report / immediately report
VBD switch	VBD enable / disable
VBD TX interval	Interval for VBD transmitting packet
VBD RX interval	Interval for VBD receiving packet.
VBD voice coder	VBD encode type
offhook warning tone timeout	Does not register / Register howler tone time-out processing
flash threshold	Flash time length
RFC2833 negotiation state	RFC2833 negotiation enable/disable
RFC2833 default PT	RFC2833 default PT
RFC2198 default PT	RFC2198 default PT
T38 event detect mode	Detection mode of the T.38 event
CallerIDMode	Caller ID display mode
OnHook detect time	Minimum hang-up detection time
Dial tone timeout	Dial tone time
No answer tone timeout	No answer for long time.
Busy tone timeout	Busy tone time
ROH timeout	Howler tone time
Retrans timeout	Re-transmission timer
EC Mode	Error correction switch
Language	Command line language
Timer Threshold	NGN register time threshold
User Threshold	The threshold number of NGN user registering
heartformat	Heartbeat format

## 13.17 Viewing NGN Uplink DHCP Parameter

### Command Function

This command is used to view the uplink DHCP information.

### Command Format

```
show ngn_uplink_dhcp slot <value> pon <value> onu <value> uplink_dhcp
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
slot<value>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <value>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <value>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter

### Command Example

View the uplink DHCP information of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\ngn#show ngn_uplink_dhcp slot 14 pon 1 onu 1 uplink_dhcp
slot 14 pon:1 onu 1 ngn uplink dhcp information.
ngn dhcp state is enable.
ngn dhcp option60 is enable.
ngn dhcp value 100.
Admin\ngn#
```

### Result Description

Parameter	Parameter Description
ngn dhcp state	DHCP status.
ngn dhcp option60	DHCP Option60.
ngn dhcp value	DHCP Option60 value.

## 13.18 Viewing NGN Uplink Port Parameter

### Command Function

This command is used to view the configuration information of the NGN uplink port.

### Command Format

```
show ngn_uplink_interface {<name>}*1
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
{<name>}*1	Uplink port name. ◆ Enter an uplink port name to view the parameters of the corresponding uplink port. ◆ Enter no uplink port name to view the parameters of all uplink ports.	Optional parameter

### Command Example

View the NGN uplink port information with the name of ngn1.

```
Admin\ngn#show ngn_uplink_interface ngn1
-----ngn interface information-----
the index of the ngn interface :3
servicename           :ngn
protocaltype          :h.248
mgclip                :192.168.1.101
mgclport              :2944
mgc2ip                :
mgc2port              :2944
mgc3ip                :
mgc3port              :2944
keepalive              :disable
masterdns              :255.255.255.255
slavedns              :255.255.255.255
dhcp                  :disable
Admin\ngn#
```

## Result Description

Parameter	Parameter Description
servicename	Name of the uplink port.
protocaltype	Protocol type.
mgc1ip	IP address of MGC1.
mgc1port	Port number of MGC1.
mgc2ip	IP address of MGC2.
mgc2port	Port number of MGC2.
mgc3ip	IP address of MGC3.
mgc3port	Port number of MGC3.
keepalive	Heartbeat switch.
masterdns	IP address of the active DNS.
slavedns	IP address of the standby DNS.
dhcp	DHCP function.

## 13.19 Viewing ONU Uplink PPPoE Parameter

### Command Function

This command is used to view the ONU PPPOE configuration information.

### Command Format

```
show ngn_uplink_pppoe slot <value> pon <value> onu <value> pppoe_information
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
slot<value>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <value>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <value>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter

## Command Example

View the PPPoE configuration information of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\ngn#show ngn_uplink_pppoe slot 14 pon 1 onu 1 pppoe_information
slot:14
pon:1
onuno:1
pppoe:enable
name:wuhan
password:123
Admin\ngn#
```

## Result Description

Parameter	Parameter Description
slot	Slot number.
pon	The number of the PON port.
onuno	The ONU authorization number.
pppoe	The PPPoE function.
name	The PPPoE user name.
password	The PPPoE password.

## 13.20 Configuring SIP Digitmap

### Command Function

This command is used to configure the SIP protocol digitmap. In course of dialing, the gateway matches the dialed digits against the numbering scheme in the digitmap and reports to the MGC when a match is found.

### Command Format

```
set ngn_bitmap bitmap1 <bitmap>
```

```
set ngn_bitmap bitmap2 <bitmap>
```

```
set ngn_bitmap bitmap3 <bitmap>
```

```
set ngn_bitmap bitmap4 <bitmap>
```

```
set ngn_bitmap bitmap5 <bitmap>
```

```
set ngn_bitmap bitmap6 <bitmap>
```

```
set ngn_bitmap bitmap7<bitmap>
```

```
set ngn_bitmap bitmap8 <bitmap>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<bitmap>	Digitmap. The maximum character string in the digitmap is 1024. Each command line can be enter 128 character strings and the value range is from 0 to 9, A to F, X, S, L, .   , - , square brackets, and parentheses.	Compulsory parameter

## Command Example

Configure the digitmap parameter: [2-9]XXXXXXXX|1[12]X|1[35]XXXXXXXXXX.

```
Admin\ngn# set ngn_bitmap bitmap1 [2-9]XXXXXXXX|1[12]X|1[35]XXXXXXXXXX
```

```
Admin\ngn#
```

# 13.21 Viewing SIP Digitmap Information

## Command Function

The command is used to view the configured SIP digitmap.

## Command Format

```
show ngn_bitmap
```

## Parameter Description

None

## Command Example

View the configured SIP digitmap information.

```
Admin\ngn#show ngn_bitmap
ac16 bitmap: x|xx|xxx
Admin\ngn#
```

## Result Description

Parameter	Parameter Description
ac16 bitmap	Digitmap

## 13.22 Configuring NGN Voice Port's Advanced Profile Parameter

### Command Function

The command is used to configure the voice and fax parameters of the NGN voice port, including fax mode, mute switch, echo suppression, input / output gain, etc.

### Command Format

```
set ngn_adv_profile { [id] <1-64>*1 name <vaule> codec [g.711u|g.711a|
g.723|g.729] fax [transparent|t.38] silence [enable|disable] echo_cancel
[enable|disable] input_gain <value> output_gain <value> dtfm [transparent|
rfc2833] {[faxcontrolmode] [passthrough|ss|autovbd]}*1
```

### Parameter Description

Parameter	Description	Attribute
{ [id] <1-64>*1	The profile ID.	Optional parameter
name <vaule>	The profile name.	Compulsory parameter
codec [g.711u g.711a g.723 g.729]	Speech encoding mode. The compression encoding mode of the NGN service speech flow. Select it as required. G.711A by default	Compulsory parameter

Parameter	Description	Attribute
fax [transparent t.38]	<p>Fax mode.</p> <ul style="list-style-type: none"> <li>◆ transparent: Transparent mode. Fax carried by the RTP flow.</li> <li>◆ t.38: T.38 mode. Fax via the T.38 fax encoding mode.</li> </ul> <p>The transparent mode is used by default.</p>	Compulsory parameter
silence [enable disable]	<p>Mute compression. Transmit mute compression packet when no voice is during calls.</p> <ul style="list-style-type: none"> <li>◆ enable: Enabling.</li> <li>◆ disable: Disabling.</li> </ul> <p>Enable by default</p>	Compulsory parameter
echo_cancel [enable disable]	<p>Echo suppression. Cancel the acoustic echo when it is enabled.</p> <ul style="list-style-type: none"> <li>◆ enable: Enabling.</li> <li>◆ disable: Disabling.</li> </ul>	Compulsory parameter
input_gain <value>	<p>Input gain.</p> <p>The value ranges between -32 and +32; the unit is dB; and the default value is 0.</p>	Compulsory parameter
output_gain <value>	<p>Output gain.</p> <p>The value ranges between -32 and +32; the unit is dB; and the default value is 0.</p>	Compulsory parameter
dtmf [transparent rfc2833]	<p>DTMF mode. The transmission mode on the client side, such as butter fax event.</p> <ul style="list-style-type: none"> <li>◆ transparent: Transparent mode. DTMF carried by the RTP flow.</li> <li>◆ rfc2833: The RFC2833 mode. Encode the DTMF signal via the RFC2833 standard.</li> </ul> <p>The transparent mode is used by default.</p>	Compulsory parameter
{ [faxcontrolmode] [passthrough ss autovbd] } *1	<p>Fax control mode.</p> <ul style="list-style-type: none"> <li>◆ passthrough: Voice path.</li> <li>◆ softswitch: Softswitch controlled.</li> <li>◆ autovbd: Auto-negotiation.</li> </ul>	Optional parameter

## Command Example

Configure the profile ngn whose ID is 1. The speech compression encoding mode is G.711A. The fax mode is transparent transmission. The mute compression is enabled. The echo compression is enabled. The input gain is 0 and the output gain is 0. The DTMF mode is transparent transmission. the fax control code is passthrough.

```
Admin\ngn#set ngn_adv_profile id 1 name ngn codec g.711a fax transparent silence
enable echo_cancel enable input_gain 0 output_gain 0 dtmf transparent faxcontrolmode
passthrough
Admin\ngn#
```

## 13.23 Viewing Voice Port's Advanced Profile Parameter

### Command Function

This command is used to view the voice port's advanced profile parameters.

### Command Format

```
show ngn_adv_profile {[id] <1-64>*1 {[all]}*1
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
{[id] <1-64>*1	The profile ID. The value ranges from 1 to 64.	Optional parameter
{[all]}*1	All profiles.	Optional parameter

### Command Example

View parameters of the voice port's advanced profile whose ID is 1.

```
Admin\ngn#show ngn_adv_profile id 1
-----port advance profile information-----
profileid: 1
profilename: ngn
codec: g.711a
fax mode: transparent
silence switch: enable
```

```

echo cancel: enable
input gain:0
output gain:0
dtmf mode: transparent
faxControlMode: passthrough
Admin\ngn#

```

## Result Description

Parameter	Parameter Description
profileid	The profile ID.
profilename	The profile name.
codec	Speech encoding mode.
fax mode	Fax mode
silence switch	Mute compression.
echo cancel	Echo suppression.
input gain	Input gain.
output gain	Output gain.
dtmf mode	DTMF mode.
faxControlMode	Fax control mode.

## 13.24 Deleting Voice Port's Advanced Profile

### Command Function

This command is used to delete the voice port's advanced profile.

### Command Format

```
del ngn_adv_profile {[id] <1-64>}*1 {[all]}*1
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
{[id] <1-64>}*1	The profile ID. The value ranges from 1 to 64.	Optional parameter
{[all]}*1	All profiles.	Optional parameter

## Command Example

Delete the voice port's advanced profile whose ID is 1.

```
Admin\ngn#del ngn_adv_profile id 1
Admin\ngn#
```

## 13.25 Configuring Voice Management Mode

### Command Function

This command is used to configure the OLT voice management mode. You can manage the voice via configuring the line card or the PUBA card.

### Command Format

```
set ngn_manager_mode [puba|linecard]
```

### Parameter Description

Parameter	Description	Attribute
ngn_manager_mode [puba linecard]	Management mode. You can manage the voice via configuring the line card or the PUBA card.	Compulsory parameter

### Command Example

Configure the voice management mode of the equipment as PUBA.

```
Admin\ngn# set ngn_manager_mode puba
Admin\ngn#
```

## 13.26 Viewing Voice Management Mode

### Command Function

This command is used to view the current OLT voice management mode.

## Command Format

```
show ngn_manager_mode
```

## Parameter Description

None

## Command Example

View the equipment voice management mode.

```
Admin\ngn# show ngn_manager_mode

----- ngn manager mode: PUBA

Admin\ngn#
```

## Result Description

Parameter	Parameter Description
ngn manager mode	NGN management mode

# 13.27 Configuring Voice Media Stream Parameter

## Command Function

The command is used to configure the related parameters of the voice media stream. These parameter include **voice media stream service name**, **RTP configuration function**, **service TPID**, **service VLAN ID**, **service COS** and etc.

The AN5006-07B and the HG220 support this command.

## Command Format

```
set ngn_rtp_stream slot <value> pon <value> onu <value> servicename <value>
rtpcfg [enable|disable] {[svlan_tpid] <value> svlan_id <value> svlan_cos
<value>}*1 {[cvlan_tpid] <value> cvlan_id <value> cvlan_cos <value>}*1
{[rtp_ip] <A.B.C.D> rtp_mask <A.B.C.D> rtp_gateway <A.B.C.D>}*1
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot <value>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <value>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <value>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
servicename <value>	Service name. The name of the voice media stream service. The service VLAN name has been configured in the HSWA card.	Compulsory parameter
rtpcfg [enable disable]	RTP configuration function ◆ enable: Enabling. ◆ disable: Disabling.	Compulsory parameter
[svlan_tpid] <value>	Service TPID. The service VLAN's label protocol identifier. The value ranges from 1 to 65534. The default value is 33024.	Optional parameter
svlan_id <value>	The service VLAN ID. Value range: 1 to 4085, 4088, 65534. The default value is 4088.	Optional parameter
svlan_cos <value>	The service COS. The value ranges from 0 to 7. The default value is 5.	Optional parameter
[cvlan_tpid] <value>	User TPID. The user VLAN's label protocol identifier. The value ranges from 1 to 65534. The default value is 33024.	Optional parameter
cvlan_id <value>	The user VLAN ID. Value range: 1 to 4085, 4088, 65534. The default value is 4088.	Optional parameter
cvlan_cos <value>	The user COS. The value ranges from 0 to 7. The default value is 5.	Optional parameter
[rtp_ip] <A.B.C.D>	The IP address of the RTP. The destination IP address of the RTP voice media stream. Unicast address: 4294967295.	Optional parameter

Parameter	Parameter Description	Parameter Property
<code>rtp_mask &lt;A.B.C.D&gt;</code>	RTP mask. The address mask of the RTP stream. The value ranges from 1 to 32.	Optional parameter
<code>rtp_gateway &lt;A.B.C.D&gt;</code>	RTP gateway. The gateway address of the RTP stream. Unicast address: 4294967295.	Optional parameter

## Command Example

Configure ngn to the service name of the ONU whose authorization number is 1 of No.1 PON interface in slot 14. Enable the RTO configuration function and the service TPID is 33024. The service VLAN ID is 600. The service COS is 5. The user TPID is 33024. The user VLAN ID is 600 and the user COS is 5. The RTP IP address is 10.10.10.201. The RTP mask is 255.255.0.0 and the RTP gateway is 10.10.1.254.

```
Admin\ngn#set ngn_rtp_stream slot 14 pon 1 onu 1 servicename ngn rtpcfg enable
svlan_tpid 33024 svlan_id 600 svlan_cos 5 cvlan_tpid 33024 cvlan_id 600 cvlan_cos 5
rtp_ip 10.10.10.201 rtp_mask 255.255.0.0 rtp_gateway 10.10.1.254
Admin\ngn#
```

## 13.28 Viewing Voice Media Stream Parameter

### Command Function

This command is used to view the configuration parameters of the voice media stream.

### Command Format

```
show ngn_rtp_stream slot <value> pon <value> onu <value> stream_config
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot <value>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <value>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <value>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter

## Command Example

Configure the voice media stream parameters of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\ngn# show ngn_rtp_stream slot 14 pon 1 onu 1 stream_config
```

```
*****onu(14 1 1)*****
service name: ngn                rtpenable:enable
svlantpid:33024      svlanid:600      svlancos:5
cvlantpid:33024      cvlanid:600      cvlancos:5
rtpip:10.10.10.201
rtpsubnet:255.255.0.0
rtpgateway:10.10.1.254
```

```
Admin\ngn#
```

## Result Description

Parameter	Parameter Description
service name	The service name.
rtpenable	Enabling the RTP configuration.
svlantpid	The service TPID.
svlanid	The service VLAN ID.
svlancos	The service COS.
cvlantpid	The user TPID.
cvlanid	The user VLAN ID.
cvlancos	The user COS.
rtpip	The RTP IP address.

Parameter	Parameter Description
rtpsubnet	The RTP mask.
rtpgateway	The RTP gateway.

## 13.29 Querying Uplink User Parameters according to Port Name

### Command Function

This command is used to query the uplink user parameters according to the uplink port.

### Command Format

```
show ngn_uplink_user interface <interfacename>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
interface <interfacename>	Name of the uplink port.	Compulsory parameter

### Command Example

Query uplink user parameters according to the uplink port name ngn .

```
Admin\ngn#show ngn_uplink_user interface ngn
-----ngn user information-----
the index of the ngn user      :1
servicename                    :ngn
telephoneno                    :11111111
publicip                      :192.168.1.10
subnet                         :255.255.0.0
gateway                        :192.168.1.1
endpoint domain name          :fiberhome
protocol portno                :2427
the endpoint user name         :al
the sip user name              :
the sip password               :1
Admin\ngn#
```

## Result Description

Parameter	Parameter Description
the index of the ngn user	The user index number.
servicename	The service name.
telephonenumber	The telephone number.
publicip	The ONU public network IP.
subnet	The ONU public network IP mask.
gateway	The ONU public network IP gateway.
endpoint domain name	The end point domain name.
protocol portno	The ONU protocol port number.
the endpoint user name	The end point user name.
the sip user name	The SIP protocol authentication user name.
the sip password	The SIP protocol authentication user password.

## 13.30 Querying Uplink User Parameters according to Telephone Number

### Command Function

Queries uplink user parameters according to the telephone number.

### Command Format

```
show ngn_uplink_user phoneno <value>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
phoneno <value>	Telephone number.	Compulsory parameter

### Command Example

Query the uplink user parameters according to the telephone number 11111111.

```
Admin\ngn#show ngn_uplink_user phoneno 11111111
-----ngn user information-----
the index of the ngn user      :1
servicename                    :ngn
telephonenumber                :11111111
```

```
publicip                :192.168.1.10
subnet                  :255.255.0.0
gateway                 :192.168.1.1
endpoint domain name   :fiberhome
protocol portno         :2427
the endpoint user name :a1
the sip user name       :
the sip password        :1
Admin\ngn#
```

## Result Description

Parameter	Parameter Description
the index of the ngn user	The user index number.
servicename	The service name.
telephoneno	The telephone number.
publicip	The ONU public network IP.
subnet	The ONU public network IP mask.
gateway	The ONU public network IP gateway.
endpoint domain name	The end point domain name.
protocol portno	The ONU protocol port number.
the endpoint user name	The end point user name.
the sip user name	The SIP protocol authentication user name.
the sip password	The SIP protocol authentication user password.

## 13.31 Configuring Voice Port's Activation Status

### Command Function

This command is used to configure the RTP activation status of the ONU voice port.

The AN5506-10B supports the command.

### Command Format

```
set ngn_port_activation slot <value> pon <value> onu <value> port <1-24>
[active|inactive]
```

## Description

Parameter	Description	Attribute
slot <value>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory
pon <value>	The number of the PON port. The value ranges from 1 to 8.	Compulsory
onu <value>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory
port <1 - 24>	The port number.	Compulsory
[active inactive]	Activation status. ◆ active: Activated. ◆ inactive: Non-activated.	Compulsory

## Command Example

Configure the activation status of the ONU whose authorization number is 1 under number 1 PON port in slot 14 as activated.

```
Admin\ngn#set ngn_port_activation slot 14 pon 1 onu 1 port 1 active
Admin\ngn#
```

# 13.32 Viewing Voice Port's Activation Status

## Command Function

This command is used to view the RTP activation status of the ONU voice port.

The AN5506-10B supports the command.

## Command Format

```
show ngn_port_activation slot <value> pon <value> onu <value>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot <value>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <value>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <value>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter

## Command Example

View the activation status of the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\ngn#show ngn_port_activation slot 14 pon 1 onu 1
====ONU[14 1 1]=====
port[1] : ACTIVE
port[2] : ACTIVE
Admin\ngn#
```

## Result Description

Parameter	Parameter Description
port[1]	Port 1.
port[2]	Port 2.

# 13.33 Viewing MGC Connection Status

## Command Function

This command is used to view the MGC connection status which includes the MGC server address and the registered ONU number.

## Command Format

```
show ngn_mgc_state slot <value> pon <value> onu <value> mgc_state
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot <value>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon<value>	The number of the PON port. The value ranges from 1 to 8.	Compulsory parameter
onu <value>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter

## Command Example

View the MGC connection status of the ONU whose authorization number is 3 under number 1 PON port in slot 11.

```
Admin\ngn# show ngn_mgc_state slot 11 pon 3 onu 3 mgc_state
```

```
the MGC/Register Server Address :17.17.17.97
the slot :11 onu :3 has registered
```

```
Admin\ngn#
```

## Result Description

Parameter	Parameter Description
the MGC/Register Server Address	MGC / register server address.
the slot	Slot number.
onu	Registered ONU number.



# 14 QoS Directory Command

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The following introduces the functions, formats, parameters, and examples of various commands under the QoS directory.

- Creating QoS Profile
- Configuring Flow Classification Policy of the QoS Profile
- Configuring Routing Policy of the QoS Profile
- Deleting QoS Profile
- Viewing QoS Profile
- Binding / Unbinding Line Card and QoS Profile
- Binding / Unbinding Uplink Port and QoS Profile
- Viewing All QoS Profile Names
- Refreshing QoS Profile Status
- Configuring Equipment Priority Mode
- Viewing Equipment Priority Mode Type

## 14.1 Creating QoS Profile

### Command Function

This command is used to create the QoS profile.

### Command Format

```
create qos access_profile <name>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<name>	The QoS profile name. Create 1024 profiles at the most and 1 to 20 characters for the name. Type letters, digital numbers and underlines.	Compulsory parameter

### Command Example

Create the QoS profile named aaa.

```
Admin\qos# create qos access_profile aaa
```

```
Admin\qos#
```

## 14.2 Configuring Flow Classification Policy of the QoS Profile

### Command Function

The command is used to configure the flow classification policy of the QoS profile. Control the flow classification based on VLAN ID, data flow IP, Ethernet type and CoS queues to provide different quality network services.

When configuring the IP flow classification parameter in the QoS profile, combination configuration is allowed but random combination is prohibited. Below is the available IP flow classification parameter for combination.

- ◆ Source IP, destination IP, protocol type, TCP / UDP source end point number and TCP / UDP destination port number
- ◆ Source MAC address, destination MAC address, Ethernet type, Priority domain and VLAN identifier.
- ◆ Source MAC address, source IP, Ethernet type, Priority domain and VLAN identifier.
- ◆ Destination MAC address, destination IP, Ethernet type, Priority domain and VLAN identifier.

## Command Format

```
set qos access_profile <name> parameter {[vid] [<1-4085>|null]}*1 {[sip]
[<A.B.C.D>|null] [smask] [<1-32>|null]}*1 {[dip] [<A.B.C.D>|null] [dmask]
[<1-32>|null]}*1 {[sa] [<sa>|null]}*1 {[da] [<da>|null]}*1 {[priority] [<0-
7>|null]}*1 {[ethernettype] [<0-65534>|null]}*1 {[protocoltype] [<1-255>|
null]}*1 {[tcpudpsrc] [<0-65534>|null]}*1 {[tcpudpdes] [<0-65534>|null]}*1
{[dscp] [<0-63>|null]}*1 {[tos] [<0-255>|null]}*1 {[ttl] [<1-254>|null]}*1
{[dportphy] [<portlist>|xfp1|xfp2|null]}*1
```

## Description

Parameter	Description	Attribute
<name>	The QoS profile name. Create 1024 profiles at the most and 1 to 20 characters for the name. Type letters, digital numbers and underlines.	Compulsory
{[vid] [<1-4085> null]}*1	VLAN information ID. ◆ <1-4085>: The VLAN ID. Value range : 1 to 4085. ◆ null: null.	Optional
{[<sip>] [<A.B.C.D> null]}	Source IP address. Used in the classification and filter of data service flow.	Optional
[smask] [<1-32> null]	Source IP address mask. If the source address IP is configured, the source IP mask should also be configured. The source IP mask should be used in the classification and filter of the data service flow. The value ranges from 1 to 32.	Optional
<dip> [<A.B.C.D> null]	Destination IP address. Used in the classification and filter of data service flow.	Optional

Parameter	Description	Attribute
[dmask] [<1-32> null]	Destination IP address mask. If the destination IP address is configured, the destination IP mask should also be configured. The destination IP mask should be used in the classification and filter of the data service flow. The value ranges from 1 to 32.	Optional
{[sa] [<sa> null]}*1	Source MAC address. Used in the classification and filter of data service flow.	Optional
{[da] [<da> null]}*1	Destination MAC address. Used in the classification and filter of data service flow.	Optional
{[priority] [<0-7> null]}*1	Priority. The priority value of the data service flow. Used in the data service flow classification and filtering. The value ranges from 0 to 7.	Optional
{[ethernettype] [<0-65534> null]}*1	The Ethernet type. The corresponding value of the Ethernet type of the data service flow. Used in the classification and filtering of the data service flow. The value ranges from 0 to 65534.	Optional
{[protocoltype] [<1-255> null]}*1	Protocol type. The network layer protocol type is used in the classification and filtering of the data service flow. The value ranges from 1 to 255.	Optional
{[tcpudpsrc] [<1-65535> null]}*1	TCP / UDP source port number. The corresponding source port number of the transport layer TCP or UDP in the data service flow. Used in the classification and filter of data service flow. The value ranges from 1 to 65535.	Optional
{[tcpudpdes] [<1-65535> null]}*1	TCP / UDP destination port number. The corresponding destination port number of the transport layer TCP or UDP in the data service flow. Used in the classification and filter of data service flow. The value ranges from 1 to 65535.	Optional
{[dscp] [<0-63> null]}*1	DSCP value. The value ranges from 0 to 63.	Optional
{[tos] [<0-7> null]}*1	TOS domain. The value ranges from 0 to 7.	Optional
{[ttl] [<1-254> null]}*1	TTL (Time-to-Live). The value ranges from 1 to 254.	Optional
[dportphy]	Destination physical port.	Optional
[<portlist> xftp1 xftp2 null]	Destination physical port number.	Optional

## Command Example

Configure the flow classification policy of the QoS profile named aaa as follows: The VLAN ID is 4000, and the source IP address is 1.1.1.100. The source IP mask is 16 bytes. The destination MAC address is 000000000011. The TCP/UDP destination port number is 21.

```
Admin\qos#set qos access_profile aaa parameter vid 4000 sip 1.1.1.100 smask 16 da
000000000011 tcpudpsrc 21
Admin\qos#
```

## 14.3 Configuring Routing Policy of the QoS Profile

### Command Function

The command is used to configure the routing policy of the QoS profile and it includes rate threshold, priority level, flow mirroring and changing TOS domain.

### Command Format

```
set qos access_profile <name> action {[cmd] [0|1|null]}*1 {[ratelimit] [<1-160000>|null]}*1 {[queue] [<0-7>|null]}*1 {[newtos] [<0-63>|null]}*1
{[flowmirroring] [enable|disable] [port] [<portlist>|xfp1|xfp2]}*1
{[newport] [<portlist>|xfp1|xfp2|null]}*1 {[newvid] [<1-4085>|null]}*1
```

### Description

Parameter	Description	Attribute
<name>	The QoS profile name.	Compulsory
{[cmd] [0 1 null]}*1	Routing policy that processes the data service flow which accords with the filtering condition. <ul style="list-style-type: none"> <li>◆ 0: Forward.</li> <li>◆ 1: Discard.</li> <li>◆ null: null.</li> </ul>	Optional
{[ratelimit] [<1-160000> null]}*1	Rate threshold limits the transmission rate of the data service flow which accords with the filtering condition. The value range is from 1 to 160000 and the step is 64 kbit/s. For example, when the value is 1, the rate is 1*64 kbit/s.	Optional
{[queue] [<0-7> null]}*1	Priority queues resets the priority of data service flow which accords with the filtering condition. The value range is from 0 to 7. 0 is the lowest priority and 7 is the highest priority.	Optional

Parameter	Description	Attribute
{[newtos] [<0-63> null]}*1	Resets the DSCP value of data service flow which accords with the filtering condition. The value ranges from 0 to 63.	Optional
[flowmirroring] [enable disable]	Flow mirroring function. ◆ enable: Enables the proxy range. ◆ disable: Disables the function.	Optional
[port] [<portlist> xfp1 xfp2]	Flow mirroring destination port. After configuring the flow mirroring destination port, data flow through the source port can be mirrored to the destination uplink port.	Optional
{[newport] [<portlist> xfp1 xfp2 null]}*1	Re-direction port. After configuring the re-direction port, the data flow will not be through the source port but forwarded through the re-direction port directly.	Optional
{[newvid] [<1-4085> null]}*1	Upgrade VLAN ID value. The value ranges from 1 to 4085.	Optional

## Command Example

Configure the router policy of the QoS profile named aaa as follows: Forward designated data flow. No rate threshold. The data flow priority is 2. Enable the flow mirroring function. The destination port of the flow mirroring is 20:1.

