



EPON Fiber Access Local Device -FD1216S /FD1208S

User Manual

-Command Line Operation

Version: V1.2.2

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Documentation

This manual is applicable to EPON OLT products FD1216S and FD1208S of C-Data. This manual is just a part of user manuals of the device, with the content of operating instructions of command line managing interface of the device. Device command line can be configured through CONSOLE port or remote in-band and out-of-band TELNET operating. User is supposed to read this material before using EPON OLT device.

Content

©STATEMENT.....	2
DOCUMENTATION.....	2
CONVENTIONS OF THIS MANUAL.....	10
<i>Conventions for Command Line</i>	10
<i>Conventions for Keyboard Operation</i>	10
<i>Conventions for symbols</i>	10
<i>Conventions for Words</i>	10
<i>Attention</i>	11
1. COMMAND LINE INTERFACEVIEW.....	12
1.1 <i>Command Line View Overview</i>	13
1.2 <i>enable</i>	14
1.3 <i>config</i>	14
1.4 <i>interface</i>	14
1.5 <i>acl</i>	15
1.6 <i>multicast-vlan</i>	15
1.7 <i>exit</i>	15
2.DEVICE UPGRADING.....	16
2.1 <i>load</i>	16
2.2 <i>show version</i>	16
2.3 <i>show progress</i>	17
3.DEVICE MANAGEMENT.....	17
3.1 <i>reboot</i>	18
3.2 <i>ip address</i>	18
3.3 <i>show interface mgmt</i>	18
3.4 <i>show interface vlanif</i>	19
3.5 <i>show device</i>	20
3.6 <i>exec-timeout</i>	20
3.7 <i>show exec-timeout</i>	20
3.8 <i>logout</i>	21
3.9 <i>end</i>	21
3.10 <i>dns server</i>	21
3.11 <i>show dns server</i>	22
3.12 <i>sysname</i>	22
4. STATE DETECTION.....	22
4.1 <i>show fan</i>	23
4.2 <i>show temperature</i>	23
4.3 <i>show memory</i>	23
4.4 <i>show version</i>	24
4.5 <i>time</i>	24
4.6 <i>show time</i>	24

4.7	show uptime.....	25
4.8	ntp-service unicast-service.....	25
4.9	no ntp-service unicast-service.....	25
4.10	show ntp-service session.....	26
4.11	timezone.....	26
4.12	show timezone.....	27
4.13	dns server.....	27
4.14	no dns server.....	27
4.15	show location.....	28
4.16	show cpu.....	28
4.17	show history.....	29
5.	CONFIGURATION MANAGEMENT.....	29
5.1	backup configuration.....	29
5.2	load configuration.....	30
5.3	show current-config.....	30
5.4	save.....	31
5.5	erase saved-config.....	31
5.6	show saved-config.....	32
6.	USER MANAGEMENT.....	32
6.1	user add.....	32
6.2	user delete.....	33
6.3	user password.....	33
6.4	show user.....	34
6.5	show client.....	34
6.6	client kick-off.....	35
7.	SNMP CONFIGURATION.....	35
7.1	(show) snmp-agent.....	35
7.2	(show) snmp-agent community read.....	36
7.3	(show) snmp-agent community write.....	36
7.4	(show) snmp-agent group v3.....	36
7.5	(show) snmp-agent sys-info.....	37
7.6	(show) snmp-agent trap.....	38
7.7	(show) snmp-agent usm-user.....	38
8.	PORT.....	39
8.1	shutdown.....	39
8.2	no shutdown.....	39
8.3	show port state.....	39
8.4	show port ddm-info.....	41
8.5	show port vlan.....	41
8.6	auto-neg.....	42
8.7	duplex.....	42
8.8	speed.....	43
8.9	(no) flow-control.....	43
8.10	(no) mirror.....	43

8.11 show mirror.....	44
8.12 (no) mtu.....	44
8.13 statistics port.....	45
8.14 reset port statistic.....	45
8.15 show port statistics.....	46
8.16 show mac-address.....	47
8.17 show location.....	48
8.18 mac-address limit port.....	49
8.19(no) mac-address static.....	49
8.20 mac-address timer.....	49
8.21 mac-address learning.....	50
8.22(no) mac-address black-hole.....	50
8.23 mac-address flush.....	51
8.24(no) traffic-suppress.....	51
8.25(no) port-rate.....	52
8.26show port-rate.....	52
8.27(no) port-name.....	53
8.28protocol-vlan.....	53
8.29isolate.....	54
8.30show portisolate.....	54
8.31port encrypt.....	54
8.32anti-rogueont.....	55
8.33show anti-rogueont.....	55
8.34ont-isolate.....	56
9. VLAN.....	56
9.1 vlan.....	56
9.2 show vlan/vlan-name.....	57
9.3 vlan mode.....	57
9.4 vlan access.....	58
9.5 (no) vlan trunk.....	58
9.6 (no) vlan hybrid.....	59
9.7 vlan translate.....	59
9.8 vlan native-vlan.....	60
9.9 show port vlan.....	60
9.10 (no) interface vlanif.....	61
9.11 show interface vlanif.....	61
9.12(no) mac-vlan.....	62
9.13 show mac-vlan.....	62
9.14(no) ip-subnet-vlan.....	62
9.15 show ip-subnet-vlan.....	63
9.16 (no) protocol-vlan.....	63
9.17 show protocol-vlan.....	64
10. MULTICAST MODULE.....	65
10.1 igmpfast-leave.....	65

10.2 igmp mode.....	65
10.3 igmp proxy.....	67
10.4 igmp policy.....	68
10.5 show igmp config.....	68
10.6 show igmp group.....	69
10.7 (no) multicast-vlan.....	70
10.8 (show) igmp match.....	70
10.9 igmp program add/delete.....	71
10.10 (show) igmp router-port.....	71
10.11(show) igmp multicast-unknown.....	72
10.12 (show) igmp member.....	72
10.13 (show) igmp control.....	73
10.14 (show) igmp preview.....	74
10.15 igmp preview-profile.....	74
10.16 (show) igmp profile.....	75
10.17 (show) igmp user.....	76
11.RSTP.....	77
11.1 spanning-tree.....	77
11.2 show spanning-tree info.....	77
11.3 spanning-tree priority.....	78
11.4 spanning-tree timer forward-delay.....	79
11.5 spanning-tree timer hello.....	79
11.6 spanning-tree timer max-age.....	80
11.7spanning-tree hold-count.....	80
11.8 spanning-tree edged-port.....	80
11.9 spanning-tree cost.....	81
11.10 spanning-tree mcheck.....	82
11.11 spanning-tree point-to-point.....	82
11.12 spanning-tree priority.....	82
11.13 show spanning-tree port.....	83
11.14 show spanning-tree link-aggregation.....	84
12.ACL.....	84
12.1 (no) time-range.....	84
12.2 showtime-range.....	85
12.3(no) rule (basic acl).....	85
12.4(no) rule (adv acl).....	86
12.5(no) rule (link acl).....	88
12.6 show acl.....	89
12.7 acl (pon side acl).....	89
12.8 acl down/up/move.....	90
13. QOS.....	91
13.1 (no) packet-filter.....	91
13.2 (no) traffic-dscp.....	92
13.3 (no) traffic-limit.....	92

13.4 (no) traffic-mirror.....	93
13.5 (no) traffic-outervlan.....	94
13.6 (no) traffic-priority.....	94
13.7 (no) traffic-redirect.....	95
13.8 (no) traffic-statistic.....	96
13.9 traffic-statisticclear-counters.....	96
13.10 traffic-tos.....	97
13.11 show qos-info.....	97
13.12 qos queue-scheduler.....	98
13.13 show queue-scheduler.....	99
13.14 traffic-translate.....	100
13.15 traffic-modify.....	100
13.16 show packet-filter.....	101
13.17 show traffic-modify.....	101
14. DHCP.....	102
14.1 dhcp-snooping enable.....	102
14.2 dhcp-snooping disable.....	102
14.3 show dhcp-snooping configuration.....	103
14.4 (no) dhcp-snooping vlan.....	104
14.5 (no) dhcp-snooping trust port.....	105
14.6 dhcp-snooping chaddr-check.....	105
14.7 dhcp-snooping limit-rate.....	106
14.8 dhcp-snooping option82.....	106
14.9 dhcp-snooping option82 policy.....	107
14.10dhcp-snooping binding.....	107
14.11dhcp-snooping bind-table clear.....	107
14.12dhcp-snooping bind-table write-delay.....	108
14.13 dhcp-snooping bind-table delete-time.....	108
14.14 dhcp-snooping bind-table write-to-flash.....	109
14.15 dhcp-snooping bind-table save-to-tftp.....	109
14.16 show dhcp-snooping bind-table.....	109
14.17dhcp-snooping arp-reply-fast.....	110
14.18 dhcp-snooping arp-detect.....	111
14.19 dhcp-client.....	111
14.20 dhcp-client renew.....	111
14.21 dhcp-client release.....	112
14.22(no) dhcp-client option60.....	112
14.23 show dhcp-client.....	112
14.24 show dhcp-client option60.....	113
15.LINK-AGGREGATION.....	114
15.1 member add/delete.....	114
15.2 (no) flow-control/ (lacp set)/mtu.....	114
15.3 showlacp system priority/port priority.....	115
15.4link-aggregation group/port-priority.....	115

15.5reset statistics port.....	116
15.6link-aggregation port-priority.....	116
15.7 show link-aggregation group summary/ge.....	116
15.8 show link-aggregation statistics.....	117
15.9 no/shutdown.....	118
15.10show lacp system priority.....	118
15.11 show portspanning-tree/state/vlan.....	118
16. ROUTER.....	120
16.1 ip route-static.....	120
16.2 show ip route-static.....	120
17.ONT MANAGEMENT.....	121
17.1 ont add.....	121
17.2 ont alarm.....	121
17.3 ont authmode.....	122
17.4 ont mac-aging.....	123
17.5 ont black-list.....	123
17.6 ont confirm.....	123
17.7 ont cancel.....	124
17.8 ont default-setting.....	124
17.9 ont delete.....	125
17.10 ont description.....	125
17.11 ont encrypt.....	126
17.12 ont multicast-mode.....	126
17.13 ont multicast fast-leave.....	126
17.14 load file /ont load.....	127
17.15 ont fec.....	127
17.16 ont autofind.....	128
17.17 ont activate.....	128
17.18 ont deactivate.....	128
17.19 ont modify.....	129
17.20 ont reboot.....	129
17.21 ont re-register.....	130
17.22 ont ring check.....	130
17.23ont ipconfig.....	131
17.24ont sla.....	131
17.25ont snmp-config.....	132
17.26ont statistics.....	132
17.27 ont port config catv.....	133
17.28 ont port config eth auto-neg.....	133
17.29 ont port config eth ds-policing.....	133
17.30 ont port config eth up-policing.....	134
17.31 ont port config eth flow-control.....	134
17.32 ont port config eth learned-mac-clear.....	135
17.33 ont port config eth max-mac-count.....	135

17.34 ont port config eth multicast-max-group-num.....	135
17.35 ont port config eth multicast-tagstrip.....	136
17.36 ont port config eth operational-state.....	136
17.37ont port native-vlan.....	137
17.38 show ont info.....	137
17.39 show ont statistics.....	138
17.40 show ont ipconfig.....	138
17.41 show ont snmp-config.....	139
17.42 show ont alarm.....	139
17.43 show ont multicast-group.....	140
17.44 show ont multicast-mode.....	140
17.41 show ont attribute.....	141
17.42 show ont port attribute.....	141
17.43 show ont port learned-mac.....	142
17.44 show ont port state.....	142
17.45 show ont port vlan.....	143
17.46 show ontblack-list.....	144
17.47 show ont load.....	144
17.48 show ont autofind.....	145
17.49 show ont capability.....	145
17.50 show ont config-capability.....	146
17.51 show ont optical-info.....	146
17.52show ont version.....	147
18. LOG MANAGEMENT.....	147
18.1 loghost add.....	147
18.2 loghost delete.....	148
18.3 loghost activate.....	148
18.4 loghost deactivate.....	149
18.5 show loghost list.....	149
18.6 syslog priority.....	149
18.7 show syslog priority severity.....	150
18.8 backup log.....	150
18.9 erase log.....	151
18.10show alarmhistory.....	151
18.11show alarmpriority.....	151
18.12show log.....	152
18.13 alarm priority.....	152
19. DEVICE DIAGNOSTIC INFORMATION.....	153
ping.....	153
traceroute.....	153
CONCLUDING REMARKS.....	154