```
Admin\qos#set qos access_profile aaa action cmd 0 ratelimit null queue 2 flowmirroring
enable port 20:1
Admin\qos#
```

## 14.4 Deleting QoS Profile

### Command Function

The command is used to delete the QoS profile. The prerequisite is that no service is bound to the profile.

### Command Format

```
delete qos access_profile <name>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
access_profile <name>	The QoS profile name.	Compulsory parameter

## Command Example

Delete the QoS profile named aaa.

```
Admin\qos# delete qos access_profile aaa
```

```
Admin\qos#
```

# 14.5 Viewing QoS Profile

## Command Function

The command is used to view each parameter of the QoS profile.

## Command Format

```
show qos access_profile {<name>}*1
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
access_profile {<name>}*1	The name of the QoS to be viewed. The default means viewing all QoS profiles.	Optional parameter

## Command example

View each parameter of the QoS profile named aaa.

```
Admin\qos# show qos access_profile aaa
```

```
-----Qos profile list-----
Index                :1
Name                 :aaa
Slot                 :
```

```

Port :
Macsa :N/A
Macda :00:00:00:00:00:11
vid :4000
sip :1.1.1.100
source ip mask :16
dip :N/A
destination ip mask :32
protocol type :N/A
priority :N/A
ethernet type :2048
ptcp/udp des port :N/A
tcp/udp src port :21
Dscp :0
TTL :N/A
physics destination port :N/A
cmd :N/A
ratelimitnum :N/A
queue :N/A
new TOS :N/A
flowmirror :Disable
flowmirrorport :N/A
new destination port :N/A
new destination port tag :N/A
new VID :N/A

```

Admin\qos#

## Result Description

Parameter	Parameter Description
index	Index.
Name	The QoS profile name.
Slot	The slot number which the QoS profile binds to.
Port	The port number which the QoS profile binds to.
Macsa	The source MAC address.
Macda	The destination MAC address
vid	VLAN ID.
sip	The source IP address.
source ip mask	Source IP mask.
dip	Destination IP address.
destination ip mask	Destination IP mask.

Parameter	Parameter Description
protocol type	Protocol type.
priority	Priority
ethernet type	The Ethernet type.
ptcp/udp des port	TCP / UDP destination port.
tcp/udp src port	TCP / UDP source port.
Dscp	DSCP domain.
TTL	TTL (Time-to-Live).
physics destination port	Physical destination port
cmd	Routing strategy.
ratelimitnum	rate limit.
queue	Priority.
new TOS	Changed TOS domain.
flowmirror	flow mirroring.
flowmirrorport	Flow mirror port.
Changed destination port .	Changed destination port.
new destination port	Changed destination port tag.
new VID	Changed VLAN ID.

## 14.6 Binding / Unbinding Line Card and QoS Profile

### Command Function

This command is used to bind or unbind the QoS profile with the line card.

### Command Format

```
set slot <1-18> [attach|detach] qos access_profile <name>
```

### Description

Parameter	Description	Attribute
slot <1-18>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory
[attach dettach]	◆ attach: Bind. ◆ detach: Unbind.	Compulsory
<name>	The QoS profile name.	Compulsory

## Command Example

Bind the line card in slot 1 to the QoS profile named a1.

```
Admin/qos#set slot 10 attach qos access_profile a1
Admin/qos#
```

# 14.7 Binding / Unbinding Uplink Port and QoS Profile

## Command Function

This command is used to bind / unbind the uplink port and QoS profile.

## Command Format

```
set uplink [attach|detach] qos access_profile <name>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
port <portlist>	The number of the uplink port.	Compulsory parameter
[attach dettach]	◆ attach: Association. ◆ detach: Disconnect association.	Compulsory parameter
<name>	The QoS profile name.	Compulsory parameter

## Command Example

Bind the 19:1 uplink port to the QoS profile named aaa.

```
Admin\qos#set uplink port 19:1 attach qos access_profile aaa
Admin\qos#
```

# 14.8 Viewing All QoS Profile Names

## Command function

The command is used to view names of all existing QoS profiles in the current system.

## Command Format

```
show all qos-profile
```

## Parameter Description

None

## Command Example

View names of all existing QoS profiles in the current system.

```
Admin\qos#show all qos-profile
aaa      bbb
Admin\qos#
```

# 14.9 Refreshing QoS Profile Status

## Command Function

This command is used to refresh the QoS profile status. If modifying the bound QoS profile parameters, users need to refresh the QoS profile status to make the modified parameters valid.

## Command Format

```
flush qos access_profile <name>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
access_profile <name>	The QoS profile name.	Compulsory parameter

## Command Example

Refresh the status of the QoS profile named aaa.

```
Admin\qos# flush qos access_profile aaa
```

```
Admin\qos#
```

## 14.10 Configuring Equipment Priority Mode

### Command Function

The command is used to configure or query the priority mode forwarded by the switch chip data in the core switch card. Map the uplink and downlink service according to the IEEE 802.1D User Priority identifier to different CoS queues and groom. Each port supports 8 CoS queues.

- ◆ Strict priority guarantees that the service with a higher priority will be processed before that with a lower priority.
- ◆ Weight priority is a weighted round robin scheduling. The higher priority is firstly processed, meanwhile, the service with a lower priority is not completely blocked but be processed in a certain ratio.
- ◆ Hybrid priority includes the above two processing methods.

### Command Format

```
set prioritymode [sp|wrr|sp+wrr] {<priority> <weight>}*8
```

## Parameter Description

Parameter	Description	Attribute
[sp wrr sp+wrr]	<p>Priority mode.</p> <ul style="list-style-type: none"> <li>◆ sp: strict priority mode.</li> <li>◆ wrr: weighted round robin mode.</li> <li>◆ sp+wrr: hybrid priority mode. The data packet with priority of 6 and 7 uses the strict priority mode while the data packet with priority of 0 to 5 uses the weighted round robin mode.</li> </ul>	Compulsory parameter
{<priority> <weight>} *8	<ul style="list-style-type: none"> <li>◆ &lt;priority&gt;: Queue priority. Each port supports 8 queue priorities. The message accesses in the corresponding queue according to the priority and configured mapping relationship for the service priority processing.</li> <li>◆ &lt;weight&gt;: The weight value of the designated priority data packet. The value ranges from 1 to 15. The weight value configured in the weight priority mode and hybrid priority mode is valid. The weight value of 0 is the strict priority.</li> </ul>	Optional parameter

## Command Example

Configure the equipment in the weight priority mode. Set 7 to the queue weight value with the priority of 4. Set 3 to the queue weight value with the priority of 5.

```
Admin\qos#set priority mode wrr 4 7 5 3
Admin\qos#
```

# 14.11 Viewing Equipment Priority Mode Type

## Command Function

This command is used to view the equipment priority mode type.

## Command Format

```
show priority mode
```

## Parameter Description

None

## Command Example

View the equipment priority mode type.

```
Admin\qos#show priority mode
```

```
qos priority mode:wrr
```

Queue Priority	Queue Schedule Method	Weight
0	wrr	1
1	wrr	2
2	wrr	3
3	wrr	4
4	wrr	5
5	wrr	3
6	wrr	5
7	wrr	3

```
Admin\qos#
```

## Result Description

Parameter	Parameter Description
qos priority mode	QoS priority mode.
Queue Priority	Queue priority.
Queue Schedule Method	Queue scheduling mechanism.
Weight	Weight value.

# 15 VLAN Directory Command

---

The following introduces the functions, formats, parameters, and examples of various commands under the VLAN directory.

- Configuring Uplink Port's Service VLAN
- Configuring Trunk Group Port's Service VLAN
- Configuring Downlink Sub VLAN
- Viewing Service VLAN
- Configuring Super VLAN
- Configuring Sub VLAN to Join the Designated Super VLAN
- Configuring IP of the Designated Super VLAN
- Configuring MTU Value of the Designated Super VLAN
- Deleting a Sub VLAN from the Designated Super VLAN
- Deleting the IP Address of the Designated Super VLAN
- Deleting the Designated Super VLAN
- Deleting Service VLAN
- Viewing Sub VLAN
- Viewing Super VLAN
- Creating QinQ Domain
- Configuring Service Entry Number in QinQ Domain
- Configuring QinQ Domain Service Type
- Configuring Uplink Rule Clauses of the QinQ Domain

- Configuring Downlink Rule Clauses of the QinQ Domain
- Configuring QinQ Domain's VLAN Service Rules
- Creating QinQ Profile
- Configuring ONU QinQ Profile Rule Domain
- Deleting QinQ Domain
- Deleting QinQ Profile
- Configuring QinQ Domain's ONU Binding / Unbinding
- Configuring QinQ Domain's PON Binding / Unbinding
- Viewing QinQ Domain Binding Relationship List
- Viewing QinQ Domain Configuration Information
- Viewing OLT QinQ Status
- Viewing an ONU QinQ Profile's Configuration Information
- Adding Slot VLAN
- Checking Added VLAN in a Slot

## 15.1 Configuring Uplink Port's Service VLAN

### Command Function

The command is used to configure the service VLAN ID range of the uplink port, so as to set limitations to the uplink port's service VLAN.

### Command Format

```
set service <name> vid_begin <vid> vid_end <vid> uplink <portNo> [untagged|
tagged] {service_type <1-8>}*1
```

### Parameter Description

Parameter	Description	Attribute
service <name>	Service VLAN name.	Compulsory parameter
vid_begin <vid>	The start VLAN ID of the service VLAN. The value ranges from 1 to 4085.	Compulsory parameter
vid_end <vid>	The end VLAN ID of the service VLAN. The value ranges from 1 to 4085.	Compulsory parameter
uplink <portNo>	Uplink service VLAN port.	Compulsory parameter

Parameter	Description	Attribute
[untagged tagged]	<p>Configure the tag processing mode for the service VLAN.</p> <ul style="list-style-type: none"> <li>◆ In the Untagged mode, the TAGs of the uplink packets will be stripped automatically and the packets will be uplinked in the form of UNTAG when they pass the port, whereas the downlink UNTAG packets will be added with designated TAGs and downlinked in the form of TAG.</li> <li>◆ In the Tagged mode, the uplink data packets will not be processed but remain uplinked in the original form. For downlink packets, however, only packets with designated TAGs are received and the packets will not be processed but remain downlinked in the original form.</li> </ul> <p>In the same uplink port, only one service VLAN can configured the Untagged mode. The value of the start VLAN ID should be the same with the value of the end VLAN ID. Otherwise, the Tagged mode must be selected.</p>	Compulsory parameter
{service_type <1-8>}	<p>Service VLAN type.</p> <ul style="list-style-type: none"> <li>◆ 1: Data.</li> <li>◆ 2: IPTV.</li> <li>◆ 3: NGN.</li> <li>◆ 4: VoIP.</li> <li>◆ 5: VOD.</li> <li>◆ 6: CNCVIEW.</li> <li>◆ 7: System.</li> <li>◆ 8: Uplink Sub VLAN.</li> </ul> <p>The value ranges from 1 to 8.</p>	Optional parameter

## Command Example

Configure the service VLAN named fh. The start VLAN ID is 1005 and the end VLAN ID is 2000. The uplink port is 19:1 and the Tag attribute of the service VLAN port is Tagged.

```
Admin\vlan#set service fh vid_begin 1005 vid_end 2000 uplink 19:1 tagged
Admin\vlan
```

## 15.2 Configuring Trunk Group Port's Service VLAN

### Command Function

This command is used to configure the service VLAN of the Trunk group port.

### Command Format

```
set service <name> vid_begin <vid> vid_end <vid> trunk <index> [untagged |
tagged] {service_type <1-7>}*1
```

### Description

Parameter	Description	Attribute
service <name>	Service VLAN name.	Compulsory
vid_begin <vid>	The start VLAN ID of the service VLAN. The value ranges from 1 to 4085.	Compulsory
vid_end <vid>	The end VLAN ID of the service VLAN. The value ranges from 1 to 4085.	Compulsory
trunk <index>	Number of the Trunk group.	Compulsory

Parameter	Description	Attribute
[untagged tagged]	Configure the tag processing mode for the service VLAN. <ul style="list-style-type: none"> <li>◆ In the Untagged mode, the tags of the uplink packets will be stripped automatically and the packets will be uplinked in the form of UNTAG when they pass the port, whereas the downlink UNTAG packets will be added with designated tags and downlinked in the form of TAG.</li> <li>◆ In the Tagged mode, the uplink data packets will not be processed but remain uplinked in the original form. For downlink packets, however, only packets with designated tags are received and the packets will not be processed but remain downlinked in the original form.</li> </ul>	Compulsory
{service_type <1-7>} *1	Service VLAN type. The value ranges from 1 to 4085.	Optional

## Command Example

Configure the service VLAN named fhtx. The start VLAN ID is 111 and the end VLAN ID is 222. The Trunk group number is 1. The port Tag property of the service VLAN is tagged. The service type is 1.

```
Admin\vlan#set service fhtx vid_begin 111 vid_end 222 trunk 1 tagged service_type 1
Admin\vlan#
```

## 15.3 Configuring Downlink Sub VLAN

### Command Function

This command is used to configure the downlink Sub VLAN. The configuration of the start VLAN should be consistent with that of the end VLAN. The equipment does not support the cross-range Sub VLAN configuration.

### Command Format

```
set service <name> vid_begin <vid> vid_end <vid> downlink-vlan
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<name>	Service VLAN name.	Compulsory parameter
vid_begin <vid>	The start VLAN ID of the service VLAN. The value ranges from 1 to 4085.	Compulsory parameter
vid_end <vid>	The end VLAN ID of the service VLAN. The value ranges from 1 to 4085.	Compulsory parameter

## Command Example

Configure the downlink Sub VLAN named fhkj and the start and end VLAN IDs are 100.

```
Admin\vlan#set service fhkj vid_begin 100 vid_end 100 downlink-vlan
Admin\vlan#
```

# 15.4 Viewing Service VLAN

## Command Function

This command is used to view the service VLAN.

## Command Format

```
show service vlan {<name>}*1
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
vlan {<name>}*1	Service VLAN name.	Optional parameter

## Command Example

View all service VLANs.

```
Admin\vlan# show service vlan
```

```
*****
```

```

service name      : fh
begin vid        : 1005
end vid          : 2000
uplink port      : 19:1(tagged)
service type     : iptv
*****
service name     : fhkj
begin vid        : 1
end vid          : 1
uplink port      : NULL(tagged)
service type     : downlink sub vlan
slot port        : 1-16
Admin\vlan#
    
```

### Result Description

Parameter	Parameter Description
service name	Service VLAN name.
begin vid	The start VLAN ID of the service VLAN.
end vid	The end VLAN ID of the service VLAN.
uplink port	The number of the uplink port.
service type	Service VLAN type.
slot port	Slot number.

## 15.5 Configuring Super VLAN

### Command Function

The command is used to add a new Super VLAN.

### Command Format

```
set super-vlan <1-4085>
```

### Parameter Description

Parameter	Description	Attribute
super-vlan <1-4085>	Super VLAN ID.	Compulsory

## Command Example

Configure the Super VLAN's VLAN ID as 3000.

```
Admin\vlan#set super-vlan <3000>
Admin\vlan#
```

# 15.6 Configuring Sub VLAN to Join the Designated Super VLAN

## Command Function

This command is used to configure the Sub VLAN to join the designated Super VLAN. The port status of the Super VLAN is enable. If this command is not configured, the status of the Super VLAN is disable.

## Command Format

```
set super-vlan <1-4085> add sub-vlan <vid>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
super-vlan <1-4085>	Super VLAN ID. The value ranges from 1 to 4085.	Compulsory parameter
sub-vlan <vid>	Sub VLAN ID. The value ranges from 1 to 4085.	Compulsory parameter

## Command Example

Configure the Sub VLAN whose ID is 1 to join the Super VLAN whose ID is 3000.

```
Admin\vlan# set super-vlan 3000 add sub-vlan 1
Admin\vlan#
```

## 15.7 Configuring IP of the Designated Super VLAN

### Command Function

The command is used to configure the designated Super VLAN's IP. Before adding the Sub VLAN to the Super VLAN, the configuration of the Super VLAN's IP address should be completed.

### Command Format

```
set super-vlan <1-4085> ip <A.B.C.D> mask <A.B.C.D>
```

### Parameter Description

Parameter	Description	Attribute
super-vlan <1-4085>	Super VLAN ID. The value ranges from 1 to 4085.	Compulsory
ip <A.B.C.D>	IP address.	Compulsory
mask <A.B.C.D>	Subnet mask.	Compulsory

### Command Example

Configure the IP of the Super VLAN whose ID is 3000 as 10.1.1.20. The subnet mask is 255.255.0.0.

```
Admin\vlan#set super-vlan 3000 ip 10.1.1.20 mask 255.255.0.0
Admin\vlan#
```

## 15.8 Configuring MTU Value of the Designated Super VLAN

### Command Function

Configures the MTU value of the designated Super VLAN. Users need to complete the configuration of IP addresses for the Super VLAN.

### Command Format

```
set super-vlan <1-4085> mtu <576-65535>
```

## Parameter Description

Parameter	Description	Attribute
super-vlan <1-4085>	Super VLAN ID. The value ranges from 1 to 4085.	Compulsory
mtu <576-65535>	The maximum transmission unit. The value ranges from 576 to 65535.	Compulsory

## Command Example

Set the MTU value of the Super VLAN whose ID is 3000 to 600.

```
Admin\vlan#set super-vlan 3000 mtu 600
Admin\vlan#
```

# 15.9 Deleting a Sub VLAN from the Designated Super VLAN

## Command Function

This command is used to delete a certain Sub VLAN from the designated Super VLAN.

## Command Format

```
set super-vlan <1-4085> delete sub-vlan <vid>
```

## Parameter Description

Parameter	Description	Attribute
super-vlan <1-4085>	Super VLAN ID. The value ranges from 1 to 4085.	Compulsory
sub-vlan <vid>	Sub VLAN ID The value ranges from 1 to 4085.	Compulsory

## Command Example

Delete the Sub VLAN whose VLAN ID is 1 from the Super VLAN.

```
Admin\vlan#set super-vlan 3000 delete sub-vlan 1
Admin\vlan#
```

## 15.10 Deleting the IP Address of the Designated Super VLAN

### Command Function

The command is to delete the binding relationship between the Super VLAN and the IP address.

### Command Format

```
delete super-vlan <1-4085> ip <A.B.C.D>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
super-vlan <1-4085>	Super VLAN ID. The value ranges from 1 to 4085.	Compulsory parameter
ip <A.B.C.D>	The Super VLAN's IP address. The value ranges from 1 to 4085.	Compulsory parameter

### Command Example

Delete the binding relationship between the Super VLAN whose ID is 3000 and the IP address 10.1.1.20.

```
Admin\vlan#delete super-vlan 3000 ip 10.1.1.20  
Admin\vlan#
```

## 15.11 Deleting the Designated Super VLAN

### Command Function

This command is used to delete the designated Super VLAN.

### Command Format

```
delete super-vlan [<1-4085>|all]
```

## Description

Parameter	Description	Attribute
super-vlan [<1-4085> all]	<ul style="list-style-type: none"> <li>◆ &lt;1-4085&gt;: The Super VLAN ID. Value range : 1 to 4085.</li> <li>◆ all: all Super VLANs.</li> </ul>	Compulsory

## Command Example

Delete the Super VLAN whose ID is 3000.

```
Admin\vlan#delete super-vlan 3000
Admin\vlan#
```

# 15.12 Deleting Service VLAN

## Command Function

This command is used to delete the service VLAN.

## Command Format

```
delete service_vlan {<name>}*1
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
delete service_vlan {<name>}*1	Service VLAN name	Optional parameter

## Command Example

Delete the service VLAN named fh.

```
Admin\vlan# delete service_vlan fh
```

```
Admin\vlan#
```

## 15.13 Viewing Sub VLAN

### Command Function

This command is used to view the Sub VLAN.

### Command Format

```
show sub-vlan [<vid> | all]
```

### Description

Parameter	Description	Attribute
sub-vlan [<vid>   all]	<ul style="list-style-type: none"> <li>◆ &lt;vid&gt;: the Super VLAN ID. Value range : 1 to 4085.</li> <li>◆ all: all Super VLANs.</li> </ul>	Compulsory

### Command Example

View the Super VLAN whose ID is 1.

```
Admin\vlan#show sub-vlan 1
-----sub vlan info-----
sub vlan id      : 1
sub vlan property : downlink
tagged mode      : tagged
slots            : 1-16
Admin\vlan#
```

### Result Description

Parameter	Description
sub vlan id	Sub VLAN ID.
sub vlan property	Sub VLAN property.
tagged mode	Configure the tag processing mode for the slot VLAN.
slots	Slot number.

## 15.14 Viewing Super VLAN

### Command Function

This command is used to view the Super VLAN.

## Command Format

```
show super-vlan [<1-4085>|all]
```

## Description

Parameter	Description	Attribute
super-vlan [<1-4085> all]	<ul style="list-style-type: none"> <li>◆ &lt;1-4085&gt;: The Super VLAN ID. Value range : 1 to 4085.</li> <li>◆ all: all Super VLANs.</li> </ul>	Compulsory

## Command Example

View all Super VLANs.

```
Admin\vlan#show super-vlan all
Super VLAN ID      : 1
Sub VLAN ID       : 100
Arp agent         : Disable
Mtu               : 1500
IP Address        : 10.10.10.1
IP Mask           : 255.255.255.0
VLAN ARP SWITCH (ROUTER)      : DISABLE
VLAN ARP SWITCH (INNER-SUBVLAN) : DISABLE
VLAN ARP SWITCH (BETWEEN-SUBVLAN) : DISABLE
Super status      : down
Admin\vlan#
```

## Result Description

Parameter	Description
Super VLAN ID	Super VLAN ID.
Sub VLAN ID	Sub VLAN ID.
Arp agent	ARP proxy function.
Mtu	MTU value.
IP Address	IP address.
IP Mask	Subnet mask.
VLAN ARP SWITCH (ROUTER)	VLAN's ARP proxy switch (in the routing mode).
VLAN ARP SWITCH (INNER-SUBVLAN)	VLAN's ARP proxy switch (in the VLAN).
VLAN ARP SWITCH (BETWEEN-SUBVLAN)	VLAN's ARP proxy switch (between VLANs).
Super status	The Super VLAN's port status.

## 15.15 Creating QinQ Domain

### Command Function

The command is used to create an OLT QinQ domain.

### Command Format

```
create oltqinq_domain <name>
```

### Parameter Description

Parameter	Description	Attribute
oltqinq_domain <name>	The QinQ domain name. You can create 1024 OLT QinQ domains at most. Type underlines, English letters and digital numbers, and the maximum length is 16 bytes.	Compulsory

### Command Example

Create an OLT QinQ domain named domaintest1.

```
Admin\vlan# create oltqinq_domain domaintest1
```

```
Admin\vlan#
```

## 15.16 Configuring Service Entry Number in QinQ Domain

### Command Function

This command is used to configure the service entry number in the QinQ domain.

### Command Format

```
set oltqinq_domain <nsame> service_num <1-8>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<code>oltqinq_domain &lt;name&gt;</code>	QinQ domain name. The configured QinQ profile name in the creation.	Compulsory parameter
<code>service_num &lt;1-8&gt;</code>	Number of service entries. The value ranges from 1 to 8. You should configure one service entry at least, and can configure eight service entries at most.	Compulsory parameter

## Command Example

Configure the service entry number in the domain domaintest1 as 3.

```
Admin\vlan#set oltqinq_domain domaintest1 service_num 3
Admin\vlan#
```

# 15.17 Configuring QinQ Domain Service Type

## Command Function

This command is used to configure the service entry number in the QinQ domain.

## Command Format

```
set oltqinq_domain <name> <1-8> type [single|share]
```

## Description

Parameter	Description	Attribute
<code>oltqinq_domain &lt;name&gt;</code>	QinQ domain name. The configured QinQ profile name in the creation.	Compulsory
<code>&lt;1-8&gt;</code>	Index of service entries. Configure the same quantity of downlink rules depending on how many services are configured. The value range is from 1 to 8.	Compulsory
<code>type [single share]</code>	Service type. <ul style="list-style-type: none"> <li>◆ single: The service type is single.</li> <li>◆ share: The service type is share.</li> </ul>	Compulsory

## Command Example

Configure single to the service type of the second service of the domain test1 domain.

```
Admin\vlan#set oltqinq_domain domain test1 2 type single
Admin\vlan#
```

# 15.18 Configuring Uplink Rule Clauses of the QinQ Domain

## Command Function

The command is used to configure the QinQ domain's uplink rule clauses.

## Command Format

```
set oltqinq_domain <name> <1-8> uprule {<1-21> <value> <op>}*4 {serv_id <1-128>}*1
```

## Parameter Description

Parameter	Description	Attribute
oltqinq_domain <name>	QinQ domain name. The configured QinQ profile name in the creation.	Compulsory parameter
<1-8>	Index of service entries. Configure the same quantity of uplink rules depending on how many services are configured. The value range is from 1 to 8.	Compulsory parameter

Parameter	Description	Attribute
<1-21>	<p>Uplink rules.</p> <ul style="list-style-type: none"> <li>◆ 1: DA (Destination MAC address)</li> <li>◆ 2: SA (Source MAC address)</li> <li>◆ 3: Ethtype (Ethernet type)</li> <li>◆ 4: VLAN4 (Layer 4 VLAN)</li> <li>◆ 5: VLAN3 (Layer 3 VLAN)</li> <li>◆ 6: VLAN2 (Layer 2 VLAN)</li> <li>◆ 7: VLAN1 (Layer 1 VLAN)</li> <li>◆ 8: TOS (Service type)</li> <li>◆ 10: TTL (Time-to-Live).</li> <li>◆ 11: IP protocol type.</li> <li>◆ 12: the source IP address.</li> <li>◆ 14: the destination IP address.</li> <li>◆ 16: L4srcport (Layer 4 source port number).</li> <li>◆ 17: L4dstport (Layer 4 destination port number).</li> <li>◆ 18: COS4 (Priority 4).</li> <li>◆ 19: COS3 (Priority 3).</li> <li>◆ 20: COS2 (Priority 2).</li> <li>◆ 21: COS1 (Priority 1).</li> </ul> <p>21 kinds of types exist and the default value is 1.</p>	Optional parameter
<value>	<p>The domain value of the uplink domain selection. Select the value according to the type.</p>	Optional parameter
<op>	<p>Uplink operator.</p> <ul style="list-style-type: none"> <li>◆ 0: (Never) (never match).</li> <li>◆ 1: (=) (equal to).</li> <li>◆ 2: != (not equal to).</li> <li>◆ 3: &lt;= (smaller than or equal to).</li> <li>◆ 4: &gt;= (larger than or equal to).</li> <li>◆ 5: (exist) (exist means match).</li> <li>◆ 6: (no exist) (no exist means match).</li> <li>◆ 7: (always) (always match).</li> </ul> <p>The value ranges from 0 to 7. The default value is 5.</p>	Optional parameter
{serv_id <1-128>} *1	<p>Service ID. Not entering it indicates using the service index as the ID. The value ranges from 1 to 128.</p>	Optional parameter

## Command Example

Configure the domaintest1 domain's uplink rule clauses. Configure the first service: The uplink rule number is 1 and the rule type is 1, and the selection domain value is value 1 and the uplink operator is 5. The service ID is 3.

```
Admin\vlan#set oltqinq_domain domaintest1 1 uprule 1 value1 5 serv_id 3
Admin\vlan#
```

# 15.19 Configuring Downlink Rule Clauses of the QinQ Domain

## Command Function

The command is used to configure the QinQ domain's downlink rule clauses.

## Command Format

```
set oltqinq_domain <name> <1-8> downrule {<fieldtype> <value> <op>}*4
```

## Parameter Description

Parameter	Description	Attribute
oltqinq_domain <name>	QinQ domain name. The configured QinQ profile name in the creation.	Compulsory parameter
<1-8>	Index of service entries. Configure the same quantity of downlink rules depending on how many services are configured. The value range is from 1 to 8.	Compulsory parameter

Parameter	Description	Attribute
<fieldtype>	Downlink rules. ◆ 1: DA (Destination MAC address) ◆ 2: SA (Source MAC address) ◆ 3: Ethtype (Ethernet type) ◆ 4: VLAN4 (Layer 4 VLAN) ◆ 5: VLAN3 (Layer 3 VLAN) ◆ 6: VLAN2 (Layer 2 VLAN) ◆ 7: VLAN1 (Layer 1 VLAN) ◆ 8: TOS (Service type) ◆ 10: TTL (Time-to-Live). ◆ 11: IP protocol type. ◆ 12: the source IP address. ◆ 14: the destination IP address. ◆ 16: L4srcport (Layer 4 source port number). ◆ 17: L4dstport (Layer 4 destination port number). ◆ 18: COS4 (Priority 4). ◆ 19: COS3 (Priority 3). ◆ 20: COS2 (Priority 2). ◆ 21: COS1 (Priority 1). 21 kinds of types exist and the default value is 1.	Optional parameter
<value>	The domain value of the downlink domain selection. Fill the corresponding Value according to the Fieldtype.	Optional parameter
<op>	Downlink operator. ◆ 0: (Never) (never match). ◆ 1: (=) (equal to). ◆ 2: != (not equal to). ◆ 3: <= (smaller than or equal to). ◆ 4: >= (larger than or equal to). ◆ 5: (exist) (exist means match). ◆ 6: (no exist) (no exist means match). ◆ 7: (always) (always match). The value ranges from 0 to 7. The default value is 5.	Optional parameter

## Command Example

Configure the domaintest1 domain's downlink rule clauses. Configure the first service: The downlink rule number is 1 and the rule type is 1, and the selection domain value is value 1 and the downlink operator is 5.

```
Admin\vlan#set oltqinq_domain domaintest1 1 downrule 1 value1 5
Admin\vlan#
```

## 15.20 Configuring QinQ Domain's VLAN Service Rules

### Command Function

The command is used to configure the QinQ domain's VLAN service rules.

### Command Format

```
set oltqinq_domain <name> <1-8> {vlan <layer> [<oldvid>|null] [<oldcos>|
null] [add|translation|transparent] <tpid> [<cos>|null] [<newvid>|null]}*4
```

### Description

Parameter	Description	Attribute
oltqinq_domain <name>	QinQ domain name. The configured QinQ profile name in the creation.	Compulsory
<1-8>	Index of service entries. Configure the same quantity of service entries depending on how many VLAN services are configured.	Compulsory
vlan <layer>	The Nth layer VLAN. The Nth layer of the VLAN. Configure 4 layers of VLAN service. The value ranges from 1 to 4.	Optional
[<oldvid> null]	◆ <oldvid>: ID value of the old VLAN. ◆ null: Configure it as null. The value ranges from 1 to 4095. The default value is 65535.	Optional
[<oldcos> null]	◆ <oldcos>: COS value of the old VLAN. ◆ null: Configure it as null. The value ranges from 0 to 7. The default value is 0.	Optional

Parameter	Description	Attribute
[add translation transparent]	The VLAN action of the layer. <ul style="list-style-type: none"> <li>◆ add: Add.</li> <li>◆ translation: Translate.</li> <li>◆ transparent: transparent transmission.</li> </ul>	Optional
<tpid>	The TPID value. The value ranges from 1 to 65535. The default value is 33024.	Optional
[<cos> null]	<ul style="list-style-type: none"> <li>◆ &lt;cos&gt; : COS value.</li> <li>◆ null: Configure it as null.</li> </ul> The value ranges from 0 to 7. The default value is 0.	Optional
[<newvid> null]	<ul style="list-style-type: none"> <li>◆ &lt;newvid&gt;: ID value of the new VLAN.</li> <li>◆ null: Configure it as null.</li> </ul> The value ranges from 1 to 4095. The default value is 65535.	Optional

## Command Example

Configure the QinQ domain's VLAN service rules as follows. Configure service 1. The number of downlink rule entries is 1, the first layer VLAN is used, the old VID is 254, the old COS is 1, the transparent transmission mode is used, the TPID is 33024, the COS is NULL, and the new VID is NULL.

```
Admin\vlan#set oltqinq_domain domaintest1 1 vlan 1 254 1 transparent 33024 null null
Admin\vlan#
```

## 15.21 Creating QinQ Profile

### Command Function

This command is used to create the QinQ profile.

### Command Format

```
create qinq_profile <name>
```

## Parameter Description

Parameter	Description	Attribute
<code>qinq_profile &lt;name&gt;</code>	The QinQ profile name. You can create 1024 profiles at most. Type underlines, English letters and digital numbers, and the maximum length is 16 bytes.	Compulsory

## Command Example

Create the QinQ profile named profiletest1.

```
Admin\vlan# create qinq_profile profiletest1
```

```
Admin\vlan#
```

# 15.22 Configuring ONU QinQ Profile Rule Domain

## Command Function

This command is used to configure the rule domain of the ONU QinQ profile.

## Command Format

```
set qinq_profile <name> {<field_type> <field_val> <op>}*8
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
qinq_profile <name>	The QinQ profile name. The configured QinQ profile name in the creation.	Compulsory parameter
<field_type>	Rule domain type. 11 types can be used. <ul style="list-style-type: none"> <li>◆ 0: SA is based on the SA MAC classification.</li> <li>◆ 1: DA is based on the DA MAC classification.</li> <li>◆ 2: SIP is based on the source IP address classification.</li> <li>◆ 3: DIP is based on the destination IP address classification.</li> <li>◆ 4: VID is based on the VLAN ID classification.</li> <li>◆ 5: ETHTYPE is based on the Ethernet type.</li> <li>◆ 6: IPTYPE is based on the IP protocol type.</li> <li>◆ 7: COS is based on the Ethernet priority classification.</li> <li>◆ 8: TOS is based on the IP TOS / DSCP (IPv4) classification.</li> <li>◆ 9: L4SRCPORT is based on the L4 source PORT classification.</li> <li>◆ 10: L4DSTPORT is based on the L4 destination PORT classification.</li> </ul>	Optional parameter
<field_val>	Rule domain value. Fill in the corresponding domain value according to the rule domain types.	Optional parameter
<op>	The operator. <ul style="list-style-type: none"> <li>◆ 0: = (Equal to).</li> <li>◆ 1: != (not equal to).</li> <li>◆ 2: &lt;= (smaller than or equal to).</li> <li>◆ 3: &gt;= (larger than or equal to).</li> <li>◆ 4: existing means match.</li> <li>◆ 5: not existing means match.</li> <li>◆ 6: always match.</li> </ul> The value ranges from 0 to 6.	Optional parameter

## Command Example

Configure the profiletest1 profile's rule domain. The type is 0, the domain value is 111111111111, and the operator is 4.

```
Admin\vlan#set qinq_profile profiletest1 0 111111111111 4
Admin\vlan#
```

## 15.23 Deleting QinQ Domain

### Command Function

The command is used to delete the OLT QinQ domain. The prerequisite of deleting a QinQ domain is that the QinQ domain exists and no binding operations are performed.

### Command Format

```
delete oltqinq_domain <name>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
oltqinq_domain <name>	QinQ domain name. The configured QinQ profile name in the creation.	Compulsory parameter

### Command Example

Delete the domaintest1 domain.

```
Admin\vlan# delete oltqinq_domain domaintest1
```

```
Admin\vlan#
```

## 15.24 Deleting QinQ Profile

### Command Function

The command is used to delete the QinQ profile. The prerequisite of deleting a QinQ profile is that the QinQ profile exists.

### Command Format

```
delete qinq_profile <name>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
qinq_profile <name>	The QinQ profile name. The configured QinQ profile name in the creation.	Compulsory parameter

## Command Example

Delete the profiletest1 profile.

```
Admin\vlan# delete qinq_profile profiletest1
```

```
Admin\vlan#
```

# 15.25 Configuring QinQ Domain's ONU Binding / Unbinding

## Command Function

This command is used to bind / unbind the created QinQ domain with the ONU.

## Command Format

```
set onu attach slot <1-18> pon <1-8> onu <1-128> [attach|detach] domain <name>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot <1-18>	Slot number. The slot number related to the binding / unbinding. The value range is from 1 to 18.	Compulsory parameter
pon <1-8>	The number of the PON port. The PON port number related to the binding / unbinding. The value range is from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number. The ONU number related to the binding / unbinding. The value range is from 1 to 128.	Compulsory parameter

Parameter	Parameter Description	Parameter Property
[attach detach]	Binding / unbinding operations. ◆ attach: the binding operations. ◆ detach: the unbinding operations.	Compulsory parameter
domain <name>	QinQ domain name.	Compulsory parameter

## Command Example

Bind the domaintest1 domain with the the ONU whose authorization number is 1 under number 1 PON port in slot 14.

```
Admin\vlan#set onu attach slot 14 pon 1 onu 1 attach domain domaintest1
Admin\vlan#
```

# 15.26 Configuring QinQ Domain's PON Binding / Unbinding

## Command Function

This command is used to bind / unbind the created QinQ domain with the PON port.

## Command Format

```
set pon attach slot <1-18> pon <1-8> [attach|detach] domain <name>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
slot <1-18>	Slot number. The slot number related to the binding / unbinding. The value range is from 1 to 18.	Compulsory parameter
pon <1-8>	The number of the PON port. The PON port number related to the binding / unbinding. The value range is from 1 to 8.	Compulsory parameter
[attach detach]	Binding / unbinding operations. ◆ attach: the binding operations. ◆ detach: the unbinding operations.	Compulsory parameter
domain <name>	QinQ domain name.	Compulsory parameter

## Command Example

Bind the domaintest1 domain with number 1 PON port in slot 14.

```
Admin\vlan#set pon attach slot 14 pon 1 attach domain domaintest1
Admin\vlan#
```

## 15.27 Viewing QinQ Domain Binding Relationship List

### Command Function

This command is used to view the QinQ domain binding relationship.

### Command Format

```
show oltqinq_domain <name> attach
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
oltqinq_domain <name>	QinQ domain name. The configured QinQ profile name in the creation.	Compulsory parameter

### Command Example

view the QinQ domain binding relationship.

```
Admin\vlan#show oltqinq_domain domaintest1 attach
14:1,
Admin\vlan#
```

## 15.28 Viewing QinQ Domain Configuration Information

### Command Function

This command is used to view the QinQ domain configuration information.

## Command Format

```
show oltqinq_domain {<name>}*1
```

## Parameter Description

Parameter	Description	Attribute
oltqinq_domain {<name>} *1	QinQ domain name. If the profile name is not entered, you should view all configured ONU QinQ domains.	Optional parameter

## Command Example

View the domaintest1 domain's configuration information.

```
Admin\vlan#show oltqinq_domain domaintest1
-----QinQ domain [domaintest1] information-----
index      : 1      servicenum : 1
serviceType : 0
serviceId  : 1
service[1] upstream rule:
type[01]   val[aa aa aa aa aa aa 00 00]      op[5]
type[00]   val[00 00 00 00 00 00 00 00]      op[255]
type[00]   val[00 00 00 00 00 00 00 00]      op[255]
type[00]   val[00 00 00 00 00 00 00 00]      op[255]
service[1] downstream rule:
type[01]   val[bb bb bb bb bb bb 00 00]      op[5]
type[00]   val[00 00 00 00 00 00 00 00]      op[255]
type[00]   val[00 00 00 00 00 00 00 00]      op[255]
type[00]   val[00 00 00 00 00 00 00 00]      op[255]
service[1] vlan information:
layer 4: oldvlan[0] oldcos[255] action[3] tpid[0x8100]
        cos[255] newvlan[65535]
layer 3: oldvlan[0] oldcos[255] action[3] tpid[0x8100]
        cos[255] newvlan[65535]
layer 2: oldvlan[65535] oldcos[255] action[1] tpid[0x8100]
        cos[1] newvlan[4001]
layer 1: oldvlan[254] oldcos[1] action[3] tpid[0x8100]
        cos[255] newvlan[65535]
Admin\vlan#
```

## Result Description

Parameter	Description
index	Index.
servicenum	Service entries number.
serviceType	Service type.
serviceId	Service ID.
service[1] upstream rule	Uplink rules.
service[1] downstream rule	Downlink rules.
service[1] vlan information	VLAN information.
layer 4	Layer 4 VLAN.
Layer3	Layer 3 VLAN.
layer 2	Layer 2 VLAN.
layer 1	Layer 1 VLAN.

## 15.29 Viewing OLT QinQ Status

### Command Function

This command is used to view the OLT QinQ status. The default status is enable.

### Command Format

```
show qinq_olt state
```

### Parameter Description

None

### Command Example

View the current OLT QinQ status.

```
Admin\vlan#show qinq_olt state
OLT QinQ state: Enable
Admin\vlan#
```

### Result Description

Parameter	Parameter Description
OLT QinQ state	The current OLT QinQ status.

## 15.30 Viewing an ONU QinQ Profile's Configuration Information

### Command Function

This command is used to view the ONU QinQ profile's configuration information.

### Command Format

```
show qinq_profile {<name>}*1
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
qinq_profile {<name>} *1	The ONU QinQ profile name. If the profile name is not entered, you should view all configured ONU QinQ profile information.	Optional parameter

### Command Example

View the ONU QinQ profile information of the profile named profiletest1.

```
Admin\vlan#show qinq_profile profiletest1
-----
index[1]    profilename[profiletest1]
Source MAC Address      : 11:11:11:11:11:11
operator[exist then match]
Source MAC Address      : 00:00:00:00:00:00  operator[N/A]
Admin\vlan#
```

### Result Description

Parameter	Parameter Description
index	The index.
profilename	The profile name.

Parameter	Parameter Description
Source MAC Address	The source MAC address.
operator	The processing mode.

## 15.31 Adding Slot VLAN

### Command Function

This command is used to add the slot VLAN. The prerequisite of this command is that the line card's service VLAN whose service VLAN type is 8 has been configured.

### Command Format

```
set vlan_slot slot <1-18> vid <1-4085> [untagged|tagged]
```

### Parameter Description

Parameter	Description	Attribute
slot <1-18>	Slot number. The value ranges from 1 to 8 and 11 to 18.	Compulsory
vid <1-4085>	The VLAN ID of the uplink port Sub VLAN. The value ranges from 1 to 4085.	Compulsory
[untagged tagged]	Configure the tag processing mode for the slot VLAN. <ul style="list-style-type: none"> <li>◆ In the Untagged mode, the TAGs of the uplink packets will be stripped automatically and the packets will be uplinked in the form of UNTAG when they pass the port, whereas the downlink UNTAG packets will be added with designated TAGs and downlinked in the form of TAG.</li> <li>◆ In the Tagged mode, the uplink data packets will not be processed but remain uplinked in the original form. For downlink packets, however, only packets with designated TAGs are received and the packets will not be processed but remain downlinked in the original form.</li> </ul> Tagged must be selected.	Compulsory

### Command Example

Configure the VLAN ID of the uplink port Sub VLAN in slot 1 as 12. The TAG property is Tagged.

```
Admin\vlan#set vlan_slot slot 1 vid 12 tagged
Admin\vlan#
```

## 15.32 Checking Added VLAN in a Slot

### Command Function

The command is used to check the added VLAN in the designated slot.

### Command Format

```
show vlan_slot slot <slotId>
```

### Parameter Description

Parameter	Description	Attribute
slot <slotId>	The slot number for adding VLANs.	Compulsory

### Command Example

Check the added VLAN in slot 1.

```
Admin\vlan#show vlan_slot slot 1
slot ID : 1
vlan ID : 12 tagged
Admin\vlan#
```

### Result Description

Parameter	Description
slot ID	Slot number.
vlan ID	The VLAN ID of the Sub VLAN in the line card.

# 16 Route Directory Command

---

The following introduces the functions, formats, parameters, and examples of various commands under the Route directory.

- Configuring Static Route
- Deleting Static Route
- Viewing Routing Table
- Configuring Key Chain
- Deleting Key Chain
- Configuring Key ID in Key Chain
- Deleting Key ID in Key Chain
- Configuring Key in Key Chain
- Deleting Key in Key Chain
- Configuring Receiving Time in Key Chain
- Deleting Receiving Time in Key Chain
- Configuring Transmitting Time in Key Chain
- Deleting Transmitting Time in Key Chain
- Configuring ACL Name
- Deleting ACL Name
- Configuring ACL Rule
- Deleting ACL Rule
- Viewing All Configured ACL Information

- Configuring Proxy Range of ARP-PROXY
- Viewing Proxy Range of ARP-PROXY
- Viewing Key Chain Configuration
- Viewing Current Configuration Information
- Configuring Printing Debugging Switch of RCAL Module
- Configuring DHCP Function Global Switch
- Viewing DHCP Global Switch Status
- Configuring DHCP Global Ping Function
- Viewing DHCP Global Ping Function
- Configuring Layer 3 Interface DHCP Mode
- Viewing Layer 3 Interface DHCP Mode
- Configuring Server IP Address in Layer 3 Interface DHCP Relay Mode
- Deleting Server IP Address in Layer 3 Interface DHCP Relay Mode
- Viewing Server IP Address in Layer 3 Interface DHCP Relay Mode
- Configuring DHCP Server Global Address Pool
- Deleting DHCP Server Global Address Pool
- Viewing DHCP Server Global Address Pool
- Configuring Lease Term of DHCP Server Global Address Pool
- Configuring DNS Server
- Deleting DNS Server
- Configuring Forbidden IP Address
- Deleting Forbidden IP Address

- Binding Fixed IP Address for DHCP Client
- Deleting DHCP Client Binding
- Viewing Status of DHCP Client Table

## 16.1 Configuring Static Route

### Command Function

This command is used to configure the destination IP address, subnet mask of the destination network, IP address of the gateway next hop and the metric for the static route.

### Command Format

```
set static-route destination-ip <A.B.C.D> mask <A.B.C.D> nexthop <A.B.C.D>
{metric <0-255>} *1
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
destination-ip <A.B.C.D>	IP address of the destination network. It is usually in the format of the network segment.	Compulsory parameter
mask <A.B.C.D>	Subnet mask of the destination network.	Compulsory parameter
nexthop <A.B.C.D>	IP address of the gateway next hop, which is in the same network segment as the IP address in the Super VLAN configuration.	Compulsory parameter
{metric <0-255>} *1	Hop number. The value range is 0 to 255. No configuration means the default value 0 is selected.	Optional parameter

### Command Example

In the static route configuration, set the destination IP address to 10.98.20.0, the subnet mask to 255.255.255.0, the next hop IP address to 10.1.1.19 and the hop number to 10.

```
Admin\route#set static-route destination-ip 10.98.20.0 mask 255.255.255.0 nexthop
10.1.1.19 metric 10
Admin\route#
```

## 16.2 Deleting Static Route

### Command Function

This command is used to delete the configured static route.

## Command Format

```
delete static-route destination-ip <A.B.C.D> mask <A.B.C.D> nexthop <A.B.C.
D> {metric <0-255>}*1
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
destination-ip <A.B.C.D>	IP address of the destination network. It is usually in the format of the network segment.	Compulsory parameter
mask <A.B.C.D>	Subnet mask of the destination network.	Compulsory parameter
nexthop <A.B.C.D>	IP address of the gateway next hop, which is in the same network segment as the IP address in the Super VLAN configuration.	Compulsory parameter
{metric <0-255>}*1	Hop number. The value ranges from 0 to 255. The default value is 0.	Optional parameter

## Command Example

Delete the static route whose destination IP address is 10.98.20.0, subnet mask is 255.255.255.0, next hop IP address is 10.1.1.19 and hop number is 10.

```
Admin\route# delete static-route destination-ip 10.98.20.0 mask 255.255.255.0 nexthop
10.1.1.19 metric 10
```

```
Admin\route#
```

## 16.3 Viewing Routing Table

### Command Function

This command is used to view the routing table.

### Command Format

```
show ip route
```

### Description

None

## Command Example

View the configured routing table.

```
Admin\route#show ip route
DestNetwork DestMask      Dis Met NextHop  Status Protocol Interface
10.98.20.0   255.255.255.0 0  10  10.1.1.19 Pend   static   sv3000
10.1.0.0     255.255.0.0   0  0   10.1.0.0 Active connected sv3000
Admin\route#
```

## Result Description

Parameter	Description
DestNetwork	IP address of the destination network.
DestMask	Subnet mask of the destination network.
Dis	The management distance.
Met	The metric.
NextHop	IP address of the gateway next hop.
Status	Whether the next hop is reachable or unreachable.
Protocol	The protocol.
Interface	Interface.

# 16.4 Configuring Key Chain

## Command Function

This command is used to configure the key chain in the RIP or OSPF authentication.

## Command Format

```
set key-chain <name>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
key-chain <name>	Name of the key chain.	Compulsory parameter

## Command Example

Set the key chain name to **test**.

```
Admin\route#set key-chain test
Admin\route#
```

## 16.5 Deleting Key Chain

### Command Function

This command is used to delete the key chain by name.

### Command Format

```
delete key-chain <name>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
key-chain <name>	Name of the key chain	Compulsory parameter

### Command Example

Delete the key chain that is named test.

```
Admin\route#delete key-chain test
Admin\route#
```

## 16.6 Configuring Key ID in Key Chain

### Command Function

This command is used to configure the key ID in the key chain.

### Command Format

```
set key-chain <name> key <1-255>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	The key ID in the designated key chain. The value ranges from 1 to 255.	Compulsory parameter

## Command Example

Set the key ID of the key chain named **test** to 22.

```
Admin\route#set key-chain test key 22
Admin\route#
```

## 16.7 Deleting Key ID in Key Chain

### Command Function

This command is used to delete the key ID in the key chain.

### Command Format

```
delete key-chain <name> key <1-255>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	The key ID in the designated key chain. The value ranges from 1 to 255.	Compulsory parameter

## Command Example

Delete the key ID 22 whose key chain is named **test**.

```
Admin\route#delete key-chain test key 22
Admin\route#
```

## 16.8 Configuring Key in Key Chain

### Command Function

This command is used to configure the key in the key chain.

### Command Format

```
set key-chain <name> key <1-255> key-string <string>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	Key ID. The value ranges from 1 to 255.	Compulsory parameter
<string>	Key, i.e., the authentication key characters. It should include no more than 16 characters.	Compulsory parameter

## Command Example

Set the key with ID **22** in the key chain named **test** to **fh**.

```
Admin\route#set key-chain test key 22 key-string fh
The key string is fh
Admin\route#
```

# 16.9 Deleting Key in Key Chain

## Command Function

This command is used to delete the key in the key chain.

## Command Format

```
delete key-chain <name> key <1-255> key-string fh
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	Key ID. The value ranges from 1 to 255.	Compulsory parameter
<string>	Key.	Compulsory parameter

## Command Example

Delete the key **fh** whose ID in the key chain **test** is **22**.

```
Admin\route#delete key-chain test key 22 key-string fh
Admin\route#
```

## 16.10 Configuring Receiving Time in Key Chain

### Command Function

This command is used to configure the receiving time (including the starting receiving time and the ending receiving time) in the key chain.

### Command Format

```
set key-chain <name> key <1-255> accept-lifetime <yyyy:mm:dd:hh:mm:ss>
{<yyyy:mm:dd:hh:mm:ss>} *1
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	Key ID. The value ranges from 1 to 255.	Compulsory parameter
accept-lifetime <yyyy:mm:dd:hh:mm:ss>	The starting receiving time, i.e., the time when the key receiving starts. The value range is from 00:00:00, January 10, 1993 to 23:59:59, December 31, 2105. The default value is 0.	Compulsory parameter
{<yyyy:mm:dd:hh:mm:ss>} *1	The ending receiving time, i.e., the time when the key receiving ends. The value range is from 00:00:00, January 10, 1993 to 23:59:59, December 31, 2105. The default value is 0. No configuring means the receiving never ends.	Optional parameter

### Command Example

Set the receiving starting time to 14:30:56, November 24, 2011 for the key chain whose name is **test** and key ID is 22.

```
Admin\route#set key-chain test key 22 accept-lifetime 2011:11:24:14:30:56
Admin\route#
```

## 16.11 Deleting Receiving Time in Key Chain

### Command Function

This command is used to delete the receiving time in the key chain.

### Command Format

```
delete key-chain <name> key <1-255> accept-lifetime
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	The key ID in the designated key chain. The value ranges from 1 to 255.	Compulsory parameter

### Command Example

Delete the receiving time for the key chain whose name is **test** and key ID is 22.

```
Admin\route#delete key-chain test key 22 accept-lifetime
Admin\route#
```

## 16.12 Configuring Transmitting Time in Key Chain

### Command Function

This command is used to configure the transmitting time (including the starting transmitting time and the ending transmitting time) in the key chain.

### Command Format

```
set key-chain <name> key <1-255> send-lifetime <yyyymmdd:hh:mm:ss>
{<yyyymmdd:hh:mm:ss>} *1
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<code>key-chain &lt;name&gt;</code>	Name of the key chain.	Compulsory parameter
<code>key &lt;1-255&gt;</code>	Key ID. The value ranges from 1 to 255.	Compulsory parameter
<code>send-lifetime &lt;yyyy:mm:dd:hh:mm:ss&gt;</code>	The starting transmitting time, i.e., the time when the key transmitting starts. The value range is from 00:00:00, January 10, 1993 to 23:59:59, December 31, 2105. The default value is 0. yyyy represents year, mm represents month, dd represents day, hh represents hour, mm represents minute, and ss represents second.	Compulsory parameter
<code>{&lt;yyyy:mm:dd:hh:mm:ss&gt;}</code> <code>*1</code>	The ending transmitting time, i.e., the time when the key transmitting ends. The value range is from 00:00:00, January 10, 1993 to 23:59:59, December 31, 2105. The default value is 0. No configuring means the receiving never ends.	Optional parameter

## Command Example

Set the transmitting starting time to 07:07:00, January 1, 2009 for the key chain whose name is **test** and key ID is 22.