Conventions of This Manual

Conventions for Command Line

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

Conventions for Keyboard Operation

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

Conventions for symbols

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



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



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



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

Conventions for Words

OLT: Represents the system of FD1216S or FD1208S, includes main switch processing module and

uplink ports connected with uplink devices like switch

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

Attention

1. Command line is case sensitive
2. Differences between FD1208S and FD1216S:

Model Attribute	FD1216S	FD1208S
(ge) Quantity of uplink port	8 (4 electro-optical ports and 4 Ethernet ports)	8 (4 electro-optical ports and 4 Ethernet ports)
Quantity of PON port	16PON ports	8PON ports
Uplink port number(GE) in command line	Electro-optical port 1-4, uplink port 5-8	Electro-optical port 1-4, uplink port 5-8
PON port number in command line	1-16	1-8
Xge uplink port quantity and number	2xge port, number as 1-2	2 xge port, number as 1-2

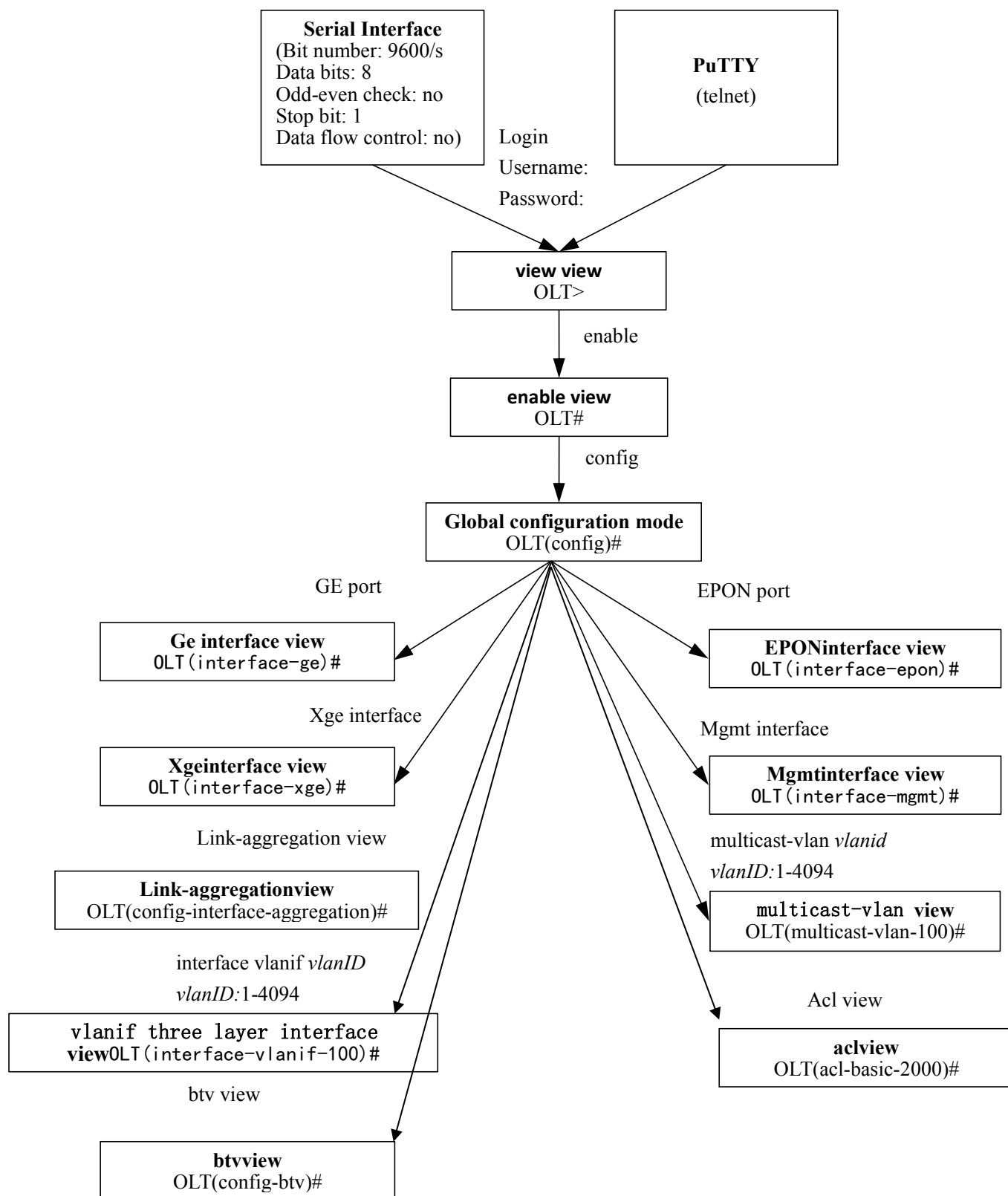
1. Command Line InterfaceView

View and view switching

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

- view view, refers to view view or user mode in the below user will enter after inputting password, in which mode only simple commands can be processed. This view shows like:
OLT >
- enable view, refers to enable view or privileged mode in the below user will enter after inputting enable in view mode, this mode has higher authorities and shows like: OLT#
- config view, refers to config view or global configuration mode in the below user will enter after inputting config in enable view. This view shows like: OLT (config)#
- ge interface view, refers to ge/gigabit interface view/mode user will enter after inputting interface ge in config view. This view shows like: OLT(interface-ge)#
- xgeinterface view, refers to xge/10-gigabit interface view/mode user will enter after inputting interface xge in config view. This view shows like: OLT(interface-xge)#
- EPONinterface view, refers to EPON interface view/mode user will enter after inputting interface EPON in config view. This view shows like: OLT(interface-EPON)#
- Vlanif three-layer interface view: User will enter this view after inputting interface vlanif *vlanID* in config view. This view shows like: OLT(interface-vlanif-20)#
- Management interfaceMGMT view: User will enter this view after inputting interface mgmt in config view. This view shows like: OLT(interface-mgmt)#
- multicast-vlan view: User will enter this view after inputting multicast-vlan *vlanid* in config view. This view shows like: OLT(multicast-vlan-100)#
- link-aggregation view: User will enter this view after inputting interface link-aggregation in config view. This view shows like: OLT(config-interface-aggregation)#

1.1 Command Line View Overview



1.2enable

[Command] **enable**

[View] view view

[Parameter] None

[Description] Enter enable view from view mode

[Case]

OLT > enable

OLT #

1.3 config

[Command]

config

[View] enable view

[Parameter] None

[Description] 从 enable view 进入 config view。

[Case]

OLT # config

OLT (config)#

1.4 interface

[Command]

interface ge

interface xge

interface epon

interface vlanif *vlanid*

interface mgmt

interface link-aggregation

[View] config view

[Parameter]

Vlanid:VLAN ID. <U><1~4094>

[Description] Enter interface view from config view(Including XGE, ge, EPON, vlanif, mgmt, link-aggregation)

[Case]

OLT(config)# interface ge

OLT(interface-ge)#

OLT(config)# interface xge

OLT(interface-xge)#

OLT(config)# interface EPON

OLT(interface-EPON)#

```
OLT(config)# interface vlanif 100
OLT(interface-vlanif-100)#
OLT(config)# interface mgmt
OLT(interface-mgmt)#
OLT(config)# interface link-aggregation
OLT(config-interface-aggregation)#
```

1.5acl

[\[Command\]](#)

acl*<aclid>*

[\[View\]](#) config view

[\[Parameter\]](#)

aclid: <2000-2999>basic acl,<3000-4999>advanceacl,<5000-5999>link acl,<8000-8199> PON side acl.

[\[Description\]](#) Enter acl view from config view

[\[Case\]](#)

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

1.6multicast-vlan

[\[Command\]](#)

multicast-vlan *vlanid*

[\[View\]](#) config view

[\[Parameter\]](#)

vlanid: VLAN id,<1~4094>

[\[Description\]](#) Entermulticast-vlan view from config view

[\[Case\]](#)

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

1.7 exit

[\[Command\]](#) **exit**

[\[View\]](#) Any view

[\[Parameter\]](#) None

[\[Description\]](#) Exit the current view, return to the previous view

[\[Case\]](#)

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

2. Device Upgrading

2.1 load

[Command]

load packetfile ftp *server-ip-address user-name user-password filename*

[View] enableview, configview

[Parameter]

server-ip-address: FTPserver IP address

user-name: FTP username

user-password: FTP user password

filename: Filename of application program that needs to be downloaded

[Description]

This command is for upgrading OLT software version and kernel version that needs root user to login before using this command

[Case]

Upgrading OLT application program, filename of the software program is FD1216S_FW_V1.0.2_150914_1603.img, FTP server IP address is 192.168.1.16, FTP username is admin, password is admin. Reboot OLT when showing upgrade OK

[Case]

```
OLT(config)# load packetfile ftp 192.168.1.16 admin admin FD1216S_FW_V1.0.2_150914_1603.img
```

Broadcast message from root:

Upgrade is in process.

File [FD1216S_FW_V1.0.2_150914_1603.img] download OK

File [FD1216S_FW_V1.0.2_150914_1603.img] upgrade OK

[Case]

Upgrading OLT kernel, filename is FD1216S_Kernel_150914_1605.img, FTP server IP address is 192.168.1.16, FTP username is admin, password is admin. Reboot OLT when showing upgrade OK

[Case]

```
OLT(config)# load packetfile ftp 192.168.1.16 admin admin FD1216S_Kernel_150914_1605.img
```

Broadcast message from root:

Upgrade is in process.

File [FD1216S_Kernel_150914_1605.img] download OK

File [FD1216S_Kernel_150914_1605.img] upgrade OK

2.2 show version

[Command]

show version

[View] configview

[\[Parameter\]](#)

[\[Description\]](#)

View OLT hardware, software and kernel version information

[\[Case\]](#)

View device version information

OLT(config)# show version

Local Configuration Command

<cr> - Please press ENTER to execute command

OLT(config)# show version

Hardware version : V1.1

Firmware version : V1.0.2 (Oct 8 2015 13:35:52)

Kernel version : V539 (Mon Sep 14 16:05:47 CST 2015)

2.3 show progress

[\[Command\]](#)

show progress load

[\[View\]](#) enableview, config view

[\[Parameter\]](#)

[\[Description\]](#)

View progress of current processing operation of load, copy or backup by using this command

[\[Case\]](#)

View loading progress

OLT(config)# show progress load

Transmit Protocol : FTP
FTP Server : 192.168.1.16
FTP User Name : admin
FTP Password : admin
Transmit FileName : config
Transmit Action : Put
Transmit Status : Success
Transmit Progress : 100%

Load Operation : Null
Load FileName : config

3.Device Management

3.1 reboot

[Command]

reboot

[View] enable view, config view

[Parameter]

[Description]

Reboot OLT, only the root user group has this authority

[Case]

Reboot OLT

OLT# reboot

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

3.2 ip address

[Command]

ip address *ip-addr ip-mask*

no ip address

[View] vlanif view, MGMT view

[Parameter]

ip-addr: IP address, which has 5 types, user can choose suitable IP subnet according to the actual situation, IP addresses with the part of host address being all 0 or 1 have particular use and can not be used as common IP address

[Description]

Configure IP address and subnet mask of VLAN interface. Use this command when IP message in VLAN needs to participate in three layer forwarding. IP message in VLAN can be forwarded in three layer after configuring IP address and subnet mask successfully.

[Case]

Set IP address as 192.168.100.123, subnet mask as 255.255.255.0 for VLAN 100 interface

OLT(interface-vlanif-100)# ip address 192.168.100.123 255.255.255.0

[Case]

Set out-band management IP as 192.168.1.105, subnet mask as 255.255.255.0

OLT(interface-mgmt)# ip address 192.168.1.105 255.255.255.0

3.3 show interface mgmt

[Command]

show interface mgmt

[View] config view

[Parameter]

[Description]

View out-band IP address, maximum transmission unit, device MAC address and so on
[\[Case\]](#)

View current out-band management IP address of device

OLT(config)# show interface mgmt

Description : mgmt interface

The Maximum Transmit Unit is 1500 bytes

Internet Address is 192.168.1.105, netmask 255.255.255.0

Hardware address is E0:67:B3:00:00:01

Recive 4340 packets, 4479715 bytes

Transmit 1539 packets, 101742 bytes

3.4 show interface vlanif

[\[Command\]](#)

show interface vlanif *vlan-interface-number*

[\[View\]](#) config view

[\[Parameter\]](#)

vlan-interface-number: Range in 1-4094.