```
Admin\route#set key-chain test key 22 send-lifetime 2009:01:01:07:07:00
Admin\route#
```

## 16.13 Deleting Transmitting Time in Key Chain

### Command Function

This command is used to delete the transmitting time in the key chain.

### Command Format

```
delete key-chain <name> key <1-255> send-lifetime
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	The key ID in the designated key chain. The value ranges from 1 to 255.	Compulsory parameter

## Command Example

Delete the transmitting time for the key chain whose name is **test** and key ID is 22.

```
Admin\route#delete key-chain test key 22 send-lifetime
Admin\route#
```

# 16.14 Configuring ACL Name

## Command Function

This command is used to configure the ACL name, i.e., the name of the access control list.

## Command Format

```
set access-list <name> ipv4 {auto_order}*1
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
access-list<name>	Name of the access control list. The maximum length is 20 characters. Currently only the access control list name mode is supported.	Compulsory parameter
{auto_order}*1	The matching sequence. Sets the sorting order of the access control list to automatic sorting. No configuration means that the access control list becomes effective according to the configured sequence.	Compulsory parameter

## Command Example

Set the name of the access control list to **fh** and the matching sequence to automatic sorting.

```
Admin\route# set access-list fh ipv4 auto_order
```

```
Admin\route#
```

## 16.15 Deleting ACL Name

### Command Function

This command is used to delete the ACL name.

### Command Format

```
delete access-list [<1-99>|<100-199>|<1300-1999>|<2000-2699>|<name>]
```

### Parameter Description

Parameter	Parameter description	Parameter Property
access-list<name>	Name of the access control list.	Compulsory parameter

## Command Example

Delete the access control list named **fh**.

```
Admin\route# delete access-list fh
```

```
Admin\route#
```

## 16.16 Configuring ACL Rule

### Command Function

This command is used to configure the Layer 3 ACL rule and designates the matching rule, e.g., rejecting or accepting the objects with certain IP features.

## Command Format

```
set access-list <name> [deny|permit] <A.B.C.D/M>
```

```
set access-list <name> [deny|permit] <A.B.C.D/M> exact-match
```

```
set access-list <name> [deny|permit] any
```

## Parameter Description

Parameter	Description	Attribute
access-list <name>	Name of the access control list.	Compulsory parameter
[deny permit]	Processing method for the data message in the ACL rule. <ul style="list-style-type: none"> <li>◆ deny: Discards the packets that match the conditions.</li> <li>◆ permit: Allows the packets that match the conditions to pass.</li> </ul>	Compulsory parameter
<A.B.C.D/M>	Matching accuracy for the data message in the ACL rule. Normal matching, which means the IP address of the data packets should be in the configured network segment.	Compulsory parameter
<A.B.C.D/M> exact-match	Matching accuracy for the data message in the ACL rule. Exact matching, which means not only the IP address of the data packets should be in the configured network segment, but also the mask length should be consistent with the configured value.	Compulsory parameter
any	Matching accuracy for the data message in the ACL rule. Overall matching of any IP address or IP network segment.	Compulsory parameter

## Command Example

Configure the access control list named **fh**, which rejects the data packets with the IP address 10.92.20.61 and the mask 16. The matching accuracy is normal matching.

```
Admin\route# set access-list fh deny 10.92.20.61/16
```

```
Admin\route#
```

Configure the access control list named **fh**, which allows the data packets with the IP address 10.92.20.61 and the mask 16. The matching accuracy is accurate matching.

```
Admin\route# set access-list fh permit 10.92.20.61/16 exact-match
```

```
Admin\route#
```

Configure the access control list named **fh** that accepts overall matching.

```
Admin\route# set access-list fh permit any
```

```
Admin\route#
```

## 16.17 Deleting ACL Rule

### Command Function

This command is used to delete the access control list that rejects / accepts the objects with designated IP features.

### Command Format

```
delete access-list <name> [deny|permit] <A.B.C.D/M>
```

```
delete access-list <name> [deny|permit] <A.B.C.D/M> exact-match
```

```
delete access-list <name> [deny|permit] any
```

## Parameter Description

Parameter	Description	Attribute
<code>access-list&lt;name&gt;</code>	Name of the access control list.	Compulsory parameter
<code>[deny permit]</code>	Processing method for the data message in the ACL rule. <ul style="list-style-type: none"> <li>◆ deny: Discards the packets that match the conditions.</li> <li>◆ permit: Allows the packets that match the conditions to pass.</li> </ul>	Compulsory parameter
<code>&lt;A.B.C.D/M&gt;</code>	Matching accuracy for the data message in the ACL rule. Normal matching, which means the IP address of the data packets should be in the configured network segment.	Compulsory parameter
<code>&lt;A.B.C.D/M&gt; exact-match</code>	Matching accuracy for the data message in the ACL rule. Exact matching, which means not only the IP address of the data packets should be in the configured network segment, but also the mask length should be consistent with the configured value.	Compulsory parameter
<code>any</code>	Matching accuracy for the data message in the ACL rule. Overall matching of any IP address or IP network segment.	Compulsory parameter

## Command Example

Delete the access control list named **fh**, which rejects the data packets with the IP address 10.92.20.61 and the mask 16. The matching accuracy is normal matching.

```
Admin\route# delete access-list fh deny 10.92.20.61/16
```

```
Admin\route#
```

Delete the access control list named **fh**, which allows the data packets with the IP address 10.92.20.61 and the mask 16. The matching accuracy is exact matching.

```
Admin\route# delete access-list fh permit 10.92.20.61/16 exact-match
```

```
Admin\route#
```

Delete the access control list named **fh** that accepts overall matching.

```
Admin\route# delete access-list fh permit any
```

```
Admin\route#
```

## 16.18 Viewing All Configured ACL Information

### Command Function

This command is used to view all configured ACL information.

### Command Format

```
show ip access-list
```

### Parameter Description

None

### Command Example

View the configured ACL information.

```
Admin\route#show ip access-list
Zebra IP  access list fh
          deny  10.92.20.61/16
Admin\route#
```

### Result Description

Parameter	Parameter Description
Zebra IP access list	Name of the access control list.
deny	The processing mode is rejection.
10.92.20.61/16	The IP address and mask of the IP matching rule.

## 16.19 Configuring Proxy Range of ARP-PROXY

### Command Function

This command is used to configure the proxy range of ARP-PROXY.

### Command Format

```
set arp-proxy access-list <name> [enable|disable]
```

### Description

Parameter	Description	Attribute
access-list<name>	The code name of ARP-PROXY. Select the corresponding Layer 3 ACL name.	Compulsory
[enable disable]	Enabling / disabling switch for the proxy range. <ul style="list-style-type: none"> <li>◆ enable: Enables the proxy range.</li> <li>◆ disable: Disables the function.</li> </ul>	Compulsory

### Command Example

Enable the proxy range of ARP-PROXY.

```
Admin\route#set arp-proxy access-list fh enable
Admin\route#
```

## 16.20 Viewing Proxy Range of ARP-PROXY

### Command Function

This command is used to view the proxy range of ARP-PROXY.

### Command Format

```
show arp-proxy access-list
```

### Parameter Description

None

## Command Example

View the proxy range of ARP-PROXY.

```
Admin\route#show arp-proxy access-list
ARP proxy ACL config:
                fh
Admin\route#
```

## Result Description

Parameter	Description
ARP proxy ACL config	The code name configuration of ARP-PROXY. Displays the corresponding Layer 3 ACL name.

# 16.21 Viewing Key Chain Configuration

## Command Function

This command is used to view the key chain configuration.

## Command Format

```
show key-chain
```

## Parameter Description

None

## Command Example

View the key chain configuration.

```
Admin\route#show key-chain
key_chain:test
key_id key_string      accept lifetime start   accept lifetime end
send lifetime start    send lifetime end
22    fh               2011:11:24:14:14:56     ifinate
2009:01:01:07:07:00    ifinate
Admin\route#
```

## Result Description

Parameter	Parameter Description
key_chain	The name of the key chain.
key_id	The key ID in the key chain.
key_string	The key corresponding to the key ID.
accept lifetime start	Starting time of the receiving lifetime.
accept lifetime end	Ending time of the receiving lifetime.
send lifetime start	Starting time of the transmitting lifetime.
send lifetime end	Ending time of the transmitting lifetime.

## 16.22 Viewing Current Configuration Information

### Command Function

This command is used to view the current configuration information, which includes: route configuration information, DHCP configuration information, ACL configuration information, and ARP proxy ACL configuration information

### Command Format

```
show route running-config
```

### Parameter Description

None

### Command Example

View the current configuration information.

```
Admin\route#show route running-config
!route config -----
set key-chain test
set key-chain test key 12
set key-chain test key 12 key-string 123
set key-chain test key 12 send-lifetime 2009:01:01:07:07:00
!route config end -----
!dhcp config -----
!dhcp config end!-----
!access list config -----
```

```
set access-list fh ipv4 auto_order
set access-list fh deny 10.92.20.61/16
set access-list tx ipv4 auto_order
set access-list tx permit 10.92.20.61/16
!access list config end!-----
!arp proxy access list config -----
!arp proxy access list config end!-----
Admin\route#
```

## Result Description

Parameter	Parameter Description
route config	Route configuration.
dhcp config	DHCP configuration.
access list config	Access control list configuration.
arp proxy access list config	ARP proxy access control list configuration.

## 16.23 Configuring Printing Debugging Switch of RCAL Module

### Command Function

This command is used to configure the printing debugging switch of the RCAL module.

### Command Format

```
rcal debug level [infor|warn|error|debug|debug_send|all] [enable|disable]
```

## Description

Parameter	Description	Attribute
level [infor warn error debug debug_send all]	Level of the printing switch. <ul style="list-style-type: none"> <li>◆ infor: common prompt information.</li> <li>◆ warn: alarm information.</li> <li>◆ error: error information.</li> <li>◆ debug: program debugging information, usually is the information that the uplink module sends to the RCAL module.</li> <li>◆ debug_send: program debugging information, usually is the information that the downlink protocol module sends back to the RCAL module.</li> <li>◆ all: all the information.</li> </ul>	Compulsory
[enable disable]	<ul style="list-style-type: none"> <li>◆ enable: Enables the proxy range.</li> <li>◆ disable: Disables the function.</li> </ul>	Compulsory

## Command Example

Set the printing program debugging information switch to enable.

```
Admin\route#rcal debug level debug enable
Admin\route#
```

# 16.24 Configuring DHCP Function Global Switch

## Command Function

This command is used to configure the DHCP function global switch.

## Command Format

```
set dhcp global [enable|disable]
```

## Description

Parameter	Description	Attribute
[enable disable]	Enabling / disabling status of the switch. ◆ enable: Enables the global DHCP function. ◆ disable: Disables the global DHCP function. After disabling, all the DHCP related configuration will be cleared automatically. The default setting is disable.	Compulsory

## Command Example

Set the DHCP function global switch to enable.

```
Admin\route#set dhcp global enable
Admin\route#
```

## 16.25 Viewing DHCP Global Switch Status

## Command Function

This command is used to view the DHCP global switch status.

## Command Format

```
show dhcp global switch
```

## Parameter Description

None

## Command Example

View the DHCP global switch status.

```
Admin\route#show dhcp global switch
dhcp global switch enabled.
Admin\route#
```

## 16.26 Configuring DHCP Global Ping Function

### Command Function

This command is used to configure the DHCP global Ping function.

### Command Format

```
set dhcp global ping-function <0-3> ping-interval <500-5000>
```

### Parameter Description

Parameter	Description	Attribute
ping-function <0-3>	Switch or times of the Ping operations. The value range is 0 to 3. The default value is 2. 0 means disabling the Ping function, and the time interval of the Ping operations becomes invalid simultaneously.	Compulsory parameter
ping-interval <500-5000>	The time interval of the Ping operations. The value ranges between 500 and 5000; the unit is ms (millisecond); and the default value is 500.	Compulsory parameter

### Command Example

Set the times of the DHCP global Ping operations to 3 and the time interval of the Ping operations to 1000.

```
Admin\route#set dhcp global ping-function 3 ping-interval 1000
Admin\route#
```

## 16.27 Viewing DHCP Global Ping Function

### Command Function

This command is used to view the DHCP global Ping function.

## Command Format

```
show dhcp global pingfunc
```

## Parameter Description

None

## Command Example

View the DHCP global Ping function.

```
Admin\route#show dhcp global pingfunc  
dhcp global pingFunc: 3 times, 1000 ms interval.  
Admin\route#
```

## Result Description

Parameter	Parameter Description
dhcp global pingFunc	The DHCP global Ping function, including the times of Ping operations and the time interval between the Ping operations.

# 16.28 Configuring Layer 3 Interface DHCP Mode

## Command Function

This command is used to configure the layer 3 interface DHCP mode for the subscriber in the Super VLAN.

## Command Format

```
set dhcp super-vlan <1-4085> mode [server|relay|disable]
```

## Description

Parameter	Description	Attribute
<code>super-vlan &lt;1-4085&gt;</code>	VID of the Super VLAN under which the interfaces are to be configured. The value ranges from 1 to 4085.	Compulsory
<code>mode [server relay disable]</code>	The layer 3 interface DHCP function mode or disabling the function. <ul style="list-style-type: none"> <li>◆ server: Server mode, the DHCP server operation mode.</li> <li>◆ relay: Relay mode, the DHCP regenerator operation mode.</li> <li>◆ disable: Disables the function.</li> </ul> The default setting is Server mode.	Compulsory

## Command Example

Set the DHCP function mode of the layer 3 interface whose Super VLAN is 3000 to Server mode.

```
Admin\route#set dhcp super-vlan 3000 mode server
Admin\route#
```

# 16.29 Viewing Layer 3 Interface DHCP Mode

## Command Function

This command is used to view the DHCP function mode of the layer 3 interface.

## Command Format

```
show dhcp super-vlan [<1-4085>|all] mode
```

## Description

Parameter	Description	Attribute
<code>super-vlan [&lt;1-4085&gt; all]</code>	<ul style="list-style-type: none"> <li>◆ &lt;1-4085&gt;: Views the DHCP mode of the layer 3 interface under the configured Super VLAN ID. The value ranges from 1 to 4085.</li> <li>◆ all: Views the DHCP mode of all interfaces.</li> </ul>	Compulsory

## Command Example

Views the DHCP function mode of the Super VLAN layer 3 interface whose VLAN ID is 3000.

```
Admin\route#show dhcp super-vlan 3000 mode
show super-vlan id 3000.
dhcp super-vlan 3000 mode server.
Admin\route#
```

## Result Description

Parameter	Description
show super-vlan id	ID of the VLAN that has configured Super VLAN.
dhcp super-vlan 3000 mode	The DHCP function mode of the layer 3 interface whose Super VLAN is 3000.

# 16.30 Configuring Server IP Address in Layer 3 Interface DHCP Relay Mode

## Command Function

This command is used to configure the IP address of the server in the layer 3 interface DHCP Relay mode to provide the DHCP services for the subscribers in the Super VLAN.

## Command Format

```
set dhcp relay super-vlan <1-4085> server-ip <A.B.C.D>
```

## Description

Parameter	Description	Attribute
super-vlan <1-4085>	VID of the Super VLAN under which the interfaces to be configured. The value ranges from 1 to 4085.	Compulsory
server-ip <A.B.C.D>	IP address of the server under the layer 3 interface. You can configure 16 entries under one interface at most.	Compulsory

## Command Example

For the layer 3 interface whose Super VLAN is 3000, set the server IP address in the DHCP Relay mode to 10.91.20.0.

```
Admin\route#set dhcp relay super-vlan 3000 server-ip 10.91.20.0
Admin\route#
```

## 16.31 Deleting Server IP Address in Layer 3 Interface DHCP Relay Mode

### Command Function

This command is used to delete the IP address of the server in the layer 3 interface DHCP Relay mode.

### Command Format

```
delete dhcp relay super-vlan <1-4085> server-ip [<A.B.C.D>|all]
```

### Description

Parameter	Description	Attribute
super-vlan <1-4085>	ID of the VLAN that has configured Super VLAN. The value ranges from 1 to 4085.	Compulsory
[<A.B.C.D> all]	<ul style="list-style-type: none"> <li>◆ &lt;A.B.C.D&gt;: Deletes the designated server IP address in the layer 3 interface DHCP Relay mode.</li> <li>◆ all: Deletes all the server IP addresses in the layer 3 interface DHCP Relay mode.</li> </ul>	Compulsory

### Command Example

For the layer 3 interface whose Super VLAN is 3000, delete all the server IP addresses in the DHCP Relay mode.

```
Admin\route#delete dhcp relay super-vlan 3000 server-ip all
delete all.
Admin\route#
```

## 16.32 Viewing Server IP Address in Layer 3 Interface DHCP Relay Mode

### Command Function

This command is used to view the IP address of the server in the layer 3 interface DHCP Relay mode.

### Command Format

```
show dhcp relay super-vlan [<1-4085>|all] server-ip
```

### Description

Parameter	Description	Attribute
super-vlan [<1-4085> all]	<ul style="list-style-type: none"> <li>◆ &lt;1-4085&gt;: Views the server IP address of the VLAN ID that has configured Super VLAN in the DHCP Relay mode. The value ranges from 1 to 4085.</li> <li>◆ all: Views the server IP addresses of all the layer 3 interfaces in the DHCP Relay mode.</li> </ul>	Compulsory

### Command Example

View the server IP address in the DHCP Relay mode of the layer 3 interface whose Super VLAN is 3000.

```
Admin\route#show dhcp relay super-vlan 3000 server-ip
show super-vlan id 3000 server:
10.91.20.0
Admin\route#
```

### Result Description

Parameter	Description
show super-vlan id 3000 server	The server IP address in the DHCP Relay mode.

## 16.33 Configuring DHCP Server Global Address Pool

### Command Function

This command is used to configure the DHCP Server global address pool to distribute the IP addresses for the subscribers in the Super VLAN.

### Command Format

```
set dhcp server ip-pool <1-16> begin-ip <A.B.C.D> end-ip <A.B.C.D> mask <A.B.C.D> gateway <A.B.C.D>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
ip-pool <1-16>	Identifier of the address pool. The value ranges from 1 to 16. The default value is 1.	Compulsory parameter
begin-ip <A.B.C.D>	The starting IP address.	Compulsory parameter
end-ip <A.B.C.D>	The ending IP address.	Compulsory parameter
mask <A.B.C.D>	Subnet mask.	Compulsory parameter
gateway <A.B.C.D>	Gateway.	Compulsory parameter

### Command Example

Configure the identifier of the address pool to 1, the starting IP address to 10.92.20.1, the ending IP address to 10.92.20.254, the mask to 255.255.0.0, the gateway to 10.92.1.254.

```
Admin\route#set dhcp server ip-pool 1 begin-ip 10.92.20.1 end-ip 10.92.20.254 mask 255.255.0.0 gateway 10.92.1.254
Admin\route#
```

## 16.34 Deleting DHCP Server Global Address Pool

### Command Function

This command is used to delete the DHCP Server global address pool.

## Command Format

```
delete dhcp server ip-pool [<1-16>|all]
```

## Description

Parameter	Description	Attribute
ip-pool [<1-16> all]	<ul style="list-style-type: none"> <li>◆ &lt;1-16&gt;: Deletes the DHCP Server global address pool with the configured identifier.</li> <li>◆ all: Deletes all global address pools.</li> </ul>	Compulsory

## Command Example

Delete the DHCP Server global address pool whose identifier is 1.

```
Admin\route#delete dhcp server ip-pool 1
delete pool-id 1.
Admin\route#
```

# 16.35 Viewing DHCP Server Global Address Pool

## Command Function

This command is used to view the DHCP Server global address pool.

## Command Format

```
show dhcp server ip-pool [<1-16>|all]
```

## Description

Parameter	Description	Attribute
[<1-16> all]	<ul style="list-style-type: none"> <li>◆ &lt;1-16&gt;: Views the DHCP Server global address pool with the configured identifier.</li> <li>◆ all: Views all global address pools.</li> </ul>	Compulsory

## Command Example

View the DHCP Server global address pool whose identifier is 1.

```
Admin\route#show dhcp server ip-pool 1
show pool-id 1.
```

```

pool-id 1
begin-ip 10.92.20.1 end-ip 10.92.20.254 mask 255.255.0.0
gateway 10.92.1.254
lease 3000000 days, 0xffffffff for forever
dns server config:
10.20.1.18
forbidden ip config:
10.98.20.1
Admin\route#

```

## Result Description

Parameter	Description
pool-id	Identifier of the address pool.
begin-ip	The starting IP address.
end-ip	The ending IP address.
mask	Subnet mask.
gateway	The gateway.
lease 3000000 days	The lease term.
dns server config	The IP address of the DNS server.
forbidden ip config	The forbidden IP address.

## 16.36 Configuring Lease Term of DHCP Server Global Address Pool

### Command Function

This command is used to configure the lease term of the DHCP Server global address pool.

### Command Format

```
set dhcp server ip-pool <1-16> lease [<0-4294967294>| forever]
```

## Description

Parameter	Description	Attribute
ip-pool <1-16>	Identifier of the address pool. The value ranges from 1 to 16.	Compulsory
lease [<0-4294967294>  forever]	The lease term. ◆ <0-4294967294>: the value range is 0 to 4294967294. The unit is second. The default value is one day, i.e., 38400 seconds. ◆ forever: the lease is permanent.	Compulsory

## Command Example

Set the lease term of the address pool whose identifier is 1 to 3000000 seconds.

```
Admin\route#set dhcp server ip-pool 1 lease 3000000
set lease 3000000 s.
Admin\route#
```

# 16.37 Configuring DNS Server

## Command Function

This command is used to configure the DNS server, providing address and domain name service for the DHCP client side.

## Command Format

```
set dhcp server ip-pool <1-16> dns-server <A.B.C.D>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
ip-pool <1-16>	Identifier of the address pool. The value ranges from 1 to 16.	Compulsory parameter
dns-server <A.B.C.D>	IP address of the DNS server. You can configure 16 IP addresses at most.	Compulsory parameter

## Command Example

Configure the IP address of the DNS server as 10.20.1.18.

```
Admin\route# set dhcp server ip-pool 1 dns-server 10.20.1.18
```

```
Admin\route#
```

## 16.38 Deleting DNS Server

### Command Function

This command is used to delete the DNS server.

### Command Format

```
delete dhcp server ip-pool <1-16> dns-server [<A.B.C.D>|all]
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
ip-pool <1-16>	Identifier of the address pool. The value ranges from 1 to 16.	Compulsory parameter
dns-server [<A.B.C.D> all]	<ul style="list-style-type: none"> <li>◆ &lt;A.B.C.D&gt;: Deletes the IP address of the configured DNS server.</li> <li>◆ all: Deletes all DNS servers.</li> </ul>	Compulsory parameter

### Command Example

Delete all DNS servers of the address pool whose identifier is 1.

```
Admin\route# delete dhcp server ip-pool 1 dns-server all
```

```
delete all.
```

```
Admin\route#
```

## 16.39 Configuring Forbidden IP Address

### Command Function

This command is used to set the IP address that should not be configured for the DHCP client side.

### Command Format

```
set dhcp server ip-pool <1-16> forbidden-ip <A.B.C.D>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
ip-pool <1-16>	Identifier of the address pool. The value ranges from 1 to 16.	Compulsory parameter
forbidden-ip <A.B.C.D>	The IP address that should not be configured for the client side. You can set 16 IP addresses at most.	Compulsory parameter

### Command Example

Set the IP address that should not be allocated in the address pool whose identifier is 1 to 10.98.20.1.

```
Admin\route# set dhcp server ip-pool 1 forbidden-ip 10.98.20.1
```

```
Admin\route#
```

## 16.40 Deleting Forbidden IP Address

### Command Function

This command is used to delete the IP address that should not be allocated.

### Command Format

```
delete dhcp server ip-pool <1-16> forbidden-ip [<A.B.C.D>|all]
```

## Description

Parameter	Description	Attribute
ip-pool <1-16>	Identifier of the address pool. The value ranges from 1 to 16.	Compulsory
forbidden-ip [<A.B.C.D> all]	<ul style="list-style-type: none"> <li>◆ &lt;A.B.C.D&gt;: Deletes the designated IP address that should not be allocated.</li> <li>◆ all: Deletes all the IP addresses that should not be allocated.</li> </ul>	Compulsory

## Command Example

Delete the all the IP addresses that should not be allocated in the address pool whose identifier is 1.

```
Admin\route#delete dhcp server ip-pool 1 forbidden-ip all
delete all.
Admin\route#
```

# 16.41 Binding Fixed IP Address for DHCP Client

## Command Function

This command is used to assign the fixed IP address for the DHCP client side.

## Command Format

```
set dhcp client bind ip <A.B.C.D> mac <aa:bb:cc:dd:ee:ff>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
ip <A.B.C.D>	The IP address allocated for the DHCP client side.	Compulsory parameter
mac <aa:bb:cc:dd:ee:ff>	MAC address of the DHCP client side.	Compulsory parameter

## Command Example

Assign the IP address 10.92.20.5 to the DHCP client side whose MAC address is ff:02:00:00:00:02.

```
Admin\route#set dhcp client bind ip 10.92.20.5 mac ff:02:00:00:00:02
```

```
Admin\route#
```

## 16.42 Deleting DHCP Client Binding

### Command Function

This command is used to delete the binding from the DHCP client side.

### Command Format

```
delete dhcp client bind ip <A.B.C.D> mac <aa:bb:cc:dd:ee:ff>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
ip <A.B.C.D>	The IP address allocated for the DHCP client side.	Compulsory parameter
mac <aa:bb:cc:dd:ee:ff>	MAC address of the DHCP client side.	Compulsory parameter

### Command Example

Delete the binding relationship between the DHCP client side whose MAC address is ff:02:00:00:00:02 and the IP address 10.92.20.5.

```
Admin\route#delete dhcp client bind ip 10.92.20.5 mac ff:02:00:00:00:02
Admin\route#
```

## 16.43 Viewing Status of DHCP Client Table

### Command Function

This command is used to view the record of the resources that the DHCP Server allocates to the DHCP Client. The record includes the IP address, MAC address and the lease term.

### Command Format

```
show dhcp client table status
```

## Parameter Description

None

## Command Example

View the status of the DHCP Client table.

```
Admin\route#show dhcp client table status
```

```
No. IP           MAC                Lease(s)   Expire(s)   Type
1   10.92.20.5    ff:02:00:00:00:02  4294967295 4294967295  static
Admin\route#
```

## Result Description

Parameter	Parameter Description
No.	The serial number.
IP	The IP address allocated for the DHCP client side.
MAC	MAC address of the DHCP client side.
Lease(s)	The allocated lease term.
Expire(s)	The remaining time of the lease term.
Type	The binding type. The dynamic address or the static address.



# 17 RIP Directory Command

---

The following introduces the functions, formats, parameters, and examples of various commands under the RIP directory.

- Enabling / Disabling RIP
- Announcing RIP Network
- Deleting Announced RIP Network
- Configuring RIP Timer
- Configuring RIP Distance
- Configuring RIP Route Re-allocation
- Deleting RIP Route Re-allocation
- Configuring Received Message Version of RIP Interface
- Configuring Transmitted Message Version of RIP Interface
- Configuring RIP Neighbor
- Deleting RIP Neighbor
- Configuring RIP Passive Port
- Deleting RIP Passive Port
- Configuring RIP Authentication Mode as Simple Password
- Configuring RIP Authentication Mode as MD5
- Deleting RIP Authentication Mode
- Viewing RIP Information
- Viewing Status of RIP Database

- Viewing RIP Interface Information
- Viewing Interface Authentication Information
- Enabling the Log Information of RIP
- Disabling Log Information of RIP
- Enabling / Disabling RIP Event Information
- Enabling Debug Information of RIP Packets
- Disabling Debug Information of RIP Packet
- Enabling / Disabling Zebra Information
- Viewing RIP Debug Summary Information
- Viewing Current RIP Configuration
- Viewing RIP Neighbor Information
- Viewing Network Announced by RIP

## 17.1 Enabling / Disabling RIP

### Command Function

This command is used to enable or disable the RIP function.

### Command Format

```
set rip [enable|disable]
```

### Description

Parameter	Description	Attribute
rip [enable disable]	The RIP function. ◆ enable: Enables the function. ◆ disable: Disables the function.	Compulsory

### Command Example

Enable the RIP function.

```
Admin\rip#set rip enable
Admin\rip#
```

## 17.2 Announcing RIP Network

### Command Function

This command is used to announce the RIP network.

### Command Format

```
set network <A.B.C.D> mask <A.B.C.D>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
network <A.B.C.D>	The IP address' network segment of the interface that should run the RIP. The network must be the IP network that has configured the Super VLAN.	Compulsory parameter
mask <A.B.C.D>	Subnet mask.	Compulsory parameter

## Command Example

Announce the network segment whose IP address is 10.1.0.0 and mask is 255.255.0.0.

```
Admin\rip#set network 10.1.0.0 mask 255.255.0.0
```

```
Admin\rip#
```

## 17.3 Deleting Announced RIP Network

### Command Function

This command is used to delete the announced RIP network.

### Command Format

```
delete network <A.B.C.D> mask <A.B.C.D>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
network <A.B.C.D>	The network segment that the IP address of the interface running the RIP belongs to.	Compulsory parameter
mask <A.B.C.D>	Subnet mask.	Compulsory parameter

## Command Example

Delete the announced RIP network segment whose IP address is 10.92.20.61 and subnet mask is 255.255.0.0.

```
Admin\rip#delete network 10.92.20.61 mask 255.255.0.0
```

```
Admin\rip#
```

## 17.4 Configuring RIP Timer

### Command Function

This command is used to configure the timers for the RIP, so as to adjust the performance of the routing protocol and meet the current network's demand.

## Command Format

```
set timer UpdateTimer <5-16777215> TimeoutTimer <5-16777215> GarbageTimer
<5-16777215>
```

## Description

Parameter	Description	Attribute
UpdateTimer <5-16777215>	The update timer, which is used to initiate the update of the route table. The value ranges between 5 and 16 777 215; the unit is second; and the default value is 30.	Compulsory
TimeoutTimer <5-16777215>	The time-out timer, which is used to ascertain whether a route is available. If the update information of a route is not received within the configured time, the route is ascertained as not available. The value ranges between 5 and 16 777 215; the unit is second; and the default value is 180.	Compulsory
GarbageTimer <5-16777215>	The garbage-collection timer, which is used to determine whether to delete a route or not. After the router ascertains a route as not available, if the update information of this route is not received within the configured time, the route will be deleted from the route table. The value ranges between 5 and 16 777 215; the unit is second; and the default value is 120.	Compulsory

## Command Example

Set the update timer to 40, the time-out timer to 200 and the garbage-collection timer to 150.

```
Admin\rip#set timer updatetimer 40 timeouttimer 200 garbagetimer 150
Admin\rip#
```

# 17.5 Configuring RIP Distance

## Command Function

This command is used to configure the Distance value of the RIP routing protocol, i. e., the shortest route overhead from the root node to the destination node.

## Command Format

```
set rip distance <0-255>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
distance <0-255>	The Distance value. The value ranges from 0 to 255. The default value is 120.	Compulsory parameter

## Command Example

Set the Distance value to 150.

```
Admin\rip#set rip distance 150
Admin\rip#
```

# 17.6 Configuring RIP Route Re-allocation

## Command Function

This command is used to configure the RIP route re-allocation, leading the external routes into the RIP domain.

## Command Format

```
set rip redistribute [connected|static|ospf|bgp|isis]
```

## Description

Parameter	Description	Attribute
redistribute [connected static ospf bgp isis]	Protocol type of the re-allocated routes, protocol type of the external routes that are led in. <ul style="list-style-type: none"> <li>◆ connected: the connected route.</li> <li>◆ static: the static route.</li> <li>◆ ospf: the OSPF route.</li> <li>◆ bgp: the BGP route.</li> <li>◆ isis: the ISIS route.</li> </ul>	Compulsory

## Command Example

Configure the protocol type of the re-allocated routes as OSPF.

```
Admin\rip#set rip redistribute ospf
Admin\rip#
```

## 17.7 Deleting RIP Route Re-allocation

### Command Function

This command is used to delete the RIP route re-allocation.

### Command Format

```
delete rip redistribute [connected|static|ospf|bgp|isis]
```

### Description

Parameter	Description	Attribute
<pre>redistribute [connected  static ospf bgp isis]</pre>	<p>Protocol type of the re-allocated routes, protocol type of the external routes that are led in.</p> <ul style="list-style-type: none"> <li>◆ connected: the connected route.</li> <li>◆ static: the static route.</li> <li>◆ ospf: the OSPF route.</li> <li>◆ bgp: the BGP route.</li> <li>◆ isis: the ISIS route.</li> </ul> <p>The BGP and ISIS protocol types are not supported temporarily.</p>	Compulsory

## Command Example

Delete the re-allocated route whose protocol type is OSPF.

```
Admin\rip#delete rip redistribute ospf
Admin\rip#
```

## 17.8 Configuring Received Message Version of RIP Interface

### Command Function

This command is used to configure the protocol version of the messages received by the RIP interface.

### Command Format

```
set super-vlan <1-4085> receive-version [1|2|all]
```

### Description

Parameter	Description	Attribute
super-vlan <1-4085>	The configured Super VLAN ID. The value ranges from 1 to 4085.	Compulsory
receive-version [1 2 all]	The protocol version of the messages received by the RIP interface. <ul style="list-style-type: none"> <li>◆ 1: RIP version 1.</li> <li>◆ 2: RIP version 2.</li> <li>◆ all: combination of RIP version 1 and RIP version 2.</li> </ul>	Compulsory

### Command Example

Set the protocol version of the messages received by the interface whose Super VLAN ID is 1 to 1.

```
Admin\rip#set super-vlan 1 receive-version 1
Admin\rip#
```

## 17.9 Configuring Transmitted Message Version of RIP Interface

### Command Function

This command is used to configure the protocol version of the messages transmitted by the RIP interface.

## Command Format

```
set super-vlan <1-4085> send-version [1|2|all]
```

## Description

Parameter	Description	Attribute
super-vlan <1-4085>	The configured Super VLAN ID. The value ranges from 1 to 4085.	Compulsory
send-version [1 2 all]	The protocol version of the messages transmitted by the RIP interface. <ul style="list-style-type: none"> <li>◆ 1: RIP version 1.</li> <li>◆ 2: RIP version 2.</li> <li>◆ all: combination of RIP version 1 and RIP version 2.</li> </ul>	Compulsory

## Command Example

Set the protocol version of the messages transmitted by the interface whose Super VLAN ID is 1 to 2.

```
Admin\rip#set super-vlan 1 send-version 2
Admin\rip#
```

# 17.10 Configuring RIP Neighbor

## Command Function

This command is used to configure the RIP neighbor, including the IP address and the mask.

## Command Format

```
set rip neighbor <A.B.C.D> mask <A.B.C.D>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
neighbor <A.B.C.D>	IP address of the neighbor interface.	Compulsory parameter
mask <A.B.C.D>	Subnet mask of the neighbor interface.	Compulsory parameter

## Command Example

Set the RIP neighbor's IP address to 10.98.20.1, and the subnet mask to 255.255.0.0.

```
Admin\rip# set rip neighbor 10.98.20.1 mask 255.255.0.0
```

```
Admin\rip#
```

## 17.11 Deleting RIP Neighbor

### Command Function

This command is used to delete the RIP neighbor.

### Command Format

```
delete rip neighbor <A.B.C.D> mask <A.B.C.D>
```

### Description

Parameter	Description	Attribute
neighbor <A.B.C.D>	IP address of the neighbor interface.	Compulsory
mask <A.B.C.D>	Subnet mask of the neighbor interface.	Compulsory

### Command Example

Delete the RIP neighbor whose IP address is 10.98.20.1 and subnet mask is 255.255.0.0.

```
Admin\rip#delete rip neighbor 10.98.20.1 mask 255.255.0.0
```

```
Admin\rip#
```

## 17.12 Configuring RIP Passive Port

### Command function

This command is used to configure the RIP passive port.

## Command Format

```
set super-vlan <1-4085> passive
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
super-vlan <1-4085>	The configured Super VLAN VID. The value ranges from 1 to 4085.	Compulsory parameter

## Command Example

Set the port whose Super VLAN ID is 1 to the passive port.

```
Admin\rip#set super-vlan 1 passive
Admin\rip#
```

# 17.13 Deleting RIP Passive Port

## Command Function

This command is used to delete the RIP passive port.

## Command Format

```
delete super-vlan <1-4085> passive
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
super-vlan <1-4085>	The configured Super VLAN VID. The value ranges from 1 to 4085.	Compulsory parameter

## Command Example

Delete the passive port whose Super VLAN ID is 1.

```
Admin\rip#delete super-vlan 1 passive
Admin\rip#
```

## 17.14 Configuring RIP Authentication Mode as Simple Password

### Command Function

This command is used to set the authentication mode of the RIP to simple password. It means the unencrypted authentication information is transmitted with the message. The authentication security is not guaranteed.

### Command Format

```
set super-vlan <1-4085> simple-password <string>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
super-vlan <1-4085>	The configured Super VLAN ID. The value ranges from 1 to 4085.	Compulsory parameter
<string>	Name of the key used in the authentication.	Compulsory parameter

### Command Example

Set the authentication mode of the RIP whose Super VLAN ID is 1 to simple password, and the key to **test**.

```
Admin\rip#set super-vlan 1 simple-password test  
Admin\rip#
```

## 17.15 Configuring RIP Authentication Mode as MD5

### Command Function

This command is used to set the authentication mode of the RIP to MD5. It means the authentication information is encrypted before transmission. Thus the authentication security is guaranteed.

### Command Format

```
set super-vlan <1-4085> message-digest key-chain <name>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
super-vlan <1-4085>	The configured Super VLAN ID. The value ranges from 1 to 4085.	Compulsory parameter
key-chain <name>	Key chain name in the key chain configuration.	Compulsory parameter

## Command Example

Set the authentication mode of the RIP whose Super VLAN ID is 1 to MD5, and the key chain to **fh**.

```
dmin\rip#set super-vlan 1 message-digest key-chain fh
Admin\rip#
```

# 17.16 Deleting RIP Authentication Mode

## Command Function

This command is used to delete the RIP authentication mode, which means the RIP is not authenticated.

## Command Format

```
delete super-vlan <1-4085> auth
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
super-vlan <1-4085>	The configured Super VLAN ID. The value ranges from 1 to 4085.	Compulsory parameter

## Command Example

Delete the authentication mode for the RIP whose Super VLAN ID is 1.

```
Admin\rip#delete super-vlan 1 auth
Admin\rip#
```

## 17.17 Viewing RIP Information

### Command Function

This command is used to view the RIP information.

### Command Format

```
show ip protocols rip
```

### Parameter Description

None

### Command Example

View the RIP information.

```
Admin\rip# show ip protocols rip
```

```
Routing Protocol is rip
Sending updates every 40 seconds with +/-50%, Timeout after 200 seconds,
garbage collect after 150 seconds
Next due in 6 seconds
Default redistribution metric is 1
Default version control: send version 2, receive version 2
Distance: 150
```

```
Admin\rip#
```

### Result Description

Parameter	Description
Routing Protocol	Name of the routing protocol.
Sending updates every 30 seconds with +/-50%	The time interval of the sending updates.
Next due	The starting time of the next period.
Default redistribution metric	The default hop of the re-allocated route.
Default version control	The default version.
Distance	The management distance.

## 17.18 Viewing Status of RIP Database

### Command Function

This command is used to view the status of the RIP database.

### Command Format

```
show ip rip route
```

### Parameter Description

None

### Command Example

View the status of the RIP database.

```
Admin\rip#show ip rip route
Routetype      Network      Next Hop      Metric  From      Time
Rip            10.0.0.0/8   192.168.1.2   2       sv1       02:55
Connected      192.168.1.0/24 0.0.0.0       1       self
Connected      192.168.2.0/24 0.0.0.0       1       self
Admin\rip#
```

### Result Description

Parameter	Parameter Description
Routetype	Type of the route.
Network	The network segment.
Next Hop	The IP address of the next hop.
Metric	Hop.
From	The interface from which the route table information comes.
Time	The valid period of the route. It records the existing time of the RIP route, i. e., records the timeout timer and the garbage-collection timer.

## 17.19 Viewing RIP Interface Information

### Command Function

This command is used to view the RIP interface information.

## Command Format

```
show ip rip super-vlan {<1-4085>}*1
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
{<1-4085>}*1	ID of the VLAN that has configured Super VLAN. The value ranges from 1 to 4085.	Optional parameter

## Command Example

View the information of the RIP interface whose Super VLAN ID is 1.

```
Admin\rip#show ip rip super-vlan 1
Interface sv1 is up
  Internet Address:10.1.1.20/16
  Send      Recv      Passive interface  Split horizon
  2         1         YES                Enable
Admin\rip#
```

## Result Description

Parameter	Parameter Description
Interface sv1	Whether the interface status is <b>Up</b> or <b>Down</b> .
Internet Address	IP address of the interface.
Send	Version information of the transmitted message.
Recv	Version information of the received message.
Passive interface	Determination information of the passive interface.
Split horizon	The enabling status of the split horizon function.

# 17.20 Viewing Interface Authentication Information

## Command Function

This command is used to view the RIP interface authentication information.

## Command Format

```
show ip rip auth
```

## Parameter Description

None

## Command Example

View the RIP interface authentication information.

```
Admin\rip# show ip rip auth
```

```
Interface      authtype      authstring/keychain
sv1            simple-passwords  123
sv2            simple-passwords
```

```
Admin\rip#
```

## Result Description

Parameter	Parameter Description
interface	Interface name.
authtype	The authentication mode (simple password or MD5).
authstring/keychain	The password in the simple password mode or the key value in the MD5 mode.

# 17.21 Enabling the Log Information of RIP

## Command Function

This command is used to enable the Log information of RIP.

## Command Format

```
log rip on level [crit|err|warning|info]
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
level [crit err warning info]	<p>The printing level.</p> <ul style="list-style-type: none"> <li>◆ crit: the important information printing level.</li> <li>◆ err: the error information printing level.</li> <li>◆ warning: the warning information printing level.</li> <li>◆ info: the common information printing level.</li> </ul>	Compulsory parameter

## Command Example

Set the printing level of the RIP Log information to the warning level.

```
Admin\rip#log rip on level warning
Admin\rip#
```

## 17.22 Disabling Log Information of RIP

### Command Function

This command is used to disable the Log information of RIP.

### Command Format

```
log rip off
```

### Parameter Description

None

### Command Example

Disable the Log information of RIP

```
Admin\rip#log rip off
Admin\rip#
```

## 17.23 Enabling / Disabling RIP Event Information

### Command Function

This command is used to enable or disable the RIP Event information.



#### Note:

Please enable the Log information and set it to the **info** level at first when you need to enable Debug.

### Command Format

```
debug rip events [enable|disable]
```

### Description

Parameter	Description	Attribute
events [enable disable]	Enables or disables the Event information. ◆ enable: Enables the function. ◆ disable: Disables the function.	Compulsory

### Command Example

Enable the RIP Event information.

```
Admin\rip#debug rip events enable
Admin\rip#
```

## 17.24 Enabling Debug Information of RIP Packets

### Command Function

This command is used to enable the Debug information of the RIP packets.

### Command Format

```
debug rip packet direction [send|recv|all] detail [display|no-display]
```

## Description

Parameter	Description	Attribute
<code>direction [send rev all]</code>	The direction configuration. <ul style="list-style-type: none"><li>◆ send: the packet transmitting direction.</li><li>◆ rev: the packet receiving direction.</li><li>◆ all: both the receiving and transmitting directions.</li></ul>	Compulsory
<code>detail [display no-display]</code>	The detail printing switch. <ul style="list-style-type: none"><li>◆ display: Prints the details.</li><li>◆ no-display: Does not print the details.</li></ul>	Compulsory

## Command Example

Set the Debug information of the RIP packets to the transmitting direction and enable the detail printing.

```
Admin\rip#debug rip packet direction send detail display
Admin\rip#
```

# 17.25 Disabling Debug Information of RIP Packet

## Command Function

This command is used to disable the Debug information of the RIP packet.

## Command Format

```
debug rip packet off
```

## Parameter Description

None

## Command Example

Disable the Debug information of the RIP packet.

```
Admin\rip#debug rip packet off
Admin\rip#
```

## 17.26 Enabling / Disabling Zebra Information

### Command Function

This command is used to enable or disable the Zebra information of the RIP. The Zebra information is the common printing information, and is a protocol stack.

### Command Format

```
debug rip zebra [enable|disable]
```

### Description

Parameter	Description	Attribute
zebra [enable disable]	The Zebra information switch. ◆ enable: Enables the function. ◆ disable: Disables the function.	Compulsory

### Command Example

Enable the Zebra information.

```
Admin\rip#debug rip zebra enable
Admin\rip#
```

## 17.27 Viewing RIP Debug Summary Information

### Command Function

This command is used to view the RIP Debug summary information.

### Command Format

```
show debug rip
```

### Parameter Description

None

### Command Example

View the RIP Debug summary information.

```
Admin\rip#show debug rip
Zebra debugging status:
  RIP event debugging is on
  RIP zebra debugging is on
Admin\rip#
```

## Result Description

Parameter	Parameter Description
Zebra debugging status	The Debug enabling status.

# 17.28 Viewing Current RIP Configuration

## Command Function

This command is used to view the current configuration of the RIP.

## Command Format

```
show rip running-config
```

## Parameter Description

None

## Command Example

View all current configuration information of the RIP.

```
Admin\rip#show rip running-config
!rip config -----
Set rip enable
set network 1.1.1.0 mask 255.255.255.0
set network 192.168.1.0 mask 255.255.255.0
set network 192.168.2.0 mask 255.255.255.0
set super-vlan 1 simple-passwork 123
set super-vlan 1 send-version 2
set super-vlan 1 receive-version 2
set super-vlan 2 send-version 2
set super-vlan 2 receive-version 2
!rip config end!-----
Admin\rip#
```

## Result Description

Parameter	Parameter Description
Set rip enable	The RIP enabling status.
set network	The network announced by the RIP.
super-vlan	The RIP interface.
simple-passwork	The configured authentication information.
send-version 2	Version information of the transmitted message.
receive-version 2	Version information of the received message.

## 17.29 Viewing RIP Neighbor Information

### Command Function

This command is used to view the current configured neighbor information of the RIP.

### Command Format

```
show ip rip neighbor
```

### Parameter Description

None

### Command Example

View the RIP neighbor information.

```
Admin\rip# show ip rip neighbor

192.168.1.2      255.255.255.0

Admin\rip#
```

## Result Description

Parameter	Parameter Description
192.168.1.2	IP address of the neighbor.
255.255.255.0	Subnet mask of the neighbor.

## 17.30 Viewing Network Announced by RIP

### Command function

This command is used to view the current network announced by the RIP.

### Command Format

```
show ip rip network
```

### Parameter Description

None

### Command Example

View the current network announced by the RIP.

```
Admin\rip#show ip rip network
Network      Mask
10.1.0.0     255.255.0.0
192.168.2.0  255.255.255.0
Admin\rip#
```

## Result Description

Parameter	Parameter Description
Network	The network announced by the RIP.
Mask	The mask.

# 18 LACP Directory Command

---

The following introduces the functions, formats, parameters, and examples of various commands under the LACP directory.

- Enabling LACP Global Switch
- Disabling LACP Global Switch
- Configuring Priority Level of LACP System
- Configuring Port Priority Level
- Configuring Port Timer
- Viewing LACP Aggregate Group Information
- Viewing LACP Port Information
- Viewing LACP System ID
- Configuring LACP Port Operation Key

## 18.1 Enabling LACP Global Switch

### Command Function

This command is used to enable the LACP global switch.

### Command Format

```
set lacp enable
```

### Parameter Description

None

### Command Example

Enable the LACP global switch.

```
Admin\device\lacp#set lacp enable  
Lacp service enable.  
Admin\device\lacp#
```

## 18.2 Disabling LACP Global Switch

### Command Function

This command is used to disable the LACP global switch.

### Command Format

```
set lacp disable
```

### Parameter Description

None

### Command Example

Disable the LACP global switch.

```
Admin\device\lacp#set lacp disable  
Lacp service disable.  
Admin\device\lacp#
```

## 18.3 Configuring Priority Level of LACP System

### Command Function

This command is used to configure the priority level of the LACP system.

### Command Format

```
set lacp system-priority <0-65534>
```

### Parameter Description

Parameter	Description	Attribute
system-priority <0-65534>	The priority level. This parameter will be compared when the equipment is connected with the uplink equipment. The value range is 0 to 65534. The default value is 32768. The smaller the value is, the higher the priority level becomes.	Compulsory

### Command Example

Set the priority level of the LACP system to 200.

```
Admin\device\lacp#set lacp system-priority 200
Admin\device\lacp#
```

## 18.4 Configuring Port Priority Level

### Command Function

This command is used to configure the priority of a port.

### Command Format

```
set lacp port <portlist> priority <0-65534>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
port <portlist>	The port list.	Compulsory parameter
priority <0-65534>	The priority level. This parameter will be compared when the equipment is connected with the uplink equipment. The value range is 0 to 65534. The default value is 32768. The smaller the value is, the higher the priority level becomes.	Compulsory parameter

## Command Example

Set the priority level of the 19:1 uplink port to 300.

```
Admin\device\lacp# set lacp port 19:1 priority 300
```

```
Admin\device\lacp#
```

# 18.5 Configuring Port Timer

## Command Function

This command is used to configure the port timers, including the long timer and the short timer.

## Command Format

```
set lacp timer [short|long] {port <portlist>}*1
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
timer [short long]	<ul style="list-style-type: none"> <li>◆ short: the short timer, whose port transmits the packets every 6 seconds.</li> <li>◆ long: the long timer, whose port transmits the packets every 180 seconds.</li> </ul>	Compulsory parameter
{port <portlist>}*1	The port list. No configuration means selecting all the port timers.	Optional parameter

## Command Example

Set the port timer to the short timer. The port is 19:1.

```
Admin\device\lacp#set lacp timer short port 19:1
Admin\device\lacp#
```

# 18.6 Viewing LACP Aggregate Group Information

## Command function

This command is used to view the information of the LACP aggregate group.

## Command Format

```
show lacp channel-group trunks
```

## Parameter Description

None

## Command Example

View the information of the LACP aggregate group.

```
Admin\device\lacp#show lacp channel-group trunks
Gid  [Agg_no]  [Rtag]  [Port list]
  3    19:3    smac    19:3,19:4
Admin\device\lacp#
```

## Result Description

Parameter	Parameter Description
Gid	The aggregate group number.
Agg_no	The master port of the aggregate group.
Rtag	The forwarding mode. The item is invalid. The actual forwarding mode is determined by the drive.
Port list	The list of the member ports.

## 18.7 Viewing LACP Port Information

### Command Function

This command is used to view the LACP port information.

### Command Format

```
show lacp port [<portlist>|all]
```

### Description

Parameter	Description	Attribute
port [<portlist> all]	<ul style="list-style-type: none"> <li>◆ &lt;portlist&gt;: Views the information of the designated port.</li> <li>◆ all: Views the information of all ports.</li> </ul>	Compulsory

### Command Example

View the LACP port information.

```
Admin\device\lacp#show lacp port all
System ID: 000a.c220.ccf3
Port#[Sys P] [Port P] [Key] [APort] [Syn] [Col] [Dis] [enable] [timer]
19:1 200 300 1 19:1 1 No No enable short
19:2 200 32768 1 19:2 1 No No enable long
19:3 200 32768 1 19:3 1 No No enable long
19:4 200 32768 1 19:4 1 No No enable long
19:5 200 32768 1 19:5 1 No No enable long
19:6 200 32768 1 19:6 1 No No enable long
20:1 200 32768 1 20:1 1 No No enable long
20:2 200 32768 1 20:2 1 No No enable long
20:3 200 32768 1 20:3 1 No No enable long
20:4 200 32768 1 20:4 1 No No enable long
20:5 200 32768 1 20:5 1 No No enable long
20:6 200 32768 1 20:6 1 No No enable long
Admin\device\lacp#
```

### Result Description

Parameter	Description
System ID	The system ID.
Port#	The port number.

Parameter	Description
sys P	The system priority.
Port P	The port priority.
Key	The operation key.
APort	The master port of the aggregate group.
Syn	The synchronization bit flag.
Col	The receiving protocol message switch.
Dis	The forwarding protocol message switch.
enable	The port LACP enabling switch.
timer	The timer.

## 18.8 Viewing LACP System ID

### Command Function

This command is used to view the LACP system ID.

### Command Format

```
show lacp sys-id
```

### Parameter Description

None

### Command Example

View the LACP system ID.

```
Admin\device\lacp#show lacp sys-id
8000, 000a.c220.ccf3
Admin\device\lacp#
```

### Result Description

Parameter	Parameter Description
8000	System priority
000a.c220.ccf3	System ID

## 18.9 Configuring LACP Port Operation Key

### Command Function

This command is used to configure the operation key for the LACP port. The operation key is a configuration combination generated during the port aggregation. The parameters are derived from the configurations of the port (including rate, duplex mode, basic configuration and management key) and should be consistent at both the receiving and transmitting ends.

### Command Format

```
set lacp port <portlist> key <0-65534>
```

### Parameter Description

Parameter	Description	Attribute
port <portlist>	The number of the uplink port.	Compulsory
key <0-65534>	The operation key. The value ranges from 0 to 65534. The default value is 1.	Compulsory

### Command Example

Set the LACP port operation key of the 19:1 uplink port to 1.

```
Admin\device\lacp#set lacp port 19:1 key 1
Admin\device\lacp#
```

# 19 Service Directory Command

---

The following introduces the functions, formats, parameters, and examples of various commands under the Service directory.

- Creating Management VLAN
- Configuring IP Address of Management VLAN
- Viewing Management VLAN
- Deleting Management VLAN
- Configuring Double-tagged Management VLAN
- Modifying Uplink Port of Management VLAN
- Modifying VLAN ID of Management VLAN
- Configuring MTU Value of Management VLAN
- Viewing MTU Value of Management VLAN
- Configuring Static Route
- Deleting Static Route
- Viewing Static Route
- Configuring SNMP Read-write Community
- Configuring Information of Trap Receiver
- Deleting Trap Receiver
- Configuring SNMP Automatic Time Calibration Server
- Viewing SNMP Community Name
- Viewing Information of SNMP Trap Receiver

- Viewing Information of SNMP Automatic Time Calibration Server
- Configuring Trap Message Format
- Adding Ordinary User
- Configuring Administrator as Ordinary User
- Modifying Password of Administrator
- Configuring Administrator as Ordinary User
- Modifying Password of Ordinary User
- Deleting User
- Viewing Current User and Identity Information
- Enabling / Disabling SNMP Service Function
- Enabling / Disabling SNMP Trap Function
- Viewing Status of Current Service
- Telnet Command
- Viewing Information of User Setting up Session with Host
- Viewing Current User Information
- Ping Command
- Configuring ACL Parameters
- Configuring System Content of SNMP
- Viewing System Content of SNMP
- Configuring System Location of SNMP
- Viewing System Location of SNMP
- Configuring Telnet ACL Parameters

- Viewing ACL Information
- Viewing Telnet ACL Information
- Configuring Number of Rows on Terminal Screen
- Trace Route Command
- Configuring Line Identifier / Remote End Identifier Format
- Configuring Line Identifier Access Node Parameters
- Enabling / Disabling DHCP Option18 Function
- Enabling / Disabling DHCP Option82 Function
- Enabling / Disabling DHCP Patch Service
- Enabling / Disabling DHCP Snooping Service
- Configuring DHCP Snooping Trusted Port
- Enabling / Disabling PPPoE Plus Service
- Viewing Line Identifier / Remote End Identifier Format
- Viewing Line Identifier Access Node Parameter Value
- Viewing DHCP Interception Record
- Viewing DHCP Snooping Internal Binding Table
- Viewing DHCP Snooping Current Configuration
- Viewing DHCP Snooping Statistics Information
- Viewing DHCP Status
- Viewing PPPoE Plus Status
- Remote End Identifier Enabling Switch
- Remotely Downloading FTP License File

- Remotely Uploading FTP License File
- Viewing License Usage Condition
- Creating ESN
- Displaying ESN

## 19.1 Creating Management VLAN

### Command Function

This command is used to create the management VLAN.