[\[Description\]](#)

View detailed information of vlanif interface

[\[Case\]](#)

View relevant information of valnif interface 10:

OLT(config)# show interface vlanif vlan-id 100

Description : vlan[100] management interface

The Maximum Transmit Unit is 1500 bytes

Internet Address is 192.168.100.123, netmask 255.255.255.0

Hardware address is E0:67:B3:00:00:02

Recive 105 packets, 5292 bytes

Transmit 35 packets, 1866 bytes

View information of all vlanif interfaces:

OLT(config)# show interface vlanif

Description : vlan[10] management interface

The Maximum Transmit Unit is 1500 bytes

Internet Address is 192.168.10.248, netmask 255.255.255.0

Hardware address is E0:67:B3:00:00:04

Recive 0 packets, 0 bytes

Transmit 0 packets, 0 bytes

Description : vlan[1] management interface

The Maximum Transmit Unit is 1500 bytes

Internet Address is 192.168.3.33, netmask 255.255.255.0

Hardware address is E0:67:B3:00:00:04

Recive 1588 packets, 79469 bytes

Transmit 1309 packets, 168611 bytes

3.5 show device

[\[Command\]](#)

show device

[\[View\]](#) enable view, config view

[\[Parameter\]](#)

[\[Description\]](#)

View information of OLT Device

Device model: Model of the device。

Device MAC address: MAC address of the device

Device serial-number: Serial number of the device

Device vendor name: Manufacturer name of the device

[\[Case\]](#)

View information of the device:

OLT# show device

```
-----  
Device model           : FD1216S  
Device MAC address     : E0:67:B3:00:57:3E  
Device serial-number   : AF1701-16080003  
Device vendor name     :TEST  
-----
```

OLT#

3.6 exec-timeout

[\[Command\]](#)

exec-timeout <time>

[\[View\]](#) config view

[\[Parameter\]](#)

<time>: time, value range in 1-36000 with unit of second

[\[Description\]](#)

This command is for configuring user login timeout, user will be logged out if user have not operated in device over the set time with the default value of 300s

[\[Case\]](#)

Set executing timeout as 36000 seconds:

OLT(config)# exec-timeout 36000

OLT(config)#

3.7show exec-timeout

[\[Command\]](#)

show exec-timeout

[\[View\]](#) config view

[\[Parameter\]](#)

[\[Description\]](#)

View user executing timeout

[\[Case\]](#)

View user executing timeout:

OLT(config)# show exec-timeout

Timeout: 36000s

OLT(config)#

3.8 logout

[\[Command\]](#)

logout

[\[View\]](#) view viewenable viewconfig view

[\[Parameter\]](#)

[\[Description\]](#)

Log out current system

[\[Case\]](#)

Log out current system:

OLT# logout

>>User name:

3.9 end

[\[Command\]](#)

end

[\[View\]](#) enable viewconfig view

[\[Parameter\]](#)

[\[Description\]](#)

Directly return to view view from enable view or config view:

[\[Case\]](#)

Return to view view from config view:

OLT(config)# end

OLT>

3.10 dns server

[\[Command\]](#)

dns serverip-addr

[\[View\]](#) config view

[\[Parameter\]](#)

ip-addr: IP address, in the form of x.x.x.x

[\[Description\]](#)

Configure IP address of DNS server of OLT

[\[Case\]](#)

Set the IP address of DNS server of OLT as 192.168.5.254

OLT(config)# dns server 192.168.5.254

OLT(config)#

3.11 show dns server

[\[Command\]](#)

show dns server

[\[View\]](#) config view

[\[Parameter\]](#)

[\[Description\]](#)

View IP address of all DNS servers of OLT

[\[Case\]](#)

View IP address of all DNS servers of OLT:

OLT(config)# show dns server

IPv4 Dns Servers :

Domain-server	IpAddress
1	192.168.5.254

OLT(config)#

3.12 sysname

[\[Command\]](#)

sysname NAME

[\[View\]](#) config view

[\[Parameter\]](#)

NAME: Configuring name, support 1-16 characters

[\[Description\]](#)

Configure the name showed in command line of OLT:

[\[Case\]](#)

the name showed in command line of OLT as test:

OLT(config)# sysname test

test(config)#

4. State Detection

4.1 show fan

[Command]

show fan

[View] enable view, config view

[Parameter]

[Description]

View woking state of fan of device

[Case]

View woking state of fan of device

OLT(config)# show fan

```
-----  
FAN[1] status: Normal      (7260RPM)  
FAN[2] status: Normal      (7080RPM)  
FAN[3] status: Normal      (7200RPM)  
-----
```

OLT(config)#

4.2 show temperature

[Command]

show temperature

[View] enable view, config view

[Parameter]

[Description]

View real time temperature of device

[Case]

View temperature of device:

OLT(config)# show temperature

The temperature of the board: 43.5(C)

OLT(config)#

4.3 show memory

[Command]

show memory

[View] enable view, config view

[Parameter]

[Description]

View memory utilization of device

[Case]

View memory utilization of device:

OLT(config)# show memory

```
-----  
Total memory      : 242MB  
Free memory       : 126MB  
Utilization       : 48%  
-----
```

OLT(config)#

4.4 show version

[\[Command\]](#)

show version

[\[View\]](#) enable view, config view

[\[Parameter\]](#)

[\[Description\]](#)

View version of software and hardware of device

[\[Case\]](#)

View version of software and hardware of device:

OLT(config)# show version

Hardware version : V1.1

Firmware version : V1.0.2 (Oct 8 2015 13:35:52)

Kernel version : V539 (Mon Sep 14 16:05:47 CST 2015)

OLT(config)#

4.5 time

[\[Command\]](#)

time time

[\[View\]](#) config view

[\[Parameter\]](#)

time: Time of device, in the form ofYYYY/MM/DD-HH:MM:SS

[\[Description\]](#)

Configure time of device

[\[Case\]](#)

Configure time of device:

OLT(config)# time 2015/10/10-17:12:00

4.6 show time

[\[Command\]](#)

show time

[\[View\]](#) enable view, config view

[\[Parameter\]](#)

[\[Description\]](#)

View time of device

[\[Case\]](#)

View time of device:

OLT(config)# show time

2017-03-20 22:17:04+08:00

OLT(config)#

4.7 show uptime

[\[Command\]](#)

show uptime

[\[View\]](#) enable view, config view

[\[Parameter\]](#)

[\[Description\]](#)

View start-up time and working time of device

[\[Case\]](#)

View working time of device:

OLT(config)# show uptime

System up time : 4 day 23 hour 8 minute 52 second

System boot time : Wed Mar 15 23:08:51 2017

OLT(config)#

4.8 ntp-service unicast-service

[\[Command\]](#)

ntp-service unicast-service (*ipaddress* | *Domain name*)

[\[View\]](#) config view

[\[Parameter\]](#)

ipaddress: IP address of NTP server

Domain name: Domain name of NTP server

[\[Description\]](#)

Configure NTP server for OLT

[\[Case\]](#)

Set NTP server of OLT as 202.120.2.101

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

4.9 no ntp-service unicast-service

[\[Command\]](#)

no ntp-service unicast-service (*ipaddress* | *Domain name*)

[\[View\]](#) config view

[\[Parameter\]](#)

ipaddress: IP address of NTP server

Domain name: Domain name of NTP server

[\[Description\]](#)

Delete NTP server configuration of OLT

[\[Case\]](#)

Delete the NTP server of 202.120.2.101 of OLT:

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

4.10 show ntp-service session

[\[Command\]](#)

show ntp-service session

[\[View\]](#) config view

[\[Parameter\]](#)

[\[Description\]](#)

View OLT NTP session information

clock source: IP address of clock server

[\[Case\]](#)

View OLT NTPsession information:

OLT(config)# show ntp-service session

clock source: 202.120.2.101

clock stratum: 3

clock status: configured, sane

reference clock ID: 79.213.241.147

reach: 1

current poll: 32

now: 0

offset: +511298392.149292ms

delay: 0.135728

disper: 3.939436

4.11 timezone

[\[Command\]](#)

timezone (gmt+ *timezone* | gm- *timezone*)

[\[View\]](#) config view

[\[Parameter\]](#)

gmt+: Eastern time zone

gm-: Western time zone

timezone: Zone time in the form of hh:mm, maximum of eastern time zone is18:00, maximum of western time zone is18:00

[\[Description\]](#)

Configure system timezone as eastern or western timezone, "GMT+" represents eastern timezone, which means local time is faster than Greenwich Mean Time, "GMT-" represents western timezone, which means local time is slower than Greenwich Mean Time

[\[Case\]](#)

Set current system timezone as GMT+8:00:

OLT(config)# timezone gmt+ 08:00

4.12 show timezone

[\[Command\]](#)

show timezone

[\[View\]](#) config view

[\[Parameter\]](#)

[\[Description\]](#)

View system current timezone

[\[Case\]](#)

View system current timezone

OLT(config)# show timezone

The current time zone: GMT+08:00

4.13 dns server

[\[Command\]](#)

dns server *ip address*

[\[View\]](#) config view

[\[Parameter\]](#)

ip address: IP address of domain server

[\[Description\]](#)

Configure IP address of system domain server

[\[Case\]](#)

Set the IP address of system domain server as 10.10.10.1

OLT(config)# dns server 10.10.10.1

4.14 no dns server

[\[Command\]](#)

no dns server [*ip address*]

[\[View\]](#) config view

[\[Parameter\]](#)

ip address: IP address of domain server

[\[Description\]](#)

Delete system domain server, delete preferred and backup DNS server if there is no parameter behind the command

[\[Case\]](#)

Delete system domain server:

OLT(config)# no dns server

4.15 show location

[\[Command\]](#)

show location

[\[View\]](#)

config view

[\[Parameter\]](#)

[\[Description\]](#)

View information of local MAC address

[\[Case\]](#)

View information of local MAC address:

OLT(config)# show location E0:67:B3:00:57:3F

Total: 4

MAC	VLAN	Port	MAC-Type
E0:67:B3:00:57:3F	1	cpu	static
E0:67:B3:00:57:3F	20	cpu	static
E0:67:B3:00:57:3F	10	cpu	static
E0:67:B3:00:57:3F	100	cpu	static

OLT(config)#

4.16 show cpu

[\[Command\]](#)

show cpu

[\[View\]](#) config view

[\[Parameter\]](#)

[\[Description\]](#)

Viewcpu utilization of OLT

[\[Case\]](#)

View cpu utilization of OLT:

OLT(config)# show cpu

Utilization : 56%

Load Average(1min) : 8.25

Load Average(5min) : 8.36

Load Average(15min) : 8.35

OLT(config)#

4.17 show history

[Command]

show history

[View] config view

[Parameter]

[Description]

View history of recent inputting commands

[Case]

View history of recent inputting commands:

OLT(config)# show history

enable

config

exec-timeout 36000

exit

show dns server

show cpu

OLT(config)#

5. Configuration Management

5.1 backup configuration

[Command]

backup configuration ftp server-ip-address user-name user-password filename

[View] enable view, config view

[Parameter]

server-ip-address: IP address of FTP server

user-name: FTP username

user-password: FTP user password

filename: Filename of configuration backup file, set by user, no need for file format name

[Description]

Backup configuration file of OLT

[Case]

Backup configuration file of device, set the configuration file name as config, IP address of FTP server as 192.168.1.16, username of FTP as admin and password as admin:

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

5.2 load configuration

[Command]

load configuration ftp *server-ip-address user-name user-password filename*

[View] config view

[Parameter]

server-ip-address: IP address of FTP server

user-name: FTP username

user-password: FTP user password

filename: Name of configuration file that needs to be downloaded, which is supposed to be consistent with the configuration file in server

[Description]

Download OLT configuration file

[Case]

Download configuration file, set filename as config, IP address of FTP server as 192.168.1.16, FTP username as admin and password as admin:

OLT(config)# load configuration ftp 192.168.1.16 admin admin config

The new configuration file will overwrite the old one

Are you sure to load new

configuration file? (y/n)[n]:y

Broadcast message from root:

Start loading configuration

The loading is successful

Note: The configuration file will take effect after reboot

5.3 show current-config

[Command]

show current-config

[View] enable view, config view

[Parameter]

[Description]

View real-time configuration file, when user finish a set of configuration, then check the configuration is correct or not, use this command to view current effective configuration commands

[Case]

View current real-time configuration file of device:

OLT(config)# show current-config

Current configuration:

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

5.4 save

[\[Command\]](#)

save

[\[View\]](#) enable view, config view

[\[Parameter\]](#)

[\[Description\]](#)

Save current configuration file of device

[\[Case\]](#)

Save current configuration:

OLT(config)# save

Save configuration starting ...