### Command Format

```
set manage vlan name <name> vid <vid> inputport <portlist> [untagged|tagged]
```

### Description

Parameter	Description	Attribute
name <name>	The name of the management VLAN.	Compulsory
vid <vid>	The VLAN ID of the management VLAN. The value ranges from 1 to 4085.	Compulsory
inputport <portlist>	Port of the management VLAN.	Compulsory
[untagged tagged]	<p>Tag property of the management VLAN's port.</p> <ul style="list-style-type: none"> <li>◆ In the Untagged mode, the tags of the uplink packets will be stripped automatically and the packets will be uplinked in the form of UNTAG when they pass the port, whereas the downlink UNTAG packets will be added with designated tags and downlinked in the form of TAG.</li> <li>◆ tagged: The uplink data packets will not be processed at the port and will be transmitted in the original status; the tagged downlink data packets will not be added with the VLAN tag at the port and will be transmitted in the tagged status.</li> </ul>	Compulsory

### Command Example

For the management VLAN, set the name to **test**, VLAN ID to 1000, port to 19:1 and Tag property to Untagged.

```
Admin\service#set manage vlan name test vid 1000 inputport 19:1 untagged
Admin\service#
```

## 19.2 Configuring IP Address of Management VLAN

### Command Function

This command is used to configure the IP address of the management VLAN, i.e., the IP address of the in-band NMS interface on the equipment.

### Command Format

```
set manage vlan name <name> ip <A.B.C.D/M> {<A.B.C.D>} *1
```

### Parameter Description

Parameter	Description	Attribute
name <name>	The name of the management VLAN.	Compulsory
ip <A.B.C.D/M>	IP address of the management VLAN. M identifies the bit number of the corresponding subnet mask.	Compulsory
{<A.B.C.D>} *1	The gateway of the management VLAN.	Optional

### Command Example

For the management VLAN named **test**, set the IP address to 10.98.20.1 and the subnet mask bit number to 24.

```
Admin\service#set manage vlan name test ip 10.98.20.1/24
Admin\service#
```

## 19.3 Viewing Management VLAN

### Command Function

This command is used to view the information of the configured management VLAN.

### Command Format

```
show manage vlan [<name>|all]
```

## Description

Parameter	Description	Attribute
[<name> all]	<ul style="list-style-type: none"> <li>◆ &lt;name&gt;: Views the information of the management VLAN with the configured name.</li> <li>◆ all: Views the information of all management VLANs.</li> </ul>	Compulsory

## Command Example

View the information of the management VLAN **test**.

```
Admin\service#show manage vlan test
manage vlan config
VLAN name      : test
VLAN ID        : 1000
IP Address     : 10.98.20.1/24
Mac address    : 00:0a:c2:20:cc:f3
Tagged Ports   :
Untagged Ports : 19:1
Admin\service#
```

## Result Description

Parameter	Description
VLAN name	The VLAN name.
VLAN ID	The VLAN value.
IP Address	IP address.
Mac address	MAC address.
Tagged Ports	The ports whose property is Tagged.
Untagged Ports	The ports whose property is Untagged.

# 19.4 Deleting Management VLAN

## Command Function

This command is used to delete the configured management VLAN.

## Command Format

```
delete manage vlan name <name>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
name <name>	Name of the designated management VLAN.	Compulsory parameter

## Command Example

Delete the management VLAN named **test**.

```
Admin\service# delete manage vlan name test
```

```
Admin\service#
```

# 19.5 Configuring Double-tagged Management VLAN

## Command Function

This command is used to configure the double-tagged management VLAN.

## Command Format

```
set manage vlan name <name> svid <svid> cvid <cvid> portlist <portlist>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
name <name>	The name of the management VLAN.	Compulsory parameter
svid <svid>	The management SVLAN ID value. The value ranges from 1 to 4085.	Compulsory parameter
cvid <cvid>	The management CVLAN ID value. The value ranges from 1 to 4085.	Compulsory parameter
portlist <portlist>	Uplink port of the management VLAN.	Compulsory parameter

## Command Example

Set the name of the double-tagged management VLAN to **fh**, the SVLAN ID to 666, the CVLAN ID to 888 and the uplink port number to 19:2.

```
Admin\service#set manage vlan name fh svid 666 cvid 888 portlist 19:2
Admin\service#
```

## 19.6 Modifying Uplink Port of Management VLAN

### Command Function

This command is used to modify the uplink port of the management VLAN.

### Command Format

```
set manage vlan name <name> modify inputport <portlist>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
name <name>	The name of the management VLAN.	Compulsory parameter
inputport <portlist>	Uplink port of the management VLAN.	Compulsory parameter

### Command Example

Modify the uplink port of the management VLAN named **test** to 19:1.

```
Admin\service#set manage vlan name test modify inputport 19:1
Admin\service#
```

## 19.7 Modifying VLAN ID of Management VLAN

### Command Function

This command is used to modify the VLAN ID of the management VLAN.

### Command Format

```
set manage vlan name <name> modify vid <vid>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<name>	The name of the management VLAN.	Compulsory parameter
<vid>	The VLAN ID of the management VLAN.	Compulsory parameter

## Command Example

Modify the the VLAN ID value of the management VLAN named **test** to 1002.

```
Admin\service#set manage vlan name test modify vid 1002
port = 19:1
Admin\service#
```

## 19.8 Configuring MTU Value of Management VLAN

### Command Function

This command is used to configure the MTU value of the management VLAN.

### Command Format

```
set manage vlan name <name> MTU <68-1500>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
name <name>	The name of the management VLAN.	Compulsory parameter
MTU <68-1500>	The maximum transmission unit. The value ranges from 68 to 1500.	Compulsory parameter

### Command Example

Set the MTU value of the management VLAN named **test** to 1000.

```
Admin\service#set manage vlan name test mtu 1000
Admin\service#
```

## 19.9 Viewing MTU Value of Management VLAN

### Command Function

This command is used to view the MTU value of the management VLAN.

### Command Format

```
show manage vlan name <name> MTU
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
name <name>	The name of the management VLAN.	Compulsory parameter

## Command Example

View the MTU value of the management VLAN named **test**.

```
Admin\service#show manage vlan name test mtu
VLAN name      : test
VLAN MTU       : 1000
Admin\service#
```

## Result Description

Parameter	Parameter Description
VLAN name	The name of the management VLAN.
VLAN MTU	The maximum transmission unit.

# 19.10 Configuring Static Route

## Command Function

This command is used to configure the static route from the equipment to the destination network. The configuration involves the IP address, the gateway and the subnet mask of the destination network.

## Command Format

```
add static route destination <A.B.C.D> gateway <A.B.C.D> mask <A.B.C.D>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
destination <A.B.C.D>	IP address of the destination network.	Compulsory parameter
gateway <A.B.C.D>	Gateway of the destination network.	Compulsory parameter
mask <A.B.C.D>	Subnet mask of the destination network.	Compulsory parameter

## Command Example

Set the IP address of the destination network in the static route to 10.92.20.2, the gateway to 10.92.1.254 and the subnet mask to 255.255.0.0.

```
Admin\service# add static route destination 10.92.20.2 gateway 10.92.1.254 mask 255.255.0.0
```

```
Admin\service#
```

## 19.11 Deleting Static Route

### Command function

This command is used to delete the static route.

### Command Format

```
delete static route destination <A.B.C.D> mask <A.B.C.D>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
destination <A.B.C.D>	IP address of the destination network.	Compulsory parameter
mask <A.B.C.D>	Mask of the destination network.	Compulsory parameter

### Command Example

Delete the static routing whose destination network's IP address is 10.92.20.2 and mask is 255.255.0.0.

```
Admin\service# delete static route destination 10.92.20.2 mask 255.255.0.0
```

```
Admin\service#
```

## 19.12 Viewing Static Route

### Command Function

This command is used to view the static route.

### Command Format

```
show static route
```

### Parameter Description

None

### Command Example

View the configured static route.

```
Admin\service# show static route

global route table:
Destination          Gateway              Mask
-----
10.92.20.2           10.92.1.254         255.0.0.0
-----

Admin\service#
```

### Result Description

Parameter	Parameter Description
global route table	Global route table.
Destination	IP address of the destination network.
Gateway	IP address of the destination network gateway.
Mask	Subnet mask of the destination network.

## 19.13 Configuring SNMP Read-write Community

### Command Function

This command is used to configure the read-write community of the SNMP.

### Command Format

```
set snmp community [readwrite] <string>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<string>	Name of the SNMP read-write community.	Compulsory parameter

### Command Example

Configure the SNMP read-write community named **ADSL**.

```
Admin\service#set snmp community readwrite adsl
Admin\service#
```

## 19.14 Configuring Information of Trap Receiver

### Command Function

This command is used to configure the information of the Trap receiver. The equipment will send the Trap message to the NMS server that matches the receiving address, including: IP address of the Trap receiver, SNMP version number and the Trap community name.

### Command Format

```
set snmp Trapreceiver add <A.B.C.D> version [v1|v2c] {community <string>}*1
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<A.B.C.D>	IP address of the Trap receiver.	Compulsory parameter
version [v1 v2c]	The SNMP version number.	Compulsory parameter
{community <string>}	The Trap community name.	Optional parameter

## Command Example

Set IP address of the Trap receiver to 10.92.20.61, the SNMP version number to V2C and the community name to **ADSL**.

```
Admin\service#set snmp trapreceiver add 10.92.20.61 version v2c community adsl
Admin\service#
```

## 19.15 Deleting Trap Receiver

### Command Function

This command is used to delete the Trap receiver with the designated IP address.

### Command Format

```
set snmp trapreceiver delete <A.B.C.D>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<A.B.C.D>	IP address of the Trap receiver.	Compulsory parameter

### Command Example

Delete the Trap receiver whose IP address is 192.168.1.1.

```
Admin\service# set snmp trapreceiver delete 192.168.1.1
```

```
Admin\service#
```

## 19.16 Configuring SNMP Automatic Time Calibration Server

### Command Function

This command is used to configure the IP address and time calibration interval of the SNMP automatic time calibration server.

## Command Format

```
set snmp_time_cfg interval <0-86400> serv_addr <A.B.C.D>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
interval <0-86400>	Interval of the SNMP automatic time calibration, i.e., the time interval that the equipment sends the automatic time calibration requests. The parameter value ranges between 0 and 86400, and the unit is second.	Compulsory parameter
serv_addr <A.B.C.D>	IP address of the SNMP time calibration server.	Compulsory parameter

## Command Example

Set the time interval of SNMP automatic time calibration to 3600 and the IP address of the SNMP time calibration server to 10.92.20.1.

```
Admin\service#set snmp_time_cfg interval 3600 serv_addr 10.92.20.1
set time method ok!
Admin\service#
```

# 19.17 Viewing SNMP Community Name

## Command Function

This command is used to view the name of the SNMP community.

## Command Format

```
show snmp community
```

## Parameter Description

None

## Command Example

View the name of the SNMP community.

```
Admin\service#show snmp community
Read-write Community String is :[adsl]
Admin\service#
```

## Result Description

Parameter	Parameter Description
Read-write Community String	Name of the SNMP read-write community.

# 19.18 Viewing Information of SNMP Trap Receiver

## Command Function

This command is used to view the information of the SNMP Trap receiver, including: IP address of the Trap receiver, the SNMP version number and the Trap community name.

## Command Format

```
show snmp trapreceiver
```

## Parameter Description

None

## Command Example

View the information of the SNMP Trap receiver.

```
Admin\service#show snmp trapreceiver
Snm agent Trap is up.
IP address           Version           Community
10.94.20.241         v2c              public
10.92.20.61          v2c              adsl
Total 2 Trapreceiver IP address in system.
Admin\service#
```

## Result Description

Parameter	Parameter Description
IP address	IP address of the Trap receiver.
Version	The SNMP version number.
Community	The Trap community name.

## 19.19 Viewing Information of SNMP Automatic Time Calibration Server

### Command Function

This command is used to view the information of the SNMP automatic time calibration server.

### Command Format

```
show snmp_time_cfg
```

### Parameter Description

None

### Command Example

View the information of the SNMP automatic time calibration server.

```
Admin\service#show snmp_time_cfg  
SNMP TIME CONFIG  
INTERVAL=3600  
SERV IP =10.92.20.1  
Admin\service#
```

## Result Description

Parameter	Parameter Description
INTERVAL	Interval of the SNMP automatic time calibration.
SERV IP	IP address of the SNMP automatic time calibration server.

## 19.20 Configuring Trap Message Format

### Command Function

This command is used to configure the format of the Trap message. The format can be either the standard format or the private format.

### Command Format

```
set trap <A.B.C.D> Version [privformat|stdformat]
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
trap <A.B.C.D>	IP address of the Trap receiver.	Compulsory parameter
[privformat stdformat]	The Trap message format. ◆ privformat: the private format. ◆ stdformat: the standard format.	Compulsory parameter

### Command Example

Set the format of the messages transmitted to the Trap receiver whose IP address is 10.92.20.61 to standard format.

```
Admin\service#set trap 10.92.20.61 version stdformat
Admin\service#
```

## 19.21 Adding Ordinary User

### Command Function

This command is used to add the ordinary user (including the user name and password).

### Command Format

```
user add <username> login-password <login_password>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<username>	The user name. A character string whose length is between 4 and 20 characters.	Compulsory parameter
<login_password>	The password. A character string whose length is between 6 and 20 characters.	Compulsory parameter

## Command Example

Add an ordinary user **test** whose password is 123456.

```
Admin\service# user add test login-password 123456
```

```
Successfully added user test as a NORMAL_USER ,
To change user role use "user role" command .
```

```
Admin\service#
```

# 19.22 Configuring Administrator as Ordinary User

## Command Function

This command is used to set an ordinary user to an administrator.

## Command format

```
user role <username> ADMIN enable-password <enable_password>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<username>	Name of the ordinary user.	Compulsory parameter
<login_password>	Password of the administrator. A character string whose length is between 6 and 20 characters.	Compulsory parameter

## Command Example

Set the ordinary user **test** to the administrator and the admin-level password is 123456.

```
Admin\service#user role test admin enable-password 123456
Successfully change user test to ADMIN mode.
Admin\service#
```

## 19.23 Modifying Password of Administrator

### Command Function

This command is used to modify the password of the administrator.

### Command Format

```
user enable-password <username>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<username>	Name of the administrator.	Compulsory parameter

### Command Example

Modify the password of the administrator **test** to 654321, a character string whose length is between 6 to 20 characters.

```
Admin\service# user enable-password test

Input new enable password for user test please.
New Password:*****
Confirm Password:*****
Successfully changed password!.

Admin\service#
```

## 19.24 Configuring Administrator as Ordinary User

### Command Function

This command is used to set an administrator to an ordinary user.

### Command Format

```
user role <username> NORMAL
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<username>	Name of the administrator.	Compulsory parameter

### Command Example

Set the administrator **test** to an ordinary user.

```
Admin\service#user role test normal  
Successfully change user test to NORMAL mode.  
Admin\service#
```

## 19.25 Modifying Password of Ordinary User

### Command Function

This command is used to modify the password of the ordinary user.

### Command Format

```
user login-password <username>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<username>	Name of the ordinary user.	Compulsory parameter

## Command Example

Modify the password of the ordinary user **test** to 987456, a character string whose length is between 6 to 20 characters.

```
Admin\service# user login-password test

Input new login password for user test please.
New Password:*****
Confirm Password:*****
Successfully changed password!.

Admin\service#
```

## 19.26 Deleting User

### Command Function

This command is used to delete the ordinary user and the administrator.

### Command Format

```
user delete <username>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<username>	The user name.	Compulsory parameter

### Command Example

Delete the user named **test**.

```
Admin\service#user delete test
Successfully delete user test .
Admin\service#
```

## 19.27 Viewing Current User and Identity Information

### Command Function

This command is used to view the current user and corresponding identity information.

### Command Format

```
user list
```

### Parameter Description

None

### Command Example

View the current user and corresponding identity information.

```
Admin\service#user list
UserName ----- User_role -----
GEPON                ADMIN_USER
test                 ADMIN_USER
Total 2 users in system.
Admin\service#
```

### Result Description

Parameter	Parameter Description
UserName	The user name.
User_role	The identity information.

## 19.28 Enabling / Disabling SNMP Service Function

### Command Function

This command is used to enable or disable the SNMP service function.

### Command Format

```
service snmp [enable|disable]
```

## Description

Parameter	Description	Attribute
snmp [enable disable]	The function of the SNMP service. <ul style="list-style-type: none"> <li>◆ enable: Enables the function.</li> <li>◆ disable: Disables the function.</li> </ul>	Compulsory

## Command Example

Enable the SNMP service function.

```
Admin\service#service snmp enable
Successfully changed snmp agent service to up.
Admin\service#
```

# 19.29 Enabling / Disabling SNMP Trap Function

## Command Function

This command is used to enable or disable the Trap function of the SNMP. After the Trap function is disabled, the NMS can no longer receive the alarm information reported in the Trap mode (while the FiberHome's GUI based network management system ANM2000 can obtain the equipment's alarm information via regular polling).

## Command Format

```
service snmp trap [enable|disable]
```

## Description

Parameter	Description	Attribute
snmp trap [enable disable]	The SNMP Trap service. <ul style="list-style-type: none"> <li>◆ enable: Enables the function.</li> <li>◆ disable: Disables the function.</li> <li>◆ The system default setting is enable.</li> </ul>	Compulsory

## Command Example

Enable the SNMP Trap function.

```
Admin\service#service snmp trap enable
Successfully changed snmp agent to support trap.
```

```
Admin\service#
```

## 19.30 Viewing Status of Current Service

### Command Function

This command is used to view the status of the current service.

### Command Format

```
show services
```

### Parameter Description

None

### Command Example

View the status of the current service mode.

```
Admin\service#show services  
Service telnet is up.  
Service snmp agent is up.  
Admin\service#
```

### Result Description

Parameter	Parameter Description
Service telnet	The status of the Telnet service.
Service snmp agent	The status of the SNMP service.

## 19.31 Telnet Command

### Command Function

This command is used to access the object of the designated IP address in the Telnet mode.

### Command Format

```
telnet <A.B.C.D> {<1-65535>}*1
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<A.B.C.D>	IP address of the Telnet object.	Compulsory parameter
{<1-65535>}*1	Port number of the Telnet object. The value ranges from 1 to 65535.	Optional parameter

### Command Example

The IP address of the Telnet object is 10.25.100.12.

```
Admin\service# telnet 10.25.100.12

Trying 10.25.100.12...
Press Ctrl-Q or Ctrl-Y to abort connect.
Connected to 10.25.100.12.
Press Ctrl-Q or Ctrl-Y to force exit telnet.
Login:
```

## 19.32 Viewing Information of User Setting up Session with Host

### Command Function

This command is used to view the information of the user that sets up the session with the host.

### Command Format

```
who
```

### Parameter Description

None

### Command Example

View the information of the user that sets up the session with the host.

```
Admin\service#who
SessionID. - UserName ----- LOCATION ----- MODE ----
3           console           VIEW
19          10.92.244.200     VIEW (That's me.)
Total 2 sessions in current system.
Admin\service#
```

## Result Description

Parameter	Parameter Description
SessionID	ID number of the user.
UserName	The user name.
LOCATION	Indicates the login method or the IP address of the login user.
MODE	The read-only authority or the configuration authority.
Total	Number of the current users that log in the system.

## 19.33 Viewing Current User Information

### Command Function

This command is used to view the information of the current user.

### Command Format

```
who am i
```

### Parameter Description

None

### Command Example

View the information of the current user.

```
Admin\service#who am i
I am Session [3] : user connected from console.
Admin\service#
```

## Result Description

Parameter	Parameter Description
Session [3]	The information of the current user whose user ID is 3.

## 19.34 Ping Command

### Command Function

This command is used to check whether the network connection is normal or the active-standby communication is normal.

### Command Format

```
ping {[-t]}*1 {[-count] <1-65535>}*1 {[-size] <1-6400>}*1 {[-waittime] <1-255>}*1 {[-ttl] <1-255>}*1 {[-pattern] <user_pattern>}*1 <A.B.C.D>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
{[-t]}*1	The Ping command is delivered repeatedly until the manual stop is configured.	Optional parameter
{[-count] <1-65535>}*1	The times of Ping responding.	Optional parameter
{[-size] <1-6400>}*1	Size of the Ping ICMP packet.	Optional parameter
{[-waittime] <1-255>}*1	Waiting time for the Ping response delay.	Optional parameter
{[-ttl] <1-255>}*1	The TTL time of Ping.	Optional parameter
{[-pattern] <user_pattern>}*1	The user data loaded on the Ping ICMP packet.	Optional parameter
<A.B.C.D>	Destination address of the Ping packet.	Compulsory parameter

### Command Example

Ping the designated IP address 10.22.100.1.

```
Admin\service#ping 10.22.100.1
PING 10.22.100.1 : 56 data bytes.
Press Ctrl-c to Stop.
Reply from 10.22.100.1 : bytes=56: icmp_seq=0 ttl=64 time=20 ms
Reply from 10.22.100.1 : bytes=56: icmp_seq=1 ttl=64 time<10 ms
```

```

Reply from 10.22.100.1 : bytes=56: icmp_seq=2 ttl=64 time=10 ms
Reply from 10.22.100.1 : bytes=56: icmp_seq=3 ttl=64 time<10 ms
Reply from 10.22.100.1 : bytes=56: icmp_seq=4 ttl=64 time=10 ms
----10.22.100.1 PING Statistics----
5 packets transmitted, 5 packets received, 0% packet loss
round-trip(ms) min/avg/max = 0/8/20
Admin\service#

```

## 19.35 Configuring ACL Parameters

### Command Function

This command is used to configure the address for the host or server that can access the equipment. After the ACL (Access Control List) is enabled, only the NMS on the designated server can access the equipment or only the designated host can Telnet to the equipment.

### Command Format

```
set acl <1-6> {[ip] <A.B.C.D>}*1 {[mask] <A.B.C.D>}*1 {[enable|disable]}*1
```

### Description

Parameter	Description	Attribute
acl <1-6>	The ACL number. The value ranges from 1 to 6.	Compulsory
{[ip] <A.B.C.D>}*1	The designated IP address.	Optional
{[mask] <A.B.C.D>}*1	The designated mask address.	Optional
{[enable disable]}*1	Sets whether to enable the ACL accessing function in this operation time. ◆ enable: Enables the function. ◆ disable: Disables the function.	Optional

### Command Example

Set the ACL number to 1, allow only the host or server whose IP address is 10.92.20.61 and mask is 255.255.0.0 to access the equipment, and enable the ACL function.

```
Admin\service#set acl 1 ip 10.92.20.61 mask 255.255.0.0 enable
Admin\servic
```

## 19.36 Configuring System Content of SNMP

### Command Function

This command is used to configure the system content.

### Command Format

```
set syscontact <contact>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<contact>	Value of the system content. It should include no more than 100 characters.	Compulsory parameter

### Command Example

Set the system content value to 456.

```
Admin\service#set syscontact 456
System contact is set to:
456
Admin\service#
```

## 19.37 Viewing System Content of SNMP

### Command Function

This command is used to view the system content of SNMP.

### Command Format

```
show syscontact
```

### Parameter Description

None

## Command Example

View the system content of SNMP.

```
Admin\service#show syscontact
456
Admin\service#
```

## 19.38 Configuring System Location of SNMP

### Command function

This command is used to configure the location of the system.

### Command Format

```
set syslocation <location>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<location>	Value of the system location. It should include no more than 100 characters.	Compulsory parameter

### Command example

Set the the system location of the SNMP to 123.

```
Admin\service#set syslocation 123
System contact is set to:
123
Admin\service#
```

## 19.39 Viewing System Location of SNMP

### Command Function

This command is used to view the system location of SNMP.

## Command Format

```
show syslocation
```

## Parameter Description

None

## Command Example

View the system location of SNMP.

```
Admin\service#show syslocation
123
Admin\service#
```

# 19.40 Configuring Telnet ACL Parameters

## Command Function

This command is used to configure the address of the host that can Telnet to the equipment. After this command is delivered, only the designated host can Telnet to the equipment. You can configure the specific limiting range with this command. Different from the previous **configuring ACL parameters** command, this command restrains the external host or server from Telneting to the equipment rather than restricts other kinds of communication such as Ping or SNMP.

## Command Format

```
set telnet acl <1-6> {[ip] <A.B.C.D>}*1 {[mask] <A.B.C.D>}*1 {[enable |
disable]}*1
```

## Description

Parameter	Description	Attribute
acl <1-6>	The Telnet ACL number. The value ranges from 1 to 6.	Compulsory
{[ip] <A.B.C.D>}*1	The designated IP address.	Optional

Parameter	Description	Attribute
{ [mask] <A.B.C.D> } *1	The designated mask address.	Optional
{ [enable disable] } *1	Sets to enable or disable the Telnet ACL function in this operation. <ul style="list-style-type: none"> <li>◆ enable: Enables the function.</li> <li>◆ disable: Disables the function.</li> </ul>	Optional

## Command Example

Set the ACL number to 1, allow only the host or server whose IP address is 10.92.20.203 and mask is 255.255.0.0 to access the equipment, and enable the ACL function.

```
Admin\service#set telnet acl 1 ip 10.92.20.203 mask 255.255.0.0 enable
Admin\service#
```

## 19.41 Viewing ACL Information

### Command Function

This command is used to view the ACL information.

### Command Format

```
show acl
```

### Parameter Description

None

### Command Example

View the ACL Information.

```
Admin\service#show acl
----- Access Control Label -----
No      IP                Mask              Status
1       10.92.20.61      255.255.0.0      enable
2       0.0.0.0          0.0.0.0          disable
3       0.0.0.0          0.0.0.0          disable
4       0.0.0.0          0.0.0.0          disable
```

```

5      0.0.0.0      0.0.0.0      disable
6      0.0.0.0      0.0.0.0      disable
Admin\service#

```

## Result Description

Parameter	Parameter Description
No	The ACL number.
IP	The IP address.
Mask	The subnet mask address.
Status	The ACL service status.

## 19.42 Viewing Telnet ACL Information

### Command Function

This command is used to view the Telnet ACL information.

### Command Format

```
show telnet acl
```

### Parameter Description

None

### Command Example

View the Telnet ACL information.

```

Admin\service#show telnet acl
-----Telnet  Access Control Label -----
No      IP          Mask          Status
1      10.92.20.61  255.255.0.0  enable
2      0.0.0.0     0.0.0.0     disable
3      0.0.0.0     0.0.0.0     disable
4      0.0.0.0     0.0.0.0     disable
5      0.0.0.0     0.0.0.0     disable
6      0.0.0.0     0.0.0.0     disable
Admin\service#

```

## Result Description

Parameter	Parameter Description
No	Telnet ACL
IP	The IP address
Mask	The subnet mask address.
Status	The enabling status of the Telnet ACL function.

## 19.43 Configuring Number of Rows on Terminal Screen

### Command Function

This command is used to configure the number of rows displayed on the terminal screen. This command is a project commissioning command that will not be displayed in the window. The use of this command is restricted.

### Command Format

```
terminal length <value>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<value>	Number of the rows displayed on the terminal screen. The value ranges from 0 to 512.	Compulsory parameter

### Command Example

Set the number of rows displayed on the terminal screen to 300.

```
Admin\service#terminal length 300  
Admin\service#
```

## 19.44 Trace Route Command

### Command Function

This command is used to trace the routing path from the equipment to the designated destination IP address.

## Command Format

```
tracert <A.B.C.D> {<1-30>}
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<A.B.C.D>	The destination IP address to be traced.	Compulsory parameter
{<1-30>}	The maximum tracing hop number.	Optional parameter

## Command Example

Configures to trace the routing path from the equipment to the destination IP address 10.92.1.254.

```
Admin\service#tracert 10.92.1.254
please wait minites....
Tracing route to 10.92.1.254 over a maximum of 10 hops
1    <1 ms    <1 ms    <1 ms    10.92.1.254
Trace complete.
Admin\service#
```

# 19.45 Configuring Line Identifier / Remote End Identifier Format

## Command Function

This command is used to configure the format of the line identifier or the remote end identifier and confirm how to add user information and equipment information in the data packets, so as to facilitate the higher-layer BRAS equipment's management.

## Command Format

```
set [circuit_id|remote_id] format [<format_str>|ctc|cnc]
```

## Description

Parameter	Description	Attribute
[circuit_id remote_id]	<ul style="list-style-type: none"> <li>◆ circuit_id: the line identifier format.</li> <li>◆ remote_id: the remote end identifier format.</li> </ul>	Compulsory
[<format_str> ctc cnc]	<ul style="list-style-type: none"> <li>◆ &lt;format_str&gt;: the customized format.</li> <li>◆ ctc: the CTC format, which means the standard of China Telecom Corporation.</li> <li>◆ cnc: the CNC format, which means the standard of China Netcom Corporation.</li> </ul>	Compulsory

## Command Example

Set the line identifier format to CNC.

```
Admin\service#set circuit_id format cnc
Admin\service#
```

# 19.46 Configuring Line Identifier Access Node Parameters

## Command Function

This command is used to configure the identifier, cabinet number, and subrack number of the line identifier access node.

## Command Format

```
set circuit_id accessNodeIdentifier <identifier> ani_rack <0-31> ani_frame
<0-127>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<code>accessNodeIdentifier</code> <identifier>	Identifier format of the access node. A character string that should include no more than 50 characters, sans spaces.	Compulsory parameter
<code>ani_rack &lt;0-31&gt;</code>	Cabinet number of the access node. The value range is 0 to 31. The valid value range varies with the operator.	Compulsory parameter
<code>ani_frame &lt;0-127&gt;</code>	Subrack number of the access node. The value range is 0 to 127. The valid value range varies with the operator.	Compulsory parameter

## Command Example

Set the line identifier access node identifier to **abcdefg**, the cabinet number to 20, the subrack number to 100.

```
Admin\service#set circuit_id accessnodeidentifier abcdefg ani_rack 20 ani_frame 100
Admin\service#
```

# 19.47 Enabling / Disabling DHCP Option18 Function

## Command Function

This command is used to enable or disable the DHCP Option18 function.

## Command Format

```
set dhcp option18 [enable|disable]
```

## Description

Parameter	Description	Attribute
[enable disable]	The DHCP Option18 line identifying service. ◆ enable: Enables the function. ◆ disable: Disables the function.	Compulsory

## Command Example

Enable the DHCP Option18 service.

```
Admin\service#set dhcp option18 enable
Admin\service#
```

## 19.48 Enabling / Disabling DHCP Option82 Function

### Command Function

This command is used to enable or disable the DHCP Option82 function.

### Command Format

```
set dhcp option82 [enable|disable]
```

### Description

Parameter	Description	Attribute
[enable disable]	The DHCP Option82 line identifying service. ◆ enable: Enables the function. ◆ disable: Disables the function.	Compulsory

## Command Example

Enable the DHCP Option12 service.

```
Admin\service#set dhcp option82 enable
Admin\service#
```

## 19.49 Enabling / Disabling DHCP Patch Service

### Command Function

This command is used to enable or disable the DHCP patch service.

### Command Format

```
set dhcp patch [enable|disable]
```

## Description

Parameter	Description	Attribute
[enable disable]	The DHCP patch service (only available for EPON services). <ul style="list-style-type: none"> <li>◆ enable: Enables the function.</li> <li>◆ disable: Disables the function.</li> </ul>	Compulsory

## Command Example

Enable the DHCP patch service.

```
Admin\service#set dhcp patch enable
Admin\service#
```

## 19.50 Enabling / Disabling DHCP Snooping Service

## Command Function

This command is used to enable or disable the DHCP Snooping service.

## Command Format

```
set dhcp snooping [enable|disable]
```

## Description

Parameter	Description	Attribute
[enable disable]	The DHCP Snooping service. <ul style="list-style-type: none"> <li>◆ enable: Enables the function.</li> <li>◆ disable: Disables the function.</li> </ul>	Compulsory

## Command Example

The DHCP Snooping service is enabled.

```
Admin\service#set dhcp snooping enable
Admin\service#
```

## 19.51 Configuring DHCP Snooping Trusted Port

### Command Function

This command is used to configure the DHCP Snooping trusted port.

### Command Format

```
set dhcp snooping { [port] <portlist> [trust|untrust] } *1 { [serv] <A.B.C.D>
[trust|untrust] } *1
```

### Description

Parameter	Description	Attribute
{ [port] <portlist> [trust untrust] } *1	<ul style="list-style-type: none"> <li>◆ &lt;portlist&gt;: the port list.</li> <li>◆ [trust untrust]: trusted or untrusted.</li> </ul>	Optional
{ [serv] <A.B.C.D> [trust untrust] } *1	<ul style="list-style-type: none"> <li>◆ &lt;A.B.C.D&gt;: the service end IP list.</li> <li>◆ [trust untrust]: trusted or untrusted.</li> </ul>	Optional

### Command Example

Configure the DHCP Snooping trusted port 20:1 and untrusted service end 10.1.1.1.

```
Admin\service#set dhcp snooping port 20:1 trust serv 10.1.1.1 untrust
Admin\service#
```

## 19.52 Enabling / Disabling PPPoE Plus Service

### Command Function

This command is used to enable or disable the PPPoE Plus service.

### Command Format

```
set pppoe_plus [enable|disable]
```

### Description

Parameter	Description	Attribute
[enable disable]	<p>The PPPoE Plus service.</p> <ul style="list-style-type: none"> <li>◆ enable: Enables the proxy range.</li> <li>◆ disable: Disables the function.</li> </ul>	Compulsory

## Command Example

Enable the PPPoE Plus service.

```
Admin\service#set pppoe_plus enable
Admin\service#
```

## 19.53 Viewing Line Identifier / Remote End Identifier Format

### Command Function

This command is used to view the line identifier / remote end identifier format.

### Command Format

```
show [remote_id|circuit_id] format
```

### Description

Parameter	Description	Attribute
[circuit_id remote_id]	<ul style="list-style-type: none"> <li>◆ circuit_id: the line identifier format.</li> <li>◆ remote_id: the remote end identifier format.</li> </ul>	Compulsory

### Command Example

View the line identifier format information.

```
Admin\service#show circuit_id format
Circuit ID format: CNC Standard
Admin\service#
```

### Result Description

Parameter	Description
Circuit ID format	The line identifier format.

## 19.54 Viewing Line Identifier Access Node Parameter Value

### Command Function

This command is used to view the line identifier access node parameter value.

### Command Format

```
show circuit_id value
```

### Parameter Description

None

### Command Example

View the line identifier access node parameter value.

```
Admin\service#show circuit_id value
AccessNodeIdentifier : abcdefg
ANI rack             : 20
ANI frame            : 100
Admin\service#
```

### Result Description

Parameter	Parameter Description
AccessNodeIdentifier	The access node identifier.
ANI rack	Cabinet number of the access node.
ANI frame	Subrack number of the access node.

## 19.55 Viewing DHCP Interception Record

### Command Function

This command is used to view the record of the intercepted DHCP attackers.

### Command Format

```
show dhcp drop_records [mac_bogus|ip_bogus|vlan_bogus|port_bogus|
untrusted_server|all]
```

## Description

Parameter	Description	Attribute
[mac_bogus ip_bogus vlan_bogus port_bogus untrusted_server all]	<p>The DHCP interception record.</p> <ul style="list-style-type: none"> <li>◆ mac_bogus: the MAC spoofing interception record.</li> <li>◆ ip_bogus: the IP spoofing interception record.</li> <li>◆ vlan_bogus: the VLAN spoofing interception record.</li> <li>◆ port_bogus: the port spoofing interception record.</li> <li>◆ untrusted_server: the untrusted service end spoofing interception record.</li> <li>◆ all: all interception records.</li> </ul>	Compulsory

## Command Example

View all DHCP interception records.

```
Admin\service#show dhcp drop_records all
-----mac bogus clients-----
mac:[00-0a-c2-b3-01-01] ip:10.90.20.166 2011-12-21 21:06:35
-----mac bogus clients end-----
-----ip bogus clients-----
-----vlan bogus clients-----
-----port bogus clients-----
-----untrusted servers-----
Admin\service#
```

## Result Description

Parameter	Description
mac	The physical address.
ip	IP address.
2011-12-21 21:06:35	The exact time.

## 19.56 Viewing DHCP Snooping Internal Binding Table

### Command Function

This command is used to view the DHCP Snooping internal MAC address binding table.

### Command Format

```
show dhcp snooping binding_table {mac <value>} *1
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
{mac <value>} *1	The MAC table.	Optional parameter

### Command Example

View all the DHCP Snooping internal binding tables whose MAC address is 002186ef1ba6.

```
Admin\service#show dhcp snooping binding_table mac 002186ef1ba6
=====MAC-IP BINDING TABLE [7]=====
-----
mac addr: 00-21-86-ef-1b-a6
ip addr: 10.94.20.151
vlan id: 100
portno: 19
ip lease time: 691200
audit time: 687600
=====
Admin\service#
```

### Result Description

Parameter	Parameter Description
MAC-IP BINDING TABLE [i]	[i] represents the total number of MAC-IP bindings.
mac addr	The physical address.
vlan id	VLAN ID.
portno	The port number.

Parameter	Parameter Description
ip lease time	The IP lease term.
audit time	The configured aging time (unit: second).

## 19.57 Viewing DHCP Snooping Current Configuration

### Command Function

This command is used to view the current DHCP Snooping operation configuration information.

### Command Format

```
show dhcp snooping running_cfg
```

### Parameter Description

None

### Command Example

View the current DHCP Snooping operation configuration information.

```
Admin\service#show dhcp snooping running_cfg
!dhcp snooping enable/disable cfg -----
set dhcp snooping enable
!dhcp snooping enable/disable cfg end-----
!dhcp snooping trusted port cfg -----
set dhcp snooping port 20:1 trust
!dhcp snooping trusted port cfg end-----
Admin\service#
```

### Result Description

Parameter	Parameter Description
set dhcp snooping enable	The DHCP Snooping service is enabled.
set dhcp snooping port 20:1 trust	The DHCP Snooping trusted port is configured.

## 19.58 Viewing DHCP Snooping Statistics Information

### Command Function

This command is used to view the DHCP Snooping statistics information.

### Command Format

```
show dhcp snooping statistics <0-1>
```

### Description

Parameter	Description	Attribute
statistics <0-1>	<p>The displaying mode of the statistics information.</p> <ul style="list-style-type: none"> <li>◆ 0: Clears the information after displaying the statistic information.</li> <li>◆ 1: Does not clear the information after displaying the statistic information.</li> </ul>	Compulsory

### Command Example

View the DHCP Snooping statistics information in the 0 mode.

```
Admin\service#show dhcp snooping statistics 0
=====DHCP SNOOPING STATISTICS=====
pkt all:                5
good pkt:               3
dropped pkt:           2
-----
discover:               1
offer:                  0
request:                0
decline:                1
ack:                    1
nack:                   0
release:                0
inform:                 0
-----
mac bogus:              1
ip bogus:                0
vlan bogus:             1
port bogus:             0
```

```

untrust server:      0
data lost:          0
msg lost:           0
=====
Admin\service#

```

## Result Description

Parameter	Description
pkt all	The total number of packets.
good pkt	The legitimate packet.
dropped pkt	The dropped packet.
discover	The DHCP Discover packet.
offer	The DHCP Offer packet.
request	The DHCP Request packet.
decline	The DHCP Decline packet.
ack	The DHCP ACK packet.
nack	The DHCP NACK packet.
release	The DHCP Release packet.
inform	The DHCP Inform packet.
mac bogus	The MAC spoofing.
ip bogus	The IP spoofing.
vlan bogus	The VLAN spoofing.
port bogus	The port spoofing.
untrust server	The untrusted server.
data lost	The data loss.
msg lost	The message loss.

## 19.59 Viewing DHCP Status

### Command Function

This command is used to view the status of the DHCP service.

### Command Format

```
show dhcp state
```

## Parameter Description

None

## Command Example

View the status information of the DHCP service.

```
Admin\service# show dhcp state
```

```
DHCP option82 : enabled  
DHCP option18 : enabled  
DHCP option37 : enabled  
EPON DHCP Patch: enabled
```

```
Admin\service#
```

## Result Description

Parameter	Parameter Description
DHCP option82	The DHCP Option82 service.
DHCP option18	The DHCP Option18 service.
DHCP option37	The DHCP Option37 service.
EPON DHCP Patch	The EPON DHCP patch service.

# 19.60 Viewing PPPoE Plus Status

## Command Function

This command is used to view the status of the PPPoE Plus service.

## Command Format

```
show pppoe_plus state
```

## Parameter Description

None

## Command Example

View the status information of the PPPoE Plus service.

```
Admin\service#show pppoe_plus state
PPPoE+: Enabled
Admin\service#
```

## Result Description

Parameter	Parameter Description
PPPoE+	The PPPoE Plus service status

# 19.61 Remote End Identifier Enabling Switch

## Command Function

This command is used to configure the remote end identifier enabling switch.

## Command Format

```
set remote_id [enable|disable]
```

## Description

Parameter	Description	Attribute
[enable disable]	The remote end identifier enabling switch. ◆ enable: Enables the function. ◆ disable: Disables the function.	Compulsory

## Command Example

Set to enable the remote end identifier.

```
Admin\service#set remote_id enable
Admin\service#
```

## 19.62 Remotely Downloading FTP License File

### Command Function

This command is used to download the License file to the equipment from the FTP server.

### Command Format

```
Download licenseFile ip <A.B.C.D> user <string> pwd <string> filename
<string>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
ip <A.B.C.D>	The IP address of the FTP server.	Compulsory parameter
user <string>	The FTP user name.	Compulsory parameter
pwd <string>	The FTP password.	Compulsory parameter
filename <string>	The name of the License file to be downloaded.	Compulsory parameter

### Command Example

Download the License file 11.lic to the equipment from the FTP server whose IP address is 10.11.12.13, user name is 1, and password is 1.

```
Admin\service#Download licenseFile ip 10.11.12.13 user 1 pwd 1 filename 11.lic
download license file successful...iRet = 1
Admin\service#
```

## 19.63 Remotely Uploading FTP License File

### Command Function

This command is used to upload the License file from the equipment to the FTP server.

### Command Format

```
upload licenseFile ip <A.B.C.D> user <string> pwd <string> filename <string>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
ip <A.B.C.D>	The IP address of the FTP server.	Compulsory parameter
user <string>	The FTP user name.	Compulsory parameter
pwd <string>	The FTP password.	Compulsory parameter
filename <string>	The name of the file to be uploaded to the FTP server.	Compulsory parameter

## Command Example

Upload the License file from the equipment to the FTP server whose IP address is 10.11.12.13, user name is 1, and password is 1. The name of the generated file is 11.lic.

```
Admin\service#upload licenseFile ip 10.11.12.13 user 1 pwd 1 filename 11.lic
uploadlicensefilesucceed...iRet= 0
Admin\service#
```

# 19.64 Viewing License Usage Condition

## Command Function

This command is used to view the License usage condition.

## Command Format

```
show license usage
```

## Parameter Description

None

## Command Example

View the License usage condition.

```
Admin\service#show license usage
      name      maxAuthValue  actualUsedValue  applyValue
IGMPV3          1             0             0
      RIP          1             0             0
```

```

                OSPF                1                0                0
            I_Class_Onu_Num          32768           0                0
            II_Class_Onu_Num         32768           7                7
            III_Class_Onu_Num        32768           1                1
                Valid Time          65535           0                0
Admin\service#

```

## Result Description

Parameter	Parameter Description
name	The name of the current License.
maxAuthValue	The maximum resource values.
actualUsedValue	The used resource values.
applyValue	The applied resource values.

## 19.65 Creating ESN

### Command function

This command is used to create the ESN.

### Command format

```
set Esn <A.B.C.D>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<A.B.C.D>	The ESN number. It should be the same as the IP address of the management VLAN.	Compulsory parameter

### Command Example

The IP address of the management VLAN is 20.20.20.202, so we create an ESN whose number is 20.20.20.202.

```
Admin\service#set Esn 20.20.20.202
Admin\service#
```

## 19.66 Displaying ESN

### Command Function

This command is used to display the ESN.

### Command Format

```
show Esn
```

### Parameter Description

None

### Command Example

Display the current ESN.

```
Admin\service#show Esn  
ESN: 20.20.20.202-0  
Admin\service#
```



# 20

## OSPF Directory Command

---

The following introduces the functions, formats, parameters, and examples of various commands under the OSPF directory.

- Enabling / Disabling OSPF
- Announcing OSPF Network
- Deleting Announced OSPF Network
- Configuring Router ID
- Deleting Router ID
- Configuring OSPF Distance
- Deleting OSPF Distance
- Configuring STUB Domain
- Deleting STUB Domain
- Configuring NSSA Domain
- Deleting NSSA Domain
- Announcing Default Route for All NSSA Domains
- Configuring OSPF Route Re-allocation
- Deleting OSPF Route Re-allocation
- Configuring Interface Failure Interval
- Configuring Hello Message Interval of Interface
- Configuring Re-transmitting LSA Interval of Interface
- Configuring Updating Message Time of Interface

- Configuring COST Value of Interface
- Configuring Priority of Interface
- Configuring MTU Value of Interface
- Configuring OSPF Authentication Mode
- Canceling OSPF Authentication
- Viewing OSPF Protocol Information
- Viewing OSPF Neighbor Status
- Viewing Status of OSPF Database
- Viewing OSPF RIB (Routing Information Base)
- Viewing OSPF Interface Information
- Viewing Authentication Mode and Password of OSPF Interface
- Viewing Authentication Mode and Related Key Chain of OSPF Interface
- Enabling the Log Information of OSPF
- Disabling Log Information of OSPF
- Enabling Debug Information of OSPF Packets
- Disabling Debug information of OSPF Packet
- Enabling Debug Information of Interface State Machine
- Disabling Debug Information of Interface State Machine
- Enabling Debug Information of Neighbor Status Machine
- Disabling Debug Information of Neighbor State Machine
- Enabling Debug Information of LSA State Machine
- Disabling Debug Information of LSA State Machine

- Viewing Enabling / Disabling Status of Debug Summary Information
- Viewing Current OSPF Protocol Configuration
- Configuring OSPF Route Filtering Function
- Canceling OSPF Route Filtering Function
- Configuring Network Type of Interface
- Viewing Network Announced by OSPF

## 20.1 Enabling / Disabling OSPF

### Command Function

This command is used to enable or disable the OSPF routing function.

### Command Format

```
set ospf [enable|disable]
```

### Description

Parameter	Description	Attribute
ospf [enable disable]	The OSPF routing function. ◆ enable: Enables the function. ◆ disable: Disables the function.	Compulsory

### Command Example

Enable the OSPF function.

```
Admin\ospf#set ospf enable
ospf instance started
Admin\ospf#
```

## 20.2 Announcing OSPF Network

### Command Function

This command is used to configure the corresponding relationship between the uplink VLAN IP address and the OSPF domain. When the OSPF is enabled, the uplink ports will be automatically added to the OSPF domain.

### Command Format

```
set network <A.B.C.D> mask <A.B.C.D> area <A.B.C.D>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
network <A.B.C.D>	Network IP address of the interface that should run the OSPF protocol. The network must be the IP network that has configured the Super VLAN.	Compulsory parameter
mask <A.B.C.D>	Subnet mask.	Compulsory parameter
area <A.B.C.D>	IP address of the OSPF domain to which the uplink port belongs. Displayed in dotted decimal notation.	Compulsory parameter

## Command Example

Announce the OSPF network whose IP address is 10.98.0.0, subnet mask is 255.255.0.0, and domain ID is 10.98.20.1.

```
Admin\ospf#set network 10.98.0.0 mask 255.255.0.0 area 10.98.20.1
Admin\ospf#
```

## 20.3 Deleting Announced OSPF Network

### Command Function

This command is used to delete the announced OSPF network.

### Command Format

```
delete network <A.B.C.D> mask <A.B.C.D> area <A.B.C.D>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
network <A.B.C.D>	Network IP address of the interface that should run the OSPF protocol.	Compulsory parameter
mask <A.B.C.D>	Subnet mask.	Compulsory parameter
area <A.B.C.D>	IP address of the OSPF domain to which the uplink port belongs. Displayed in dotted decimal notation.	Compulsory parameter

## Command Example

Delete the OSPF network whose IP address is 10.92.20.1, subnet mask is 255.255.0.0, and domain ID is 10.98.20.1.

```
Admin\ospf#delete network 10.92.20.1 mask 255.255.0.0 area 10.98.20.1
Admin\ospf#
```

## 20.4 Configuring Router ID

### Command Function

This command is used to configure the ID of the OSPF router, which identifies the uniqueness of the router.

### Command Format

```
set router-id <A.B.C.D>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
router-id <A.B.C.D>	ID number of the OSPF router. Is displayed in the format of the IP address.	Compulsory parameter

### Command Example

Set the router ID to 10.10.10.10.

```
Admin\ospf# set router-id 10.10.10.10

[mn_set_ospf_router_id]0xa0a0a0a 0xa0a0a0a

Admin\ospf#
```

## 20.5 Deleting Router ID

### Command Function

This command is used to delete the router ID.

### Command Format

```
delete ospf router-id
```

### Parameter Description

None

### Command Example

Delete the router ID.

```
Admin\ospf# delete ospf router-id
```

```
Admin\ospf#
```

## 20.6 Configuring OSPF Distance

### Command Function

This command is used to configure the Distance value of the OSPF routing protocol, i.e., the shortest route overhead from the root node to the destination node.

### Command Format

```
set ospf distance <0-255>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<0-255>	The Distance value. The value ranges from 0 to 255. The default value is 110.	Compulsory parameter

### Command example

Set the OSPF Distance value to 120.

```
Admin\ospf#set ospf distance 120  
Admin\ospf#
```

## 20.7 Deleting OSPF Distance

### Command function

This command is used to delete the Distance value of the OSPF routing protocol.

### Command Format

```
delete ospf distance
```

### Parameter Description

None

### Command Example

Delete the OSPF Distance value.

```
Admin\ospf#delete ospf distance  
Admin\ospf#
```

## 20.8 Configuring STUB Domain

### Command function

This command is used to configure the STUB domain of OSPF.

### Command Format

```
set area <A.B.C.D> stub
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
area <A.B.C.D>	ID number of the domain. This item is displayed in dotted decimal notation, which means the domain ID is of the STUB type.	Compulsory parameter

## Command Example

Set the STUB domain ID to 20.20.20.20.

```
Admin\ospf# set area 20.20.20.20 stub
```

```
Admin\ospf#
```

# 20.9 Deleting STUB Domain

## Command Function

This command is used to delete the STUB domain.

## Command Format

```
delete area <A.B.C.D> stub
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
area <A.B.C.D>	ID number of the domain. This item is displayed in dotted decimal notation, which means the domain ID is of the STUB type.	Compulsory parameter

## Command Example

Delete the STUB domain whose ID is 20.20.20.20.

```
Admin\ospf# delete area 20.20.20.20 stub
```

Admin\ospf#

## 20.10 Configuring NSSA Domain

### Command Function

This command is used to configure the NSSA domain of OSPF.

### Command Format

```
set area <A.B.C.D> nssa {translator-role [candidate|never|always]}*1
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
area <A.B.C.D>	ID number of the domain. This item is displayed in dotted decimal notation, which means the domain ID is of the NSSA type.	Compulsory parameter
{translator-role [candidate never always]}*1	The Translator role. <ul style="list-style-type: none"> <li>◆ candidate: In the NSSA domain, the ABR converts the LSA of Type 7 to the LSA of Type 5.</li> <li>◆ never: in the NSSA domain, the ABR does not convert the LSA of Type 7 to the LSA of Type 5.</li> <li>◆ always: in the NSSA domain, the ABR converts the the LSA of Type 7 to the LSA of Type 5.</li> </ul> The default setting is <b>candidate</b> .	Optional parameter

### Command Example

Set the NSSA domain ID to 10.20.10.20 and the Translator role to **candidate**.

```
Admin\ospf# set area 10.20.10.20 nssa translator-role candidate
```

```
Admin\ospf#
```

## 20.11 Deleting NSSA Domain

### Command Function

This command is used to delete the NSSA domain of OSPF.

### Command Format

```
delete area <A.B.C.D> nssa
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
area <A.B.C.D>	ID number of the domain. This item is displayed in dotted decimal notation, which means the domain ID is of the NSSA type.	Compulsory parameter

### Command Example

Delete the STUB domain whose ID is 10.20.10.20.

```
Admin\ospf# delete area 10.20.10.20 nssa
```

```
Admin\ospf#
```

## 20.12 Announcing Default Route for All NSSA Domains

### Command Function

This command is used to announce the default route for all NSSA domains.

### Command Format

```
set nssa default-information originate always {type [e1|e2]}*1 {metric <0-16777214>}*1
```

## Description

Parameter	Description	Attribute
{type [e1 e2]}*1	Type of the external route. ◆ e1: E1. ◆ e2: E2. The default setting is e1.	Optional
{metric <0-16777214>}*1	The metric. The value ranges from 0 to 16777214. The default value is 1.	Optional

## Command Example

Set all the NSSA domains to announce the default routes and the external route type to E1.

```
Admin\ospf#set nssa default-information originate always type e1
Admin\ospf#
```

# 20.13 Configuring OSPF Route Re-allocation

## Command Function

This command is used to configure the route re-allocation, leading the external routes into the OSPF domain.

## Command Format

```
set ospf redistribute [connected|static|rip|bgp|isis] {type [e1|e2]}*1
{metric <0-16777214>}*1
```

## Description

Parameter	Description	Attribute
[connected static rip bgp isis]	Protocol type of the re-allocated routes, protocol type of the external routes that are led in. <ul style="list-style-type: none"> <li>◆ connected: the connected route.</li> <li>◆ static: the static route.</li> <li>◆ rip: the RIP route.</li> <li>◆ bgp: the BGP route.</li> <li>◆ isis: the ISIS route.</li> </ul>	Compulsory
{type [e1 e2]}*1	Type of the external route. <ul style="list-style-type: none"> <li>◆ e1: E1.</li> <li>◆ e2: E2.</li> </ul> The default setting is e1.	Optional
{metric <0-16777214>}*1	The metric. The value ranges from 0 to 16777214. The default value is 1.	Optional

## Command Example

Configure the protocol type of the re-allocated routes as connected.

```
Admin\ospf#set ospf redistribute connected
Admin\ospf#
```

## 20.14 Deleting OSPF Route Re-allocation

### Command Function

This command is used to delete the OSPF route re-allocation.