The percentage of saved data is: 0%

The percentage of saved data is: 14%

The percentage of saved data is: 28%

The percentage of saved data is: 42%

The percentage of saved data is: 57%

The percentage of saved data is: 71%

The percentage of saved data is: 85%

The percentage of saved data is: 100%

Save configuration completed!

5.5 erase saved-config

[\[Command\]](#)

erase saved-config

[\[View\]](#) enable view, config view

[\[Parameter\]](#)

[\[Description\]](#)

Erase saved configuration file, execute this command and reboot OLT, OLT will restore the factory default settings

[\[Case\]](#)

Erase saved configuration file:

OLT# erase saved-config

This command will clear the active board data that has been saved

Please rememb

er to backup the system configuration data

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

Successfully restored factory configuration!

5.6 show saved-config

[\[Command\]](#)

show saved-config

[\[View\]](#) config view

[\[Parameter\]](#)

[\[Description\]](#)

Viewsaved configuration file

[\[Case\]](#)

View current saved configuration file of device:

OLT(config)# show saved-config

#Saving user: root

#Saving time: 2017-03-20 19:00:02+0800

spanning-tree enable

spanning-tree timer max-age 6

spanning-tree timer forward-delay 30

spanning-tree timer hello 1

spanning-tree priority 4096

interface ge

spanning-tree edged-port 1 enable

spanning-tree priority 1 16

spanning-tree cost 1 1600

spanning-tree mcheck 1 enable

exit

6. User Management

6.1 user add

[\[Command\]](#)

user add *user-name user-password admin/guest/root*

[\[View\]](#)

config view

[\[Parameter\]](#)

user-name: Username of new user

user-password: User password

admin/guest/root: Authority of new user, which is root, admin or guest

[\[Description\]](#)

Add new user and its password, the group new user belongs to can be root, admin or guest

Root user has all authorities of device

Admin user has the authority of configuring and viewing, authority of rebooting and upgrading are not included

Guest user has the authority of configuration viewing and backup function

[\[Case\]](#)

Create an admin user, set the username as test and password as test:

OLT(config)# user add test test admin

OLT(config)#

6.2 user delete

[\[Command\]](#)

user delete *name*

[\[View\]](#) config view

[\[Parameter\]](#)

name: Username that needs to be deleted

[\[Description\]](#)

Delete created users, root user can not be deleted

[\[Case\]](#)

Delete the created user with the username of test

OLT(config)# user delete test

OLT(config)#

6.3 user password

[\[Command\]](#)

user password *user-name user-password*

[\[View\]](#) config view

[\[Parameter\]](#)

user-name: Username with its password that needs to be modified

user-password: The password that needs to be modified

[\[Description\]](#)

Modify password of user

[\[Case\]](#)

Change the password of user with username “test” into 123456

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

```
OLT(config)#
```

6.4 show user

[\[Command\]](#)

show user

[\[View\]](#) config view

[\[Parameter\]](#)

[\[Description\]](#)

View all created users of device

[\[Case\]](#)

View all created users of device

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

User	Group
root	root
yao	guest
test	admin

```
OLT(config)#
```

6.5 show client

[\[Command\]](#)

show client

[\[View\]](#) config view

[\[Parameter\]](#)

[\[Description\]](#)

View relevant information of user login

[\[Case\]](#)

View relevant information after logging in device:

```
OLT(config)# show client
```

ID	Access-Type	User-Name	IP-Address	Login-Time
>32	Telnet	root	192.168.5.67	03:52:47
46	Telnet	root	192.168.5.20	00:07:45

```
OLT(config)#
```

6.6 client kick-off

[Command]

client kick-off client-id

[View]enable view, config view

[Parameter]

client-id: ID of login user, value range in 1-4294967295, which can be viewed by using command of “show client”

[Description]

Forcibly kick off login user connected through telnet

[Case]

Kick off login client 44:

OLT# client kick-off 44

The user has been kicked off successfully

OLT#

7.SNMP Configuration

7.1 (show) snmp-agent

[Command]

snmp-agentdisable/enable

View status ofsnmp function: **show snmp-agent status**

[View] config view

[Parameter]

disable: Disable SNMP agent function

enable : Enable SNMPagent function

[Description]

Only when SNMP agent function is enabled, can OLT be managed by EMS

[Case]

Disable snmp-agent function

OLT(config)# snmp-agent disable

Enable snmp-agentfunction

OLT(config)# snmp-agent enable

View status ofsnmpfunction:

OLT(config)# show snmp-agent status

Snmp agent status: Enable

OLT(config)#

7.2(show) snmp-agent community read

[Command]

snmp-agentcommunity read <COMMUNITY-NAME>

View read community: **show snmp-agent community read**

[View] config view

[Parameter]

COMMUNITY-NAME: Name of read community

[Description]

Configure name of SNMP read community

[Case]

Set SNMP read community as public:

OLT(config)# snmp-agent community read public

7.3(show) snmp-agent community write

[Command]

snmp-agentcommunity write <COMMUNITY-NAME>

View write community: **show snmp-agent community write**

[View] config view

[Parameter]

COMMUNITY-NAME: Name of write community

[Description]

Configure name of SNMP write community

[Case]

Set SNMP write community as private:

OLT(config)# snmp-agent community write private

OLT(config)#

7.4(show) snmp-agent group v3

[Command]

snmp-agentgroup v3 GROUP authentication/noauth/privacy(notify-view all|none)|(read-view all|none)|(write-view all|none)

View snmp group: **show snmp-agent group (GROUP /<cr>)**

[View] config view

[Parameter]

GROUP: Group name, support 1-32 characters

authentication: Indicate that the group is in security level with authentication but no password

noauth: Indicate that the group is in security level without authentication

privacy: Indicate that the group is in private security level

notify-view: Specify the corresponding notice view of the group

read-view: Configure corresponding read view for the group

write-view: Configure corresponding write view for the group

all: All

none: None

[\[Description\]](#)

Create SNMP group:

[\[Case\]](#)

Create SNMP group with authentication, read, write and alarm view as all, group name as group_1:

OLT(config)#snmp-agent group v3 group_1 privacy read-view all write-view all notify-view all

7.5(show) snmp-agent sys-info

[\[Command\]](#)

snmp-agent sys-infodescription description

snmp-agent sys-infocontact contact

snmp-agent sys-infolocation location

snmp-agent sys-infoname name

View snmp system information: **show snmp-agent sys-info**

[\[View\]](#) config view

[\[Parameter\]](#)

description: System description information, support 1-100 characters

contact: System connection information, support 1-100 characters

location: System address information, support 1-100 characters

name: System name information, support 1-100 characters

[\[Description\]](#)

Configure system node devices:

[\[Case\]](#)

Set system description information of the system node device as asdfg:

OLT(config)# snmp-agent sys-info description asdfg

View snmp system information:

OLT(config)# show snmp-agent sys-info

The name of this managed node:

name

The description of this managed node:

asdfgs

The contact person for this managed node:

contact

The physical location of this node:

location

OLT(config)#

7.6 (show) snmp-agent trap

[Command]

snmp-agent trap (HOST-NAME)(IP address)(port-id)(COMMUNITY-NAME)

View snmp trap information: **show snmp-agent trap**

[View] config view

[Parameter]

HOST-NAME: Hostname

IP address: Snmp trap IP

port-id: Snmp trap port

COMMUNITY-NAME: Community name

[Description]

Set snmp trap/notice and other relevant parameters

[Case]

Set snmptrap:

OLT(config)# snmp-agent trap a192.168.5.222162 public

View snmptrap information:

OLT(config)# show snmp-agent trap

Index	Host-Name	IP-Address	Port	Community-Name
1	a	192.168.5.222	162	public

OLT(config)#

7.7(show) snmp-agent usm-user

[Command]

snmp-agentusm-user v3 (USER)(group-id) **authentication-mode md5** (password) **privacy-mode des56** (password)

View usm-user: **show snmp-agent usm-user** (USER/<cr>)

[View] config view

[Parameter]

USER: Username, support 1-32 characters

group-id: User group name, support 1-32 characters

Password: Authentication password, support 8-64 characters

[Description]

Create security name and map it into the group

[Case]

Create security name and map it into the group: Security name user_1, map into group_1, authentication type of MD5, authKey is 123456789, private type of DES56, privKey is 987654321:

OLT(config)#snmp-agent usm-user v3 user_1 group_1 authentication-mode md5 123456789
privacy-mode des56 987654321

8. Port

8.1 shutdown

[Command]

shutdown *port-list*

[View] ge view, EPON view, xge view, link-aggregation view

[Parameter]

port-list: Port list that needs to be configurated

[Description]

Disable the port

[Case]

Disable ge1 port

OLT(interface-ge)# shutdown 1

Disable pon1port

OLT(config-interface-epon)# shutdown 1

8.2 no shutdown

[Command]

no shutdown *port-list*

[View] ge view, EPON view, xge view, link-aggregation view

[Parameter]

port-list: Port list that needs to be configurated

[Description]

Enable the port

[Case]

Enable ge1 port

OLT(interface-ge)# no shutdown 1

Enable pon1port

OLT(config-interface-epon)# no shutdown 1

8.3 show port state

[Command]

show port state all

show port state *port-id*

[View]ge view, EPON view, xge view, link-aggregation view

[Parameter]

port-id: Port list that needs to be viewed

[Description]

View detailed information of port or view OLT port list

[\[Case\]](#)

View detailed information of OLT ge1 port

OLT(config-interface-ge)# show port state 1

ge1 information summary :

port name : ge1

current port state : enable

current link state : DOWN

The Maximum Transmit Unit : 1500

The port 15 minute statistics status : disable

The port 24 hour statistics status : disable

Link speed : not autonegotiation(1000 MBps)

link duplex : not autonegotiation(FULL)

Flow-control : on

Maximum number of learned l2 entries : 100

broadcasts stormcontrol : disable

multicasts stormcontrol : disable

unicasts stormcontrol : disable

native-vlan : 100

Port link-type : Hybrid

Tagged VLAN ID :

1000

Untagged VLAN ID :

100

statistics from last clean(maybe the statistics would overflow):

Input(total):0 bytes

Input:unicast 0, broadcasts 0, multicasts 0, errors 0

Output(total):0 bytes

Output:unicast 0, broadcasts 0, multicasts 0, errors 0

OLT(config-interface-ge)#

View OLT port list:

OLT(config-interface-ge)# show port state all

Port	Optic Status	Pvid	Auto Nego	Speed /Mbps	Dup lex	Flow Ctrl	Learn	Enable	Link	Mtu
ge1	absence	100	disable	1000	full	on	enable	enable	off	1500
ge2	absence	1	enable	1000	full	on	enable	enable	off	1500
ge3	absence	1	enable	1000	full	on	enable	enable	off	1500
ge4	absence	1	enable	1000	full	on	enable	enable	off	1500
ge5	-	1	disable	100	half	off	enable	enable	on	1500
ge6	-	1	enable	1000	full	off	enable	enable	off	1500
ge7	-	1	enable	1000	full	off	enable	enable	off	1500


```
ge8      -          1      enable  1000    full  off  enable  enable  off  1500
```

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

8.4 show port ddm-info

[\[Command\]](#)

show port ddm-info *port-id*

[\[View\]](#) EPON view

show ddm-info *port-id*

[\[View\]](#) GE view, Xge view

[\[Parameter\]](#)

ddm-info *port-id*: Port ID that needs to be viewed

[\[Description\]](#)

View digital diagnostic monitoring information of optical module of PON port like temperature, supply voltage, forwarding deviation current, forwarding power, receiving power and so on, optical module needs to be plugged in