### Command Format

```
delete ospf redistribute [connected|static|rip|bgp|isis]
```

## Description

Parameter	Description	Attribute
[connected static rip  bgp isis]	Protocol type of the re-allocated routes, protocol type of the external routes that are led in. <ul style="list-style-type: none"> <li>◆ connected: the connected route.</li> <li>◆ static: the static route.</li> <li>◆ rip: the RIP route.</li> <li>◆ bgp: the BGP route.</li> <li>◆ isis: the ISIS route.</li> </ul> The BGP and ISIS protocol types are not supported temporarily.	Compulsory

## Command Example

Delete the re-allocated route whose protocol type is connected.

```
Admin\ospf#delete ospf redistribute connected
Admin\ospf#
```

## 20.15 Configuring Interface Failure Interval

## Command Function

This command is used to configure the failure interval of the interface.

## Command Format

```
set super-vlan <1-4085> dead-interval <1-65535>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<code>super-vlan &lt;1-4085&gt;</code>	VID of the Super VLAN under which the interfaces are to be configured. The value ranges from 1 to 4085.	Compulsory parameter
<code>dead-interval &lt;1-65535&gt;</code>	The failure time, i.e., the OSPF neighbor failure time interval. If the Hello message from the neighbor is not received within the failure time interval, the neighbor will be ascertained to be invalid. The value ranges between 1 and 65535; the unit is second; and the default value is 40. The value of the failure time interval should be more than four times of the Hello message interval time value.	Compulsory parameter

## Command Example

Set the failure interval time of the interface whose Super VLAN is 2000 to 800 seconds.

```
Admin\ospf#set super-vlan 2000 dead-interval 800
Admin\ospf#
```

## 20.16 Configuring Hello Message Interval of Interface

### Command Function

This command is used to configure the Hello message interval of the interface, i.e., the time interval of transmitting the polling Hello messages in the OSPF protocol.

### Command Format

```
set super-vlan <1-4085> hello-interval <1-65535>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<code>super-vlan &lt;1-4085&gt;</code>	VID of the Super VLAN under which the interfaces to be configured. The value ranges from 1 to 4085.	Compulsory parameter
<code>hello-interval &lt;1-65535&gt;</code>	The Hello message interval. The value ranges between 1 and 65535; the unit is second; and the default value is 10.	Compulsory parameter

## Command Example

Set the Hello message interval of the interface whose Super VLAN is 2000 to 50 seconds.

```
Admin\ospf#set super-vlan 2000 hello-interval 50
Admin\ospf#
```

# 20.17 Configuring Re-transmitting LSA Interval of Interface

## Command Function

This command is used to configure the re-transmitting LSA interval of the interface.

## Command Format

```
set super-vlan <1-4085> retransmit-interval <1-65535>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<code>super-vlan &lt;1-4085&gt;</code>	VID of the Super VLAN under which the interfaces are to be configured. The value ranges from 1 to 4085.	Compulsory parameter
<code>retransmit-interval &lt;1-65535&gt;</code>	The re-transmitting LSA interval time. If the confirmation message from the opposite end equipment is not received within the re-transmitting LSA interval time, the interface will re-transmit the LSA. The value ranges between 1 and 65535; the unit is second; and the default value is 5.	Compulsory parameter

## Command Example

Set the re-transmitting LSA interval time of the interface whose Super VLAN is 2000 to 20 seconds.

```
Admin\ospf#set super-vlan 2000 retransmit-interval 20
Admin\ospf#
```

## 20.18 Configuring Updating Message Time of Interface

### Command Function

This command is used to configure the updating message time of the interface.

### Command Format

```
set super-vlan <1-4085> transmit-delay <1-65535>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<code>super-vlan &lt;1-4085&gt;</code>	VID of the Super VLAN under which the interfaces are to be configured. The value ranges from 1 to 4085.	Compulsory parameter
<code>transmit-delay &lt;1-65535&gt;</code>	The updating message time, i.e., the delay time of transmitting LSA at the OSPF interface. The value ranges between 1 and 65535; the unit is second; and the default value is 1.	Compulsory parameter

## Command example

Set the updating message time of the interface whose Super VLAN is 2000 to 5 seconds.

```
Admin\ospf#set super-vlan 2000 transmit-delay 5
Admin\ospf#
```

## 20.19 Configuring COST Value of Interface

### Command Function

This command is used to configure the COST value of the interface.

### Command Format

```
set super-vlan <1-4085> cost <1-65535>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
<code>super-vlan &lt;1-4085&gt;</code>	VID of the Super VLAN under which the interfaces to be configured. The value ranges from 1 to 4085.	Compulsory parameter
<code>cost &lt;1-65535&gt;</code>	The COST value, i.e., the overhead value of transmitting message via the designated interface. The value ranges from 1 to 65535. The default value is 10.	Compulsory parameter

## Command Example

Set the COST value of the interface whose Super VLAN is 2000 to 15.

```
Admin\ospf#set super-vlan 2000 cost 15
Admin\ospf#
```

## 20.20 Configuring Priority of Interface

### Command Function

This command is used to configure the priority of an interface.

### Command Format

```
set super-vlan <1-4085> priority <0-255>
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
super-vlan <1-4085>	VID of the Super VLAN under which the interfaces to be configured. The value ranges from 1 to 4085.	Compulsory parameter
priority <0-255>	The smaller the value is, the higher the priority level becomes. The value ranges from 0 to 255. The default value is 1.	Compulsory parameter

## Command Example

Set the priority level of the interface whose Super VLAN is 2000 to 2.

```
Admin\ospf#set super-vlan 2000 priority 2
Admin\ospf#
```

## 20.21 Configuring MTU Value of Interface

### Command Function

This command is used to configure the MTU value of the interface.

## Command Format

```
set super-vlan <1-4085> mtu <576-65535>
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
super-vlan <1-4085>	VID of the Super VLAN under which the interfaces to be configured. The value ranges from 1 to 4085.	Compulsory parameter
mtu <576-65535>	Maximum transmission unit (MTU) value. The MTU value of the DD message (Database Description message, one of the five OSPF protocol messages) transmitted by the interface. The value ranges from 576 to 65535. The default value is 1500.	Compulsory parameter

## Command Example

Set the MTU value of the interface whose Super VLAN is 2000 to 2000.

```
Admin\ospf#set super-vlan 2000 mtu 2000
Admin\ospf#
```

## 20.22 Configuring OSPF Authentication Mode

### Command Function

This command is used to configure the OSPF authentication modes, including the simple password authentication mode and the MD5 authentication mode.

### Command Format

```
set super-vlan <1-4085> authentication [simple|md5] <string>
```

## Description

Parameter	Description	Attribute
<code>super-vlan &lt;1-4085&gt;</code>	VID of the Super VLAN under which the interfaces are to be configured. The value ranges from 1 to 4085.	Compulsory
<code>authentication [simple md5]</code>	Authentication mode. ◆ simple: the simple password authentication mode. ◆ md5: the MD5 authentication mode.	Compulsory
<code>&lt;string&gt;</code>	◆ If the authentication mode is the simple password mode, the item is the simple key, whose maximum length is 8 characters. ◆ If the authentication mode is the MD5 mode, the item is the configured key chain name, whose maximum length is 20 characters.	Compulsory

## Command Example

Set the authentication mode of the OSPF whose Super VLAN is 2000 to the simple password mode, and the key to **wri**.

```
Admin\ospf#set super-vlan 2000 authentication simple wri
Admin\ospf#
```

## 20.23 Canceling OSPF Authentication

### Command Function

This command is used to cancel the authentication mode of the OSPF.

### Command Format

```
delete super-vlan <1-4085> authentication
```

### Parameter Description

Parameter	Parameter Description	Parameter Property
<code>super-vlan &lt;1-4085&gt;</code>	The configured Super VLAN VID. The value ranges from 1 to 4085.	Compulsory parameter

## Command Example

Cancel the authentication mode for the OSPF whose Super VLAN ID is 2000.

```
Admin\ospf#delete super-vlan 2000 authentication
Admin\ospf#
```

## 20.24 Viewing OSPF Protocol Information

### Command Function

This command is used to view the OSPF protocol information.

### Command Format

```
show ip protocols ospf
```

### Parameter Description

None

### Command Example

View the OSPF protocol information.

```
Admin\ospf#show ip protocols ospf
OSPF Routing Process, Router ID: 10.10.10.10
Supports only single TOS (TOS0) routes
This implementation conforms to RFC2328
RFC1583Compatibility flag is disabled
SPF schedule delay 5 secs, Hold time between two SPFs 10 secs
Refresh timer 10 secs
This router is an ASBR (injecting external routing information)
Distance: 120
Number of external LSA 1
Number of areas attached to this router: 3
Area ID: 10.20.10.20 (NSSA)
  Shortcutting mode: Default, S-bit consensus: ok
  It is an NSSA configuration.
  Elected NSSA/ABR performs type-7/type-5 LSA translation.
  It is not ABR, therefore not Translator.
Number of fully adjacent neighbors in this area: 0
  Area has no authentication
```

```

Number of full virtual adjacencies going through this area: 0
SPF algorithm executed 3 times
Number of LSA 1
Area ID: 10.98.20.1
Shortcutting mode: Default, S-bit consensus: ok
Number of fully adjacent neighbors in this area: 0
Area has no authentication
Number of full virtual adjacencies going through this area: 0
SPF algorithm executed 6 times
Number of LSA 1
Area ID: 20.20.20.20 (Stub)
Shortcutting mode: Default, S-bit consensus: ok
Number of fully adjacent neighbors in this area: 0
Area has no authentication
Number of full virtual adjacencies going through this area: 0
SPF algorithm executed 4 times
Number of LSA 1
Admin\ospf#

```

## Result Description

Parameter	Description
Router ID	The router ID.
Distance	The management distance.
Number of areas attached to this router	Number of domains that are bound to this router.
Area ID	The domain ID. The domains include the NSSA domain, the OSPF domain, and the STUB domain.
Shortcutting mode	The shortcut mode.

## 20.25 Viewing OSPF Neighbor Status

### Command Function

This command is used to view the neighbor status of the OSPF protocol.

### Command Format

```
show ip ospf neighbor
```

### Parameter Description

None

## Command Example

View the neighbor status of the OSPF protocol.

```
Admin\ospf#show ip ospf neighbor
Neighbor ID  Pri  Neighbor State  Interface State  Dead Time
Address      Interface
192.0.0.1    1    Full           Backup           00:00:35
151.151.151.2  sv1
Admin\ospf#
```

## Result Description

Parameter	Parameter Description
Neighbor ID	The neighbor ID.
Pri	Priority.
Neighbor State	The neighbor status.
Interface State	The interface status.
Dead Time	The timeout period.
Address	IP address of the interface.
Interface	Interface name.

## 20.26 Viewing Status of OSPF Database

### Command Function

This command is used to view the status of the OSPF database.

### Command Format

```
show ip ospf database
```

### Parameter Description

None

### Command Example

View the status of the OSPF database.

```
Admin\ospf#show ip ospf database
Router Link States (Area 10.20.10.20[NSSA])
```

```

Link ID      ADV Router  Age      Seq#       CkSum      Link count
10.10.10.10 10.10.10.10 1394    0x80000002 0x2edb     0

```

Router Link States (Area 10.98.20.1 )

```

Link ID      ADV Router  Age      Seq#       CkSum      Link count
10.10.10.10 10.10.10.10 1349    0x80000003 0x3a49     1

```

Router Link States (Area 20.20.20.20[STUB])

```

Link ID      ADV Router  Age      Seq#       CkSum      Link count
10.10.10.10 10.10.10.10 1394    0x80000002 0xa073     0

```

AS External Link States

```

Link ID      ADV Router  Age      Seq#       CkSum      Route
10.1.0.0    10.10.10.10 1387    0x80000001 0xef9b     E2 10.1.0.0/16
Admin\ospf#

```

## Result Description

Parameter	Parameter Description
Router Link States	The route connection status, including the NSSA domain, the OSPF domain and the STUB domain.
Link ID	The link identify.
ADV Router	The announced router.
Age	The aging time.
Seq#	The serial number.
CkSum	The checksum.
Link count	The count of links.
AS External Link States	External link status of the autonomous area.
Route	The route entry.

## 20.27 Viewing OSPF RIB (Routing Information Base)

### Command Function

This command is used to view the OSPF RIB (Routing Information Base).

## Command Format

```
show ip ospf route
```

## Parameter Description

None

## Command Example

View the OSPF RIB (Routing Information Base).

```
Admin\ospf#show ip ospf route

===== OSPF router routing table =====

===== OSPF network routing table =====
Network  10.98.0.0/16          [15] area: 10.98.20.1
directly attached to sv2000

===== OSPF external routing table =====
Admin\ospf#
```

## Result Description

Parameter	Parameter Description
OSPF router routing table	The RIB of the OSPF router.
OSPF network routing table	The RIB of the OSPF network.
Network 10.98.0.0/16 [15] area: 10.98.20.1	◆ Network: the network IP address. ◆ Area: the domain IP address.
OSPF external routing table	The OSPF external RIB.

# 20.28 Viewing OSPF Interface Information

## Command Function

This command is used to view the OSPF interface information.

## Command Format

```
show ip ospf super-vlan {<1-4085>} *1
```

## Parameter Description

Parameter	Parameter Description	Parameter Property
super-vlan {<1-4085>} *1	The configured Super VLAN ID. The value ranges from 1 to 4085.	Optional parameter

## Command Example

View the information of the OSPF interface whose Super VLAN ID is 2000.

```
Admin\ospf#show ip ospf super-vlan 2000
sv2000 is up, line protocol is up
Internet Address 10.98.1.4/16, Area 10.98.20.1
Router ID 10.10.10.10, Network Type BROADCAST, Cost: 15
Transmit Delay is 5 sec, State DR, Priority 2
Designated Router (ID) 10.10.10.10, Interface Address 10.98.1.4
No backup designated router on this network
Timer intervals configured, Hello 50, Dead 800, Wait 800, Retransmit 20
Hello due in 00:00:12
Neighbor Count is 0, Adjacent neighbor count is 0
Admin\ospf#
```

## Result Description

Parameter	Parameter Description
Internet Address	The Internet address.
Area	The domain IP address.
Router ID	The router ID.
Network Type	The network type.
Cost	The cost value.
Transmit Delay	The transmission delay.
Priority	The priority.
Designated Router	The designated router.
Timer intervals configured	The time interval configuration.

## 20.29 Viewing Authentication Mode and Password of OSPF Interface

### Command Function

This command is used to view the authentication and password information of the OSPF.

### Command Format

```
show ip ospf auth
```

### Parameter Description

None

### Command Example

View the authentication and password information of the OSPF.

```
Admin\ospf#show ip ospf auth
interface  authtype          key_id  key
sv2000    simple-passwords _      wri
Admin\ospf#
```

### Result Description

Parameter	Parameter Description
interface	Interface name.
authtype	Authentication mode.
key_id	Key ID.
key	Key.

## 20.30 Viewing Authentication Mode and Related Key Chain of OSPF Interface

### Command Function

This command is used to view the authentication mode and the related key chain of the OSPF interface.

## Command Format

```
show ip ospf auth key-chain
```

## Parameter Description

None

## Command Example

View the authentication mode and the related key chain of the OSPF interface.

```
Admin\ospf#show ip ospf auth key-chain
Interface      Authtype      String/Keychain
sv2000         simple        wri
Admin\ospf#
```

## Result Description

Parameter	Parameter Description
Interface	Interface.
Authtype	Authentication mode.
String/Keychain	The simple password or name of the related key chain.

# 20.31 Enabling the Log Information of OSPF

## Command Function

This command is used to enable the Log information of OSPF.

## Command Format

```
log ospf on level [crit|err|warning|info]
```

## Description

Parameter	Description	Attribute
[crit err warning info]	<p>The printing level.</p> <ul style="list-style-type: none"> <li>◆ crit: the important information printing level.</li> <li>◆ err: the error information printing level.</li> <li>◆ warning: the warning information printing level.</li> <li>◆ info: the common information printing level.</li> </ul>	Compulsory

## Command Example

Set the printing level of the OSPF Log information to the warning level.

```
Admin\rip#log ospf on level warning
Admin\rip#
```

## 20.32 Disabling Log Information of OSPF

### Command function

This command is used to disable the Log information of OSPF.

### Command format

```
log ospf off
```

### Parameter Description

None

### Command Example

Disable the Log information of OSPF.

```
Admin\rip#log ospf off
Admin\rip#
```

## 20.33 Enabling Debug Information of OSPF Packets

### Command Function

This command is used to enable the Debug information of the OSPF packets. (To enable the Debug information, you should set the level of the Log information to **info** at first.)

### Command Format

```
debug ospf packet [hello|desc|ls-req|ls-upd|ls-ack|all] direction [send|
rcv|all] detail[display|no-display]
```

## Description

Parameter	Description	Attribute
<code>packet [hello desc ls-req ls-upd ls-ack all]</code>	The packet type. <ul style="list-style-type: none"> <li>◆ hello: the Hello message packet.</li> <li>◆ desc: the database description message.</li> <li>◆ ls-req: the link state request message.</li> <li>◆ ls-upd: the link state updating message.</li> <li>◆ ls-ack: the link state acknowledge message.</li> <li>◆ all: all OSPF messages.</li> </ul>	Compulsory
<code>direction [send rev all]</code>	The direction. <ul style="list-style-type: none"> <li>◆ send: the packet transmitting direction.</li> <li>◆ rev: the packet receiving direction.</li> <li>◆ all: both the receiving and transmitting directions.</li> </ul>	Compulsory
<code>detail [display no-display]</code>	Whether to print the details. <ul style="list-style-type: none"> <li>◆ display: Prints the details.</li> <li>◆ no-display: Does not print the details.</li> </ul>	Compulsory

## Command Example

Set the type of the OSPF packets to all packets, the direction to transmitting direction, and set to print the details.

```
Admin\ospf#debug ospf packet all direction send detail display
Admin\ospf#
```

## 20.34 Disabling Debug information of OSPF Packet

### Command Function

This command is used to disable the Debug information of the OSPF packet.

### Command Format

```
debug ospf packet off
```

### Parameter Description

None

## Command Example

Disable the Debug information of the OSPF packet.

```
Admin\ospf#debug rip packet off  
Admin\ospf#
```

## 20.35 Enabling Debug Information of Interface State Machine

### Command Function

This command is used to enable the Debug information of the interface state machine.

### Command Format

```
debug on ism [status|event|timer|all]
```

### Description

Parameter	Description	Attribute
[status event timer all]	The printed contents of the interface state machine. <ul style="list-style-type: none"><li>◆ status: the interface status.</li><li>◆ event: interface event time.</li><li>◆ timer: the interface timer.</li><li>◆ all: all contents.</li></ul>	Compulsory

### Command Example

Enable all Debug information of the interface state machine.

```
Admin\ospf#debug on ism all  
Admin\ospf#
```

## 20.36 Disabling Debug Information of Interface State Machine

### Command Function

This command is used to disable the Debug information of the interface state machine.

### Command Format

```
debug off ism [status|event|timer|all]
```

### Description

Parameter	Description	Attribute
[status event timer all]	The printed contents of the interface state machine. <ul style="list-style-type: none"> <li>◆ status: the interface status.</li> <li>◆ event: interface event.</li> <li>◆ timer: the interface timer.</li> <li>◆ all: all contents.</li> </ul>	Compulsory

### Command Example

Disable all Debug information of the interface state machine.

```
Admin\ospf#debug off ism all
Admin\ospf#
```

## 20.37 Enabling Debug Information of Neighbor Status Machine

### Command Function

This command is used to enable the Debug information of the neighbor state machine.

### Command Format

```
debug on nsm [status|event|timer|all]
```

## Description

Parameter	Description	Attribute
[status event timer all]	The printed contents of the interface state machine. <ul style="list-style-type: none"> <li>◆ status: the interface status.</li> <li>◆ event: interface event time.</li> <li>◆ timer: the interface timer.</li> <li>◆ all: all contents.</li> </ul>	Compulsory

## Command Example

Enable the Debug information of the interface status of the neighbor state machine.

```
Admin\ospf#debug on nsm status
Admin\ospf#
```

## 20.38 Disabling Debug Information of Neighbor State Machine

## Command Function

This command is used to disable the Debug information of the neighbor state machine.

## Command Format

```
debug off nsm [status|event|timer|all]
```

## Description

Parameter	Description	Attribute
[status event timer all]	The printed contents of the interface state machine. <ul style="list-style-type: none"> <li>◆ status: the interface status.</li> <li>◆ event: interface event time.</li> <li>◆ timer: the interface timer.</li> <li>◆ all: all contents.</li> </ul>	Compulsory

## Command Example

Disable the Debug information of the interface status of the neighbor state machine.

```
Admin\ospf#debug on nsm status
```

Admin\ospf#

## 20.39 Enabling Debug Information of LSA State Machine

### Command Function

This command is used to enable the Debug information of the LSA (Link State Advertisement) state machine.

### Command Format

```
debug on lsm [generate|flooding|install|refresh|all]
```

### Description

Parameter	Description	Attribute
[generate flooding install refresh all]	<ul style="list-style-type: none"> <li>◆ generate: the LSA message generated on the equipment.</li> <li>◆ flooding: the flooding LSA message.</li> <li>◆ install: the LSA message that needs to be installed.</li> <li>◆ refresh: the refreshed LSA message.</li> <li>◆ all: all LSA messages.</li> </ul>	Compulsory

### Command Example

Enable the LSA message refreshed by the state machine.

```
Admin\ospf#debug on lsm refresh
Admin\ospf#
```

## 20.40 Disabling Debug Information of LSA State Machine

### Command Function

This command is used to disable the Debug information of the LSA state machine.

## Command Format

```
debug off lsm [generate|flooding|install|refresh|all]
```

## Description

Parameter	Description	Attribute
[generate flooding install refresh all]	<ul style="list-style-type: none"><li>◆ generate: the LSA message generated on the equipment.</li><li>◆ flooding: the flooding LSA message.</li><li>◆ install: the LSA message that needs to be installed.</li><li>◆ refresh: the refreshed LSA message.</li><li>◆ all: all LSA messages.</li></ul>	Compulsory

## Command Example

Disable the LSA message refreshed by the state machine.

```
Admin\ospf#debug off lsm refresh  
Admin\ospf#
```

## 20.41 Viewing Enabling / Disabling Status of Debug Summary Information

### Command Function

This command is used to view the enabling / disabling status of all Debug summary information.

### Command Format

```
show debug ospf
```

### Parameter Description

None

### Command Example

View the enabling / disabling status of all Debug summary information.

```
Admin\ospf#show debug ospf
OSPF debugging status:
  OSPF ISM debugging is on
  OSPF NSM debugging is on
  OSPF LSA refresh debugging is on

Admin\ospf#
```

## Result Description

Parameter	Parameter Description
OSPF ISM debugging	Enabling / disabling status of the interface state machine's Debug information.
OSPF NSM debugging	Enabling / disabling status of the neighbor state machine's Debug information.
OSPF LSA refresh debugging	Enabling / disabling status of the LSA state machine's Debug information.

## 20.42 Viewing Current OSPF Protocol Configuration

### Command Function

This command is used to view the current configuration of the OSPF protocol.

### Command Format

```
show ospf running-config
```

### Parameter Description

None

### Command Example

View the current configuration of the OSPF protocol.

```
Admin\ospf#show ospf running-config
!ospf config -----
set ospf enable
set router-id 10.10.10.10
!ospf config end!-----
```

```
Admin\ospf#
```

## Result Description

Parameter	Parameter Description
set ospf enable	Enables the OSPF function.
set router-id	Configures the router ID.

## 20.43 Configuring OSPF Route Filtering Function

### Command Function

This command is used to configure the OSPF route filtering function.

### Command Format

```
set distribute-list <name> in [ip_address|ip_nexthop]
```

### Description

Parameter	Description	Attribute
distribute-list <name>	Name of the designated access control list. The access control list should be a configured one under the Route directory.	Compulsory
[ip_address ip_nexthop]	The designated filtering strategy. <ul style="list-style-type: none"> <li>◆ ip_address: Filters the route according to the address of the route's destination network segment.</li> <li>◆ ip_nexthop: Filters the route according to the address of the route's next hop.</li> </ul>	Compulsory

### Command Example

Configure the OSPF route filtering function whose name of the access control list is **name** and the filtering strategy is IP address.

```
Admin\ospf#set distribute-list name in ip_address
Admin\ospf#
```

## 20.44 Canceling OSPF Route Filtering Function

### Command Function

This command is used to cancel the OSPF route filtering function.

### Command Format

```
delete distribute-list <name> in [ip_address|ip_nexthop]
```

### Description

Parameter	Description	Attribute
distribute-list <name>	Name of the designated access control list. The access control list should be a configured one under the Route directory.	Compulsory
[ip_address ip_nexthop]	The designated filtering strategy. <ul style="list-style-type: none"> <li>◆ ip_address: Filters the route according to the address of the route's destination network segment.</li> <li>◆ ip_nexthop: Filters the route according to the address of the route's next hop.</li> </ul>	Compulsory

### Command Example

Cancel the OSPF route filtering function whose name of the access control list is **name** and the filtering strategy is IP address.

```
Admin\ospf#delete distribute-list name in ip_address
Admin\ospf#
```

## 20.45 Configuring Network Type of Interface

### Command Function

This command is used to configure the network type of the interface.

### Command Format

```
set super-vlan <1-4085> network [broadcast|non-broadcast|point-to-
multipoint|point-to-point]
```

## Description

Parameter	Description	Attribute
super-vlan <1-4085>	The configured Super VLAN ID. The value ranges from 1 to 4085.	Compulsory
[broadcast non-broadcast  point-to-multipoint point- to-point]	Network type of OSPF interface. ◆ broadcast: broadcast type. ◆ non-broadcast: non-broadcast type. ◆ point-to-multipoint: point-to-multipoint type. ◆ point-to-point: point-to-point type.	Compulsory

## Command Example

Configure the network type of the OSPF interface whose Super VLAN ID is 2000 as broadcast type.

```
Admin\ospf#set super-vlan 2000 network broadcast
Admin\ospf#
```

## 20.46 Viewing Network Announced by OSPF

## Command Function

This command is used to view the network announced by the OSPF.

## Command Format

```
show ip ospf network
```

## Parameter Description

None

## Command Example

View the network announced by the OSPF.

```
Admin\ospf#show ip ospf network
Network      Mask      AreaID
10.1.0.0     255.255.0.0  10.98.20.1
Admin\ospf#
```

## Result Description

<b>Parameter</b>	<b>Parameter Description</b>
Network	The IP network that has configured a Super VLAN.
Mask	The subnet mask.
AreaID	The domain ID.



# Product Documentation Customer Satisfaction Survey

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To help us better understand your needs, please focus your answers on a single documentation or a complete documentation set.

Documentation Name	
Code and Version	

## Usage of the product documentation:

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Frequently  Rarely  Never  Other (please specify) \_\_\_\_\_

2. When do you use the documentation?

in starting up a project  in installing the product  in daily maintenance  in trouble shooting  Other (please specify) \_\_\_\_\_

3. What is the percentage of the operations on the product for which you can get instruction from the documentation?

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3. Are any contents in the documentation inconsistent with the product?

\_\_\_\_\_

4. Is the information complete in the documentation?

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10. What is your opinion on the layout of the documentation?

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