[\[Case\]](#)

View digital diagnostic monitoring information of optical module of PON port1:

```
OLT(interface-EPON)# show port ddm-info 1
```

```
Temperature(C)           : 44.6  
Supply Voltage(V)        : 3.36  
TX Bias current(mA)      : 13  
TX power(dBm)            : 5.29  
RX power(dBm)            : -40.00
```

[\[Case\]](#)

View digital diagnostic monitoring information of optical module of port ge3:

```
OLT(config-interface-ge)# show ddm-info 3
```

8.5 show port vlan

[\[Command\]](#)

show port vlan *port-id*

[\[View\]](#) ge view, EPON view, xge view, link-aggregation view

[\[Parameter\]](#)

port-id: PON port number that needs to be viewed

[\[Description\]](#)

View vlan configuration of port

[\[Case\]](#)

View vlan configuration of port ge1:

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

```
-----  
Port: ge1    Native-Vlan: 1    Mode: Access
```

Tagged-Vlan:

-

Untagged-Vlan:

1

8.6 auto-neg

[\[Command\]](#)

auto-neg *port-list switch*

[\[View\]](#) ge view

[\[Parameter\]](#)

port-list: Port list that needs to be configured

switch: Switch of auto-negotiation mode, value inenable, disable

[\[Description\]](#)

此命令用于使能或者去使能以太网端口的自协商模式。使能的情况下, 该以太网端口自动与对接端口协商端口速率和双工模式, 且系统显示为自协商, 在该模式下端口速率最大可达1000M。去使能的情况下, 该端口的速率和工作模式为系统默认的值或人为设置的值 (即强制方式) 。

Enable or disable auto-negotiation mode of Ethernet port. When enabled, Ethernet port will negotiate port rate and duplex mode with docking port automatically, when system shows auto-negotiation, in this mode the maximum port rate is 1000M. When disabled, rate and working mode of the port are system default value or user-configured value (Forcible way)

[\[Case\]](#)

Enable auto-negotiation function of portge1:

OLT(interface-ge)# auto-neg 1 enable

8.7 duplex

[\[Command\]](#)

duplex *port-listduplex*

[\[View\]](#) ge view

[\[Parameter\]](#)

port-list: Port list that needs to be configured

duplex: Duplex mode of Ethernet port, value inhalf, full

[\[Description\]](#)

Configure duplex mode of Ethernet port. After configuring successfully, Ethernet port will work in the configured full or half duplex mode

[\[Case\]](#)

Set port ge1 as full duplex mode:

OLT(interface-ge)# duplex 1 full

8.8 speed

[Command]

speed *port-list* *speed*

[View] ge view

[Parameter]

port-list: Port list that needs to be configured

speed: Ethernet port rate, value in 10, 100(1000 only support auto-negotiation mode)

[Description]

Configure Ethernet port rate, make port work in configured rate

[Case]

Set the working rate of port ge1 as 100Mbit/s

OLT(interface-ge)# speed 1 100

8.9 (no) flow-control

[Command]

flow-control *port-list*

no flow-control *port-list*

[View] ge view, EPON view, xge view, link-aggregation view

[Parameter]

port-list: Port list that needs to be configured

[Description]

Enable flow control function of port, command “no” disables flow control function of port:

[Case]

OLT(interface-EPON)# flow-control 1

8.10 (no) mirror

[Command]

mirror src-port *src-port* **dst-port** (*ge|xge*) *port-id* *direction*

no mirror src-port *src-port* *direction*

[View] ge view, EPON view, xge view, link-aggregation view

[Parameter]

src-port: Source port ID of mirroring

port-id: Destination port ID of mirroring

direction: Message direction of mirror port

ingress: Receiving message of mirror port, completely mirror message received in source port to destination port

egress: Forwarding message of mirror port, completely mirror message forwarded in source port to destination port

all: Mirror both ingress and egress message of source port to destination port

[\[Description\]](#)

Configure mirror function of Ethernet port. Traffic of the port will be copied to another port for flow observation, network fault diagnosis and data analysis. When mirror function of Ethernet port is enabled, message with configured direction of mirror source port will be completely copied into the mirror destination port

[\[Case\]](#)

Completely mirror message received in port GE1 to Port GE2:

```
OLT(interface-ge)# mirror src-port 1 dst-port ge 2 ingress
```

8.11 show mirror

[\[Command\]](#)

show mirror

[\[View\]](#) ge view, EPON view, xge view, link-aggregation view

[\[Parameter\]](#)

[\[Description\]](#)

View mirror configuration information of port

[\[Case\]](#)

View mirror configuration information of port:

```
OLT(interface-ge)# show mirror
```

```
-----  
Admin                : Enable  
Destination Port      : ge2  
Source Ingress Ports  : ge1  
Source Egress Ports   : ge5  
-----
```

8.12 (no) mtu

[\[Command\]](#)

mtu port-list mtu-value

no mtu port-list

[\[View\]](#) ge view, EPON view, xge view, link-aggregation view

[\[Parameter\]](#)

port-list: Port list that needs to configure MTU

mtu-value: MTU value, range in 328~16356. Particularly, The MTU of port supports 2048 for the most

[\[Description\]](#)

Configure Maximum Transmission Unit(MTU), which means the maximum packet size in each transmission. System default value of MTU is 1500. "no" command will set MTU value back to default value

[\[Case\]](#)

Set MTU of ge1 as 2000:

OLT(interface-ge)# mtu 1 2000

8.13 statistics port

[Command]

Statistics port *port-list option*

[View] ge view, EPON view, xge view

[Parameter]

port-id: Port number that needs to be viewed

option has following parameters:

15minenable | **disable**: Enable or disable statistical function with interval of 15 minutes

24hourenable | **disable**: Enable or disable statistical function with interval of 24 hours

threshold <1-64> <Upper> <Lower>: Threshold value of port statistics, upper and lower represent maximum value and minimum value respectively, value range in 0-4294967294, <1-64> represents index of configuring threshold parameters, details as follows:

- 1:rx-octets, 2:rx-frames,
3:rx-bcasts, 4:rx-mcasts,
5:rx-64octets, 6:rx-65to127octets,
7:rx-128to255octets, 8:rx-256to511octets,
9:rx-512to1023octets, 10:rx-1024to1518octets,
13:rx-oversizes, 20:rx-discards 23:tx-octets,
24:tx-frames, 25:tx-bcasts, 26:tx-mcasts,
27:tx-64octets, 28:tx-65to127octets,
29:tx-128to255octets, 30:tx-256to511octets,
31:tx-512to1023octets, 32:tx-1024to1518octets,
35:tx-oversizes, 42:tx-discards

[Description]

Enable or disable statistical function with interval of 15 minutes or 24 hours and configure upper and lower threshold value according to data statistics type

[Case1]

Enable statistical function with interval of 15 minutes of port ge1:

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

OLT(config-interface-ge)#

[Case2]

Set the maximum threshold value as 100000, minimum threshold value as 12000 of data statistics of port ge1:

OLT(config-interface-ge)# statistics port 1 threshold 1 100000 12000

OLT(config-interface-ge)#

8.14 reset port statistic

[Command]

reset port statistic *port-id*

[\[View\]](#) ge view, EPON view, xge view, link-aggregation view

[\[Parameter\]](#)

port-id: Port number that needs to be configured

[\[Description\]](#)

Empty statistics information of port

[\[Case\]](#)

Empty statistics information of port ge1:

OLT(interface-ge)# reset port statistic 1

8.15 show port statistics

[\[Command\]](#)

show port statistics *port-id option*

[\[View\]](#) ge view, EPON view, xge view

[\[Parameter\]](#)

port-id: Port number that needs to be viewed

Option has following parameters:

current-15min: Port statistics information within recent 15 minutes

current-24hour: Port statistics information within recent 24 hours

historic-15min: Port statistics information of historic 15 minutes

historic-24hour: Port statistics information of historic 24 hours

threshold: Threshold value of port statistics information

[\[Description\]](#)

View port statistics information, user can check current working situation of device based on statistics information so that it will easier to find and eliminate faults, total (bytes) is the total received/forwarded bytes, unicast (pkts) is the number of unicast packet received/forwarded in port, broadcast (pkts) is the number of broadcast packet received/forwarded in port, multicast (pkts) is the number of multicast packet received/forwarded in port, discard (pkts) is the number of error packet discarded in port, err (pkts) is the number of error packet received/forwarded in port

[\[Case\]](#)

View statistics information of recent 15 minutes of PON1 port:

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

```
-----
Start time of this interval           : 2017-03-21 03:38:40+08:00
Total elapsed seconds in this interval : 2
-----
```

```

RX octets           : 0
RX frames           : 0
RX unicast frames   : 0
RX broadcast frames : 0
RX multicast frames : 0
RX discard frames   : 0
RX error frames     : 0

```

```

RX oversize frames          : 0
RX frames 64 octets         : 0
RX frames 65 to 127 octets  : 0
RX frames 128 to 255 octets : 0
RX frames 256 to 511 octets : 0
RX frames 512 to 1023 octets : 0
RX frames 1024 to 1518 octets : 0
TX octets                   : 353870816
TX frames                   : 1043878
TX unicast frames           : 5225
TX broadcast frames         : 651438
TX multicast frames         : 387215
TX discard frames           : 0
TX error frames             : 0
TX oversize frames          : 0
TX frames 64 octets         : 527412
TX frames 65 to 127 octets  : 222460
TX frames 128 to 255 octets : 33456
TX frames 256 to 511 octets : 57006
TX frames 512 to 1023 octets : 6309
TX frames 1024 to 1518 octets : 197235

```

OLT(config-interface-epon)#

8.16 show mac-address

[Command]

show mac-address all

show mac-address black-hole

show mac-address dynamic

show mac-address port *geport-id*

show mac-address port lag *Manual-group-ID|Lacp-group-ID*

show mac-address port *xgeport-id*

show mac-address port *EPONport-id*

show mac-address static

show mac-address timer

show mac-address vlan *vlan-id*

[View] config view

[Parameter]

all: View all MAC address information in MAC address list

black-hole: View MAC address in the black hole of MAC address list

dynamic: View dynamic MAC address in MAC address list

port *port-id*: View MAC address learned in one port

static: View static MAC address in MAC address list

timer: View aging time of MAC address

vlan *vlan-id*: View corresponding MAC address specified by valn ID

[\[Description\]](#)

View system MAC address list information, during MAC address adding or deleting, use this command to view static or dynamic MAC address in current MAC address list

[\[Case1\]](#)

View all MAC addresses of uplink port ge1 in MAC address list of OLT:

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

Total: 1

MAC VLAN Port MAC-Type

E0:23:30:A3:B3:56 1 ge1 static

OLT(config)#

[\[Case2\]](#)

View all static MAC addresses in MAC address list:

OLT(config)# show mac-address static

Total: 4

MAC VLAN Port MAC-Type

E0:67:B3:00:57:3F 1 cpu static
E0:67:B3:00:57:3F 20 cpu static
E0:67:B3:00:57:3F 10 cpu static
E0:67:B3:00:57:3F 100 cpu static

OLT(config)#

8.17 show location

[\[Command\]](#)

show location *mac-address*

[\[View\]](#) config view

[\[Parameter\]](#)

mac-address: MAC address

[\[Description\]](#)

[\[Case\]](#)

View information of the corresponding source port of MAC address 3C:97:0E:FD:0C:69:

OLT(config)# show location 3C:97:0E:FD:0C:69

MAC VLAN Port MAC-Type

3C:97:0E:FD:0C:69 100 ge9 dynamic

8.18 mac-address limit port

[Command]

mac-address limit port ge *port-list count*

mac-address limit port EPON *port-list count*

mac-address limit port xge *port-list count*

[View] [config view](#)

[Parameter]

port-list: Port list that needs to be configured

count: Limit number of MAC address

[Description]

Configure maximum number of learned MAC address, when the number of learned MAC address is over the maximum, the exceeding MAC address will be discarded

[Case]

Limit the number of MAC address of port ge1 in OLT as 100:

OLT(config)# mac-address limit port ge 1 100

8.19(no) mac-address static

[Command]

mac-address static port (ge | EPON | xge | lag) *port-id* **vlan** *vlanid* *mac-address*

no mac-address static port (ge | EPON | xge | lag) *port-id* **vlan** *vlanid* *mac-address*

[View] [config view](#)

[Parameter]

port-list: Port list that needs to be configured

vlan-id: Corresponding vlan ID of static MAC address

mac-address: Static MAC address

[Description]

Configure PW static MAC address, when configured successfully, device will forward data according to static MAC address instead of processing MAC address learning

[Case]

Add a static MAC address e0:67:b3:00:12:9c in OLT port ge1 with vlan 100:

OLT(config)# mac-address static port ge 1 vlan 100 e0:67:b3:00:12:9c

8.20 mac-address timer

[Command]

mac-address timer *aging-time*

mac-address timer no-aging

[\[View\] config view](#)

[\[Parameter\]](#)

aging-time: MAC address aging time

no-aging: MAC address will not age. Use this parameter when MAC address aging function is not needed

[\[Description\]](#)

Configure aging time of dynamic entries in MAC address list. It takes effect immediately after configuring successfully, system will regularly check dynamic MAC address, MAC address will be discarded in the MAC address list if system have not forwarded or received any message with its source MAC address over the aging cycle. Regular MAC address aging can release MAC address list resource and avoid that system is not able to learn new MAC address

[\[Case\]](#)

Set MAC address aging time as 60 seconds:

OLT(config)# mac-address timer 60

8.21 mac-address learning

[\[Command\]](#)

mac-address learning portport-list disable|enable

[\[View\]](#)

Ge view, epon view, xge view

[\[Parameter\]](#)

enable: Enable Port MAC address learning function

disable: Disable Port MAC address learning function

port-list: Port that needs to be configured

[\[Description\]](#)

Enable or disable Port MAC address learning function

[\[Case\]](#)

Enable MAC address learning function of port ge1:

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

OLT(config-interface-ge)#

8.22(no) mac-address black-hole

[\[Command\]](#)

mac-address black-hole vlan-idmac-address

no mac-address black-hole vlan-idmac-address

[\[View\] config view](#)

[\[Parameter\]](#)

vlan-id: Corresponding vlan ID of MAC address in black hole

mac-address: MAC address in black hole

[\[Description\]](#)

Configure MAC address entries in black hole, switch will discard the message that the source MAC address or destination MAC address is in black-hole MAC address entries

[\[Case\]](#)

Add one black-hole MAC address entry, black-hole MAC address is e0:67:b3:a5:39:a2 with corresponding valn 50:

```
OLT(config)# mac-address black-hole 50 e0:67:b3:a5:39:a2
```

8.23 mac-address flush

[\[Command\]](#)

mac-address flush all

mac-address flush black-hole

mac-address flush dynamic

mac-address flush port ge *port-id type*

mac-address flush port EPON *port-id type*

mac-address flush port lag *Manual-group-ID | LACP-group-ID type*

mac-address flush port xge *port-id type*

mac-address flush static

mac-address flush vlan *vlan-id type*

[\[View\]](#) config view

[\[Parameter\]](#)

port-id: Port number that needs to be configured

type: MAC address type that needs to be eliminated

vlan-id: Eliminate corresponding MAC address of specified vlan ID

[\[Description\]](#)

Eliminate all or specified type MAC address

[\[Case\]](#)

Eliminate all dynamic MAC address of OLT port ge1:

```
OLT(config)# mac-address flush port ge 1 dynamic
```

8.24(no) traffic-suppress

[\[Command\]](#)

traffic-suppress *port-id broadcast ppsvalue*

traffic-suppress *port-id multicast pps value*

traffic-suppress *port-id unicast ppsvalue*

no traffic-suppress *port-id (unicast | multicast | broadcast) ppsvalue*

[\[View\]](#) ge view, EPON view, xge view, link-aggregation view

[\[Parameter\]](#)

port-id: Port number that needs to be configured

broadcast: Configure permitted broadcast traffic in port to suppress broadcast storm

multicast: Configure permitted unknown multicast traffic in port to suppress unknown multicast storm

unicast: Configure permitted unknown unicast traffic in port to suppress unknown unicast storm

pps value: Pulse value on each second, Value range in (1~1488100)

[\[Description\]](#)

Command “traffic-suppress” is for configuring suppression level of broadcast, unknown multicast and unknown unicast traffic in port to prevent these messages from occupying too much internet sources which will cause network congestion. Command “no” will disable port flow-control function

[\[Case\]](#)

Set broadcast pulse value of port ge1 as 1024pps each second:

OLT(config-interface-ge)# traffic-suppress 1 broadcast pps 1024

[\[Case\]](#)

Set multicast pulse value of port ge1 as 2048bps each second:

OLT(config-interface-ge)# traffic-suppress 1 multicast bps 2048

[\[Case\]](#)

Set unicast pulse value of port ge1 as 10240kpps each second:

OLT(config-interface-ge)# # traffic-suppress 1 unicast kbps 10240

8.25(no) port-rate

[\[Command\]](#)

port-rate port-list egress/ingress target-rate

no port-rate port-list egress/ingress

[\[View\]](#)

Ge view, epon view, xge view

[\[Parameter\]](#)

port-list: Port that needs to be configured

egress: Data forwarding direction

ingress: Data receiving direction

target-rate: Rate limit value

[\[Description\]](#)

Configure rate limit for egress and ingress direction in port

[\[Case\]](#)

Set ingress rate limit of port ge5 as 9M:

OLT(config-interface-ge)# port-rate 5 ingress 9000

8.26show port-rate

[\[Command\]](#)

show port-rate port-list

[\[View\]](#)

Ge view, epon view, xge view

[\[Parameter\]](#)

port-list: Port that needs to be viewed

[\[Description\]](#)

View information about rate limit of port

[\[Case\]](#)

View information about rate limit of port ge1:

OLT(config-interface-ge)# show port-rate 1

Traffic shaping:

```
-----
port    egress    ingress
ge1     0          0
OLT(config-interface-ge)#
```

8.27(no) port-name

[\[Command\]](#)

port-nameport-id NAME

no port-name port-id

[\[View\]](#)

Ge view, epon view, xge view, link-aggregation view

[\[Parameter\]](#)

port-id: Port number that needs to be configured

NAME: Support 1-17 characters

[\[Description\]](#)

Name port, command “no” removes port name

[\[Case\]](#)

Name port ge1 as test:

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

OLT(config-interface-ge)#

8.28protocol-vlan

[\[Command\]](#)

protocol-vlanprotocol-index **add|delete**port port-list vlan-id

[\[View\]](#)

Ge view, epon view, xge view,link-aggregation view

[\[Parameter\]](#)

protocol-index: Protocol index, value range in 1-16

add: Add

delete: Delete

port-list: Port that needs to be configured

vlan-id: Value range in 1-4094

[\[Description\]](#)

Bind one protocol vlan index with port and port vlan, protocol-vlan needs to be created first in

config view

[\[Case\]](#)

Add port ge1 with vlan 1 to protocol vlan with index 1:

OLT(config-interface-ge)# protocol-vlan 1 add port 1 1

8.29 isolate

[\[Command\]](#)

isolateport-list **disable** | **enable**

[\[View\]](#)

Ge view, epon view, xge view

[\[Parameter\]](#)

enable: Enable port isolation function

disable: Disable port isolation function

port-list: Port that needs to be configured

[\[Description\]](#)

Enable or disable port isolation function among same type ports, when it's enabled, the port can not communicate with other same type ports

[\[Case\]](#)

Enable isolation function of port ge1:

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

OLT(config-interface-ge)#

8.30 show port isolate

[\[Command\]](#)

show port isolate

[\[View\]](#)

Ge view, epon view, xge view

[\[Parameter\]](#)

[\[Description\]](#)

View port isolation configuration

[\[Case\]](#)

View port isolation configuration

OLT(config-interface-ge)# show port isolate

Isolate among pon port : p1-p16

Isolate among uplink port : ge1

OLT(config-interface-ge)#

8.31 port encrypt

[\[Command\]](#)

port encrypt port-list **key-exchange-time** time

port encrypt port-list **mode aes-128** | **disable** | **triple-churning** **key-exchange-time** time

[\[View\]](#)

epon view

[\[Parameter\]](#)

port-list: Port that needs to be configured

time: Key switching time , value range in 780-780000 with unit of millisecond

disable: Disable port encryption function

aes-128: aes 128 encryption mode

triple-churning: Triple-churning encryption mode

[\[Description\]](#)

Configure port encryption function and key switch time

[\[Case\]](#)

Enable aes128encryption mode of port pon1 and set the key switching time as 8000 millisecond

OLT(config-interface-epon)# port encrypt 1 mode aes-128 key-exchange-time 8000

OLT(config-interface-epon)#

8.32 anti-rogueont

[\[Command\]](#)

anti-rogueont auto-detect port-list **on**|**off**

anti-rogueont manual-detect port-list

[\[View\]](#)

epon view

[\[Parameter\]](#)

port-list: Port that needs to be configured

on: Enable Auto-detection function for long persistence light-emitting

off: Disable Auto-detection function for long persistence light-emitting

[\[Description\]](#)

Enable or disable *auto-detection or manual detection function for long persistence light-emitting*

[\[Case\]](#)

Enable Auto-detection function for long persistence light-emitting of port PON1:

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

OLT(config-interface-epon)#

8.33 show anti-rogueont

[\[Command\]](#)

show anti-rogueont auto-detect port-list **status**

[\[View\]](#)

epon view

[\[Parameter\]](#)

port-list: Port that needs to be configured

[\[Description\]](#)

View status of auto-detection function for long persistence light-emitting of port

[\[Case\]](#)

View status of auto-detection function for long persistence light-emitting of port pon1:

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

```
-----  
Detetion switch      : on  
Detetion interval   : 15 min  
-----
```

OLT(config-interface-epon)#

8.34ont-isolate

[\[Command\]](#)

ont-isolate port-list **enable|disable**

[\[View\]](#)

epon view

[\[Parameter\]](#)

port-list: Port that needs to be configurated

enable: Enable isolation function for each other among all ont in one pon port

disable: Disable isolation function for each other among all ont in one pon port

[\[Description\]](#)

Enable or disable *isolation function for each other among all ont in one pon port*

[\[Case\]](#)

Enable isolation function for each other among all ont in port pon1:

OLT(config-interface-epon)# ont-isolate 1 enable

OLT(config-interface-epon)#

9. VLAN

9.1 vlan

[\[Command\]](#)

vlan *vlan-list*

novlan *vlan-list*

vlan-name

[\[View\]](#) config view

[\[Parameter\]](#)

vlan-list: VLAN list, use this parameter when adding one or batch addmin VLAN, value range in 1-4094

[\[Description\]](#)

Command “vlan” add one or batch add several VLAN, command “no vlan”delete one or batch

delete several VLAN

[\[Case\]](#)

Create vlan 100

OLT(config)# vlan 100

Delete vlan 100

OLT(config)#no vlan 100

Batch create vlan 200-220

OLT(config)# vlan 200-220

Create username for VLAN100

OLT(config)# vlan-name 100 song

9.2 show vlan/vlan-name

[\[Command\]](#)

show vlan all

show vlan *vlan-id*

show vlan translate all

show vlan-name *vlan-id*

[\[View\]](#) [config view](#)

[\[Parameter\]](#)

all: View all existed VLAN information

vlan-id: VLAN ID, for identifying unique VLAN

translate all: All translating list

[\[Description\]](#)

View all existed VLAN information, specified VLAN information or VLAN translating list information, ports and its tag processing mode in the vlan can be seen as well

[\[Case\]](#)

View information of vlan 100

OLT(config)# show vlan 100

VLAN		Tagged-Ports	Untagged-Ports
100	p1-p8		xge1

OLT(config)# show vlan-name 100

VLAN	Name
100	song

9.3 vlan mode

[Command]

vlan mode *port-list mode*

[View] ge view, EPON view, xge view, link-aggregation view

[Parameter]

port-list: Port list in VLAN mode that needs to be configured

mode: VLAN mode including access, hybrid, trunk mode

[Description]

Access mode only allow untagged message to enter and will add native vlan of the port to the entering untagged message, tag of the message that goes out from the port will be stripped

trunk mode allow several messages with different tag to enter, but the tag of the message should be in trunk list, the tag of going-out message won't be stripped but remain the same.

hybrid mode is the combination of access and trunk, port in hybrid mode allow several messages with different tag to enter, tag of going-out message can be stripped or not as configured

[Case]

Set OLT port ge1 as trunk mode:

OLT(interface-ge)# vlan mode 1 trunk

9.4 vlan access

[Command]

vlan access *port-list vlan-id*

[View] ge view, EPON view, xge view, link-aggregation view

[Parameter]

port-list: Port list that needs to be configured

vlan-id: VLAN ID, for identifying one unique VLAN

[Description]

Add access VLAN to port, the adding access VLAN should exist first (Which means one VLAN needs to be created in config view and the port mode is access)

[Case]

Add access VLAN 100 in port ge1:

OLT(interface-ge)# vlan access 1 100

9.5 (no) vlan trunk

[Command]

vlan trunk *port-list allowed vlan-list*

no vlan trunk *port-list allowed vlan-list*

[View] ge view, EPON view, xge view, link-aggregation view

[Parameter]

port-list: Port list that needs to be configured

vlan-list: VLAN list

[Description]

Add trunk VLAN in port, the VLAN should exist already, and the VLAN mode of the port is trunk

[Case]

Add trunk VLAN10,11, and 12 in port ge2:

```
OLT(config-interface-ge)# vlan trunk 2 10,11,12
```

ge2 : trunk vlan allowed , failed: 0, success: 3

9.6 (no) vlan hybrid

[Command]

vlan hybrid *port-list* (**tagged | untagged**) *vlan-list*

no vlan hybrid *port-list* (**tagged | untagged**) *vlan-list*

[View] ge view, EPON view, xge view, link-aggregation view

[Parameter]

port-list: Port list that needs to be configured

tagged | untagged –Configure going-out message from the porttagged or untagged

vlan-list: VLAN list

[Description]

Add hybrid vlan in port, the adding VLAN should exist already(which can be created in config view) and the VLAN mode of the port should be hybrid

[Case]

ge1 端口以 tagged 方式添加 hybrid VLAN 100, 以 untagged 方式添加 VLAN1000

```
OLT(config-interface-ge)# vlan mode 1 hybrid
```

```
OLT(interface-ge)# vlan hybrid 1 tagged 100
```

ge1 : hybrid vlan added:

Fail: 0, Success: 1

```
OLT(interface-ge)# vlan hybrid 1 untagged 1000
```

ge1 : hybrid vlan added:

Fail: 0, Success: 1

9.7 vlan translate

[Command]

vlan translate (*port-list*) (*old vlan*) (*new vlan*) (*new priority*)

[View]

ge view EPON view xge view link-aggregation view

[Parameter]

port-list: Port list that needs to be configured

vlan-list: VLAN list

new priority: VLAN translation priority

[Description]

Translate original VLAN into new VLAN of the port

[Case]

Translate VLAN10 into VLAN 11, and VLAN11 into VLAN 12 in port ge3, set higher priority of second command (higher priority will be translated first)

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

OLT(config-interface-ge)# vlan translate 3 11 12 2

View relevant information of VLAN translation:

OLT(config-interface-ge)# show vlan translate all

index	port	oldvlan	newvlan	priority	mode
1	ge3	10	11	1	Translate
2	ge3	11	12	2	Translate

9.8 vlan native-vlan

[Command]

vlan native-vlan *port-list* *vlan-id*

[View] ge view, EPON view, xge view, link-aggregation view

[Parameter]

port-list: Port list that needs to be configured

vlan-id: VLAN ID, for identifying one unique VLAN

[Description]

Configure port native VLAN, when untagged message enters through this port, native VLAN will be added, when tagged message goes out through this port, tag will be stripped if the tag equals native VLAN

[Case]

Set native VLAN of port ge1 as 100:

OLT(interface-ge)# vlan native-vlan 1 100

9.9 show port vlan

[Command]

show port vlan *port-id*

[View] ge view, EPON view, xge view, link-aggregation view

[Parameter]

port-id: Port number that needs to be configured

[Description]

View port VLAN information

[Case]

View VLAN information of port ge1:

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

Port: ge1	Native-Vlan: 12	Mode: Hybrid
-----------	-----------------	--------------

Tagged-Vlan:

10

Untagged-Vlan:

11,12

9.10 (no) interface vlanif

[Command]

interface vlanif *vlan-id*

no interface vlanif *vlan-id*

[View] config view

[Parameter]

vlan-id: VLAN ID, for identifying one unique VLAN

[Description]

Command “interface vlanif” can create VLANIF interface in global configuration mode and enter VLANIF mode, IP address of virtual three-layer interface can be configured in this mode. Command “no” cancels VLANIF interface

[Case]

Create VLANIF interface of VLAN 100 with VLAN 100 already exists and enter the VLANIF mode:

OLT(config)# interface vlanif 100

OLT(interface-vlanif-100)#

9.11 show interface vlanif

[Command]

show interface vlanif *vlan-id*

[View] config view

[Parameter]

Vlan-id: Specified VLAN ID that needs to be viewed

[Description]

View detailed information of VLANIF interface:

[Case]

View relevant information of VLANIF interface 100:

OLT(config)# show interface vlanif *vlan-id* 100

Description :Inband interface vlanif10

The Maximum Transmit Unit is 1500 bytes

Internet Address is 192.168.100.123, netmask 255.255.255.0

Hardware address is E0:67:B3:00:00:02

 Recive 105 packets, 5292 bytes

 Transmit 35 packets, 1866 bytes

9.12(no) mac-vlan

[Command]

mac-vlan *mac-addr* *vlan-id* *priority*

no mac-vlan *mac-addr* *all*

[View] config view

[Parameter]

mac-addr: mac address in the format of *xx.xx.xx.xx.xx.xx*

vlan-id: VLANID, value range in 1-4094

priority: Priority

all: All mac-vlan

[Description]

Add MAC-VLAN, when the message without tag entered OLT, if the destination address equals configured MAC address, then the message will be added corresponding tag of VLAN and priority. Command “no” deletes MAC-VLAN entries

[Case]

Create MAC-VLAN with MAC address 13:20:12:08:97:23, VLAN 100, and priority 0

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

OLT(config)#

9.13 show mac-vlan

[Command]

show mac-vlan all

[View] config view

[Parameter]

[Description]

View all MAC-VLAN entries

[Case]

View all MAC-VLAN

OLT(config)# show mac-vlan all

index	mac-address	vlan	priority
1	13:20:12:08:97:23	100	0

OLT(config)#

9.14(no) ip-subnet-vlan

[Command]

ip-subnet-vlan *ip-addr* (*length-mask* | *mask*) *vlan-id* *priority*

no ip-subnet-vlan *ip-addr* (*length-mask* | *mask*)

[\[View\] config view](#)

[\[Parameter\]](#)

ip-addr: IP address in the format of x.x.x.x.

vlan-id: VLAN id, value range in 1-4094

priority: Priority, value range in 0-7

length-mask: Length of subnet mask, value range in 0-32

mask: Subnet mask, in the format of x.x.x.x

[\[Description\]](#)

Add IP-subnet-VLAN, when the message without tag entered OLT, if the destination address equals configured MAC address, then the message without tag will be added corresponding tag of VLAN and priority. Command “no” deletes IP-subnet-VLAN entries

[\[Case\]](#)

Create IP-subnet-VLAN with IP address 192.168.5.34, the length of subnet mask 24, vlan 100 and priority 0,

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

OLT(config)#

9.15 show ip-subnet-vlan

[\[Command\]](#)

show ip-subnet-vlan all

[\[View\] config view](#)

[\[Parameter\]](#)

[\[Description\]](#)

View all IP-subnet-VLAN entries

[\[Case\]](#)

View all IP-subnet-VLAN

OLT(config)# show ip-subnet-vlan all

ip-address	netmask	vlan	priority
102.123.1.0	255.255.255.0	200	0
192.168.5.0	255.255.255.0	100	0

OLT(config)#

9.16 (no) protocol-vlan

[\[Command\]](#)

protocol-vlan protocol-index mode ethernetii / snapetype ethertype-id

protocol-vlan protocol-index at ethernetii / snap

protocol-vlan protocol-index ipv4 ethernetii / snap

protocol-vlan protocol-index ipv6 ethernetii / snap

protocol-vlan protocol-index ipx ethernetii / llc / raw / snap

no protocol-vlan protocol-index|all

[\[View\] config view](#)

[\[Parameter\]](#)

protocol-index: Protocol-VLAN index, value range in 1-16.

ethertype-id: Ethernet type number, value range in 0x0001-0xffff and format like above

mode: Mode

at: Appletalk protocol

ipv4: IPv4protocol

ipv6: IPv6protocol

ipx: IPxprotocol

ethernetii: Ethenet protocol type

snap: Snapprotocol type

llc: llcprotocol type

raw: Rawprotocol type

etype: Type

[\[Description\]](#)

Create protocol-vlan, which can be binded in each ge port, PON port and xge port for protocol switching of switching data. Command “no” deletes specified protocol-vlan entry

[\[Case\]](#)

Create protocol-vlan 1 of Ethernet protocol mode

OLT(config)# protocol-vlan 1 mode ethernetii etype 0x8100

OLT(config)#

Create protocol-vlan 2 of IPv4 Ethernet type

OLT(config)# protocol-vlan 2 ipv4 ethernetii

OLT(config)#

9.17 show protocol-vlan

[\[Command\]](#)

show protocol-vlan all

[\[View\] config view](#)

[\[Parameter\]](#)

[\[Description\]](#)

View all protocol-vlan entry

[\[Case\]](#)

View all protocol-vlan

OLT(config)# show protocol-vlan all

index	frame	ethtype	port	vlan id
1	ethii	unknow(0x8100)		
2	ethii	ipv4(0x0800)		

OLT(config)#

10. Multicast Module

10.1 igmpfast-leave

[\[Command\]](#)

igmpfast-leave off/on

[\[View\] config view](#)

[\[Parameter\]](#)

off: Disable OLTIGMP fast-leave function

on: Enable OLTIGMP fast-leave function

[\[Description\]](#)

IGMP fast-leave off:

Disable igmp-snooping fast-leave function. When disabled, ONT needs to forward Group-Specific Query to confirm online user situation after receiving leave message of user multicast, ONT will consider user is off-line and update local multicast entries if ONT have not received the report message from user after Group-Specific Query cycle timed out. Use this parameter if user does not need to change channel in a very quick speed

igmp fast-leave on:

Enable igmp-snooping fast-leave function. When enabled, ONT will update local multicast entries according to multicast leave message immediately after receiving it without the need of sending Group-Specific Query to confirm whether user is off-line or not. Use this parameter if use need to change channel in a very quick speed

10.2 igmp mode

[\[Command\]](#)

igmp mode ctc/snooping/proxy/disable

[\[View\] config view](#)

[\[Description\]](#)

igmp mode ctc:

IGMP mode ctc is also Controllable Multicast Mode. Conventional multicast service is not controllable, user can join in one multicast group by sending IGMP report message, then user can receive multicast message from the multicast group. The core idea is to control the right to join in one multicast group for users. When user requires to join in one multicast group, OLT must authenticate the requirement so as to reject illegal and ultravires requirement. Controllable multicast of OLT control the generation of layer 2 multicast forwarding entry by intercepting IGMP report message from ONT to make multicast controllable. After receiving IGMP report message from multicast user, OLT will try to find the using rights template according to the VLAN that the message belongs to, if the multicast group is not in the rights template list, OLT will consider that the user does not have rights in the multicast group, then intercept the IGMP report message so that the forwarding entries will not generate and user will not receive data traffic from the multicast group. If the multicast group is in the list of rights template, then

consider by which way the list join in the template, in watch way, IGMP report can get through, in preview way, IGMP report can get through too, but a timer will be started at the same time, forwarding entries of the multicast group will be deleted after the preview time runs out, then the following IGMP report message of the multicast group will be intercepted, this is how preview function works. In IGMP mode ctc, ONT multicast mode must be set as controllable multicast mode, in which mode multicast user will forward corresponding OAM message to maintain ONT multicast entries after authentication so as to realize the control of multicast service

igmp mode snooping:

IGMP snooping is multicast snooping. IGMP snooping obtains relevant information to maintain multicast forwarding entries by snooping IGMP message between user and multicast router. System will forward the multicast message that belongs to the multicast VLAN in passthrough way without any other processing

igmp mode proxy:

IGMP proxy is multicast agent. IGMP proxy intercepts IGMP message between user and multicast router and process the message in some relevant treatments, then forward the message to the upper multicast router. From the view of user, system is like a multicast server, from the view of upper device, system is like a multicast user. IGMP proxy mode can reduce the traffic of multicast protocol message of network

igmp mode disable: Disable multicast function

[\[Case\]](#)

View all current configuration and multicast mode of OLT:

OLT(config)# show current-config

Current configuration:

```
!  
interface epon  
    ont add 1 1 mac-auth E0:67:B3:12:CD:78  
ont multicast-mode 1 1 ctc    (Set ONT multicast mode as controllable multicast)  
    ont port vlan 1 1 eth 1 translation 10 user-vlan 10  
    ont port native-vlan 1 1 eth 1 vlan 10  
exit  
!  
vlan 10  
!  
interface ge  
    vlan access 5 10  
exit  
!  
interface epon  
    vlan mode 1 hybrid  
    vlan hybrid 1 tagged 10  
exit  
!
```

igmp mode etc (Configure controllable multicast etc mode)

igmp policy discard

!

btv

igmp user add user-index 1 pon 1 ont 1 vlan 1 auth max-program 30

exit

!

mcast-vlan 10

igmp mcast-unknown policy discard

igmp router-port ge 5

igmp match group ip 224.1.1.1 to-ip 237.1.1.1

igmp program add program-index 3 ip 239.1.1.3

igmp program add program-index 2 ip 239.1.1.2

igmp program add program-index 1 ip 239.1.1.1

igmp member user-index 1

exit

!

btv

igmp preview-profile add preview-index 1 duration 500 interval 10 count 25

igmp profile add profile-index 1

igmp profile profile-index 1 add program-index 3 forbidden

igmp profile profile-index 1 add program-index 2 preview preview-index 1

igmp profile profile-index 1 add program-index 1 watch

igmp control bind user-index 1 profile-index 1

exit

10.3 igmp proxy

[Command]

igmp

proxy

gen_interval/gen_response/robustness/source-ip/sp_count/sp_interval/ sp_response

[View] config view

[Description]

OLT(config)# igmp proxy

gen_interval - General query interval // Configure general group query interval. System confirms whether user is watching one program or not by sending general group query to all programs, if system does not receive the report message from user, then consider that user is not watching the program and stop sending program stream so that the waste of bandwidth for user not watching program but still receiving multicast streams will be avoided

gen_response - General query max response time // Configure max response time of general group query

robustness - Robustness keyword // Configure system robustness coefficient. Use this parameter when user wants to adjust robustness coefficient based on the situation of network stability. After configuring the coefficient, based on which system will decide the aging time of multicast user. Robustness coefficient is set for enhancing system robustness, which directly influence the aging

time of multicast user and the times of sending general group query message. Robustness coefficient is supposed to be increased when there is packet loss in one subnet to ensure stability of multicast user

source-ip - Source ip of IGMP proxy message // Configure source IP address of general/specific group query message sended to user from multicast router, if the address is not specified, system will take default IP address as source IP address of general/specific group query message

sp_count - IGMP specific query count // Configure times of specific group query. System confirms whether user is watching specific program or not by sending specific group query message to the specific program for N times (N is configured in this command), system will consider that user is not watching the program if system has not received report message from user, and system will not send program stream to the user again, so that the waste of bandwidth of user not watching the program but still receiving program streams will be avoided

sp_interval - Specific query interval // Configure interval of specific group query. System confirms whether user is watching specific program or not by sending specific group query message to the specific program in this time interval. System will consider that user is not watching the program if system has not received report message from user, and system will not send program stream to the user again, so that the waste of bandwidth of user not watching the program but still receiving program streams will be avoided

sp_response - Specific query max response time // Configure max response time of specific group query

[Case]

Set IGMP specific query count as 1, General query interval as 250, General query max response time as 10 and robustness coefficient as 2:

```
OLT(config)# igmp proxy sp_count 1
```

```
OLT(config)# igmp proxy gen_interval 250
```

```
OLT(config)# igmp proxy gen_response 10
```

```
OLT(config)# igmp proxy robustness 2
```

10.4 igmp policy

[Command]

igmp policy discard/pass

[View] [config view](#)

[Description]

discard: Discard multicast protocol message

pass: Configurete multicast protocol message as passthrough mode

[Case]

Discard unknown multicast protocol message:

```
OLT(config)# igmp policy discard
```

10.5 show igmp config

[Command]

show igmpconfig

[\[View\]](#)config view, btw view,multicast vlan view

[\[Parameter\]](#)

[\[Description\]](#)

View IGMP configuration information including the status (Enable/Disable) of IGMP and fast-leave function, port aging time, IGMP max response time, query interval and source IP address

[\[Case\]](#)

View IGMP configuration information:

OLT(config-multicast-vlan-10)# show igmp config

Global config:

Igmp mode : Ctc

Fast leave : On

Proxy config:

Robustness count : 2

General query max response time(s) : 10

General query interval(s) : 125

Specific query interval(ms) : 1000

Specific query count : 1

Specific query max response time(ms): 800

Source ip of the proxy : 192.168.1.253

Iptv config:

Iptv preview : Enable

10.6 show igmp group

[\[Command\]](#)

show igmpgroup (all | ip-addressip-address | vlanvlan-id)

[\[View\]](#)config view, btw view,multicast vlan view

[\[Parameter\]](#)

vlan-id: Multicast vlan ID

ip-address: Chennel IP address

[\[Description\]](#)

View OLTmulticast list, corresponding multicast entries will be generated when user has multicast communication with server

[\[Case\]](#)

OLT(config)# show igmp group all

ERROR : There is not any group address record.

10.7 (no) multicast-vlan

[Command]

multicast-vlan *vlan-id*

no multicast-vlan *vlan-id*

[View] config view

[Parameter]

vlan-id: Multicast VLAN ID, created by using corresponding existed VLAN ID

[Description]

Command “multicast-vlan” creates multicast VLAN and enters multicast VLAN mode, multicast VLAN is one application mode of VLAN, in multicast mode user can configure relevant parameters of multicast

[Case]

Create multicast VLAN 100 and enter the corresponding multicast VLAN mode:

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

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

10.8 (show) igmp match

[Command]

igmp match group ip start-ip to-ip end-ip

View command: **show igmp match group** *vlan-id/all*

[View] multicast-vlan view

[Parameter]

start-ip: Matched start IP, which must be multicast IP

end-ip: Matched end IP, which must be multicast IP

vlan-id: Multicast vlan ID

[Description]

Command “igmp match” configure dynamic program library, IP among the configured range constitute one channel group, user limit for these channel groups can be configured in BTV mode

[Case]

Configure dynamic program library:

```
OLT(config-multicast-vlan-11)# igmp match group ip 224.1.1.1 to-ip 237.1.1.1
```

View dynamic program library information:

```
OLT(config-multicast-vlan-10)# show igmp match group vlan 10
```

Total Match Group:1

MVlan	Match Mode	Program
10	disable	224.1.1.1-237.1.1.1

```
OLT(config-multicast-vlan-10)# show igmp match group all
```

Total Match Group:1

MVlan	Match Mode	Program
10	disable	224.1.1.1-237.1.1.1

10.9 igmp program add/delete

[Command]

igmp program add program-index program-index **ip** ip-addr

igmp program addprogram-index program-index **batch ip** ip-addr**to-ip** ip-addr

igmp program delete all/ (program-index program-index)

[View] multicast-vlan view

[Parameter]

program-index: Multicast program index

all: All Multicast program

ip-addr: IP address in the format of x.x.x.x

[Description]

OLT(config-multicast-vlan-200)# igmp program

add - Add a program or several programs //Add static multicast program in multicast VLAN. When program match function is enabled by using command "[igmp match mode enable](#)". Then use this command to configure multicast program library in advance, only the users with rights can watch or preview programs of specific multicast VLAN

delete - Delete the programs // Delete multicast program. Use this command to delete multicast program from program library if system does not want user to watch the program.

[Case]

The following four commands configure four program channels which bind program index of program library with configured rights respectively:

OLT(config-multicast-vlan-10)#igmp program add program-index 1 ip 239.1.1.1

OLT(config-multicast-vlan-10)#igmp program add program-index 2 ip 239.1.1.2

OLT(config-multicast-vlan-10)#igmp program add program-index 3 ip 239.1.1.3

OLT(config-multicast-vlan-10)#igmp program add program-index 4 ip 239.1.1.4

10.10 (show) igmp router-port

[Command]

igmp router-port (ge | xge) port-id

View command: **show igmp router-port** vlan-id

[View] multicast-vlan view

[Parameter]

port-id: Router port ID

[Description]

In ctc mode router port needs to be configured to realize the forwarding to following user

devices

[\[Case\]](#)

Set port ge5 as router port:

```
OLT(config-multicast-vlan-10)# igmp router-port ge 5
```

View router port:

```
OLT(config-multicast-vlan-10)# show igmp router-port vlan 10
```

```
VID          : 10
```

```
Router       : ge5
```

10.11(show) igmp multicast-unknown

[\[Command\]](#)

igmp multicast-unknown policy (discard | transparent)

View configuration information of unknown multicast:

show igmp multicast-unknown policy vlan-id

[\[View\]](#) multicast vlan view

[\[Parameter\]](#)

discard: System discards received unknown multicast service flow

transparent: System processes unknown multicast service flow in passthrough mode

[\[Description\]](#)

Configure suppression strategy for unknown multicast service flow, if the service flow is carrying unknown multicast for particular using, then configure as passthrough, unknown multicast without particular using usually will be discarded as it will occupy bandwidth

[\[Case\]](#)

Configure suppression strategy for unknown multicast as passthrough:

```
OLT(config-multicast-vlan-10)# igmp multicast-unknown policy
```

View suppression strategy for unknown multicast with VLAN 10:

```
OLT(config-multicast-vlan-10)# show igmp multicast-unknown policy vlan 10
```

```
Unknown multicast policy is discard.
```

10.12 (show) igmp member

[\[Command\]](#)

igmp member user-index user-index

View multicast user information: **show igmp multicast-vlan-member all/vlan-id**

[\[View\]](#) multicast-vlan view

[\[Parameter\]](#)

user-index: Configured user group

[\[Description\]](#)

Bind multicast user with multicast VLAN

[\[Case\]](#)

Bind user 1 into multicast VLAN10:

```
OLT(config-multicast-vlan-10)# igmp member user-index 1
```


View multicast VLAN member:

OLT(config-multicast-vlan-10)# show igmp multicast-vlan-member all

Total Mvlan Member:1

User-Index	Port	ONUID	Vlan	Authority	Mvlan	Max-program
1	pon1	1	1	auth	10	30

OLT(config-multicast-vlan-10)# show igmp multicast-vlan-member vlan 10

Total Mvlan Member:1

User-Index	Port	ONUID	Vlan	Authority	Mvlan	Max-program
1	pon1	1	1	auth	10	30

10.13 (show) igmp control

[Command]

igmp control bind/delete user-index user-index profile-index profile-index

View rights information of binding user: **show igmp control all/user-index**

[View] btv view

[Parameter]

user-index: Configured user group

profile-index: Configured rights template

[Description]

Bind user with configured rights template:

[Case]

Bind user with template:

OLT(config-btv)# igmp control bind user-index 1 profile-index 1

View all user information:

OLT(config-btv)# show igmp control all

Total Control:1

User-Index	Profile_Index
1	1

View specific user information:

OLT(config-btv)# show igmp control user-index 1

User Index:1

User Member:4

Profile-Index	Permission	Mvlan	Program
1	preview	10	239.1.1.4
1	watch	10	239.1.1.1
1	preview	10	239.1.1.2
1	forbidden	10	239.1.1.3

10.14 (show) igmp preview

[Command]

igmp preview auto-reset-time/disable/enable/reset

View rights information of binding user: **show igmp preview all/auto-reset-time/preview-index**

[View] btw view

[Description]

auto-reset-time- Iptv preview auto reset time

Configure zero clearing time for multicast preview times. Use this command when user wants to adjust this time. After configuring zero clearing time, system will clear preview times of all users to zero at the set time

disable- Disable iptv preview

Disable multicast preview function. Use this command when the preview function of all multicst users need to be disabled. When disabled, user can not preview all programs including programs user has rights for, relevant preview parameters will be invalid as well

enable- Enable iptv preview

Enable multicast preview function. Use this command when system needs to provide program preview function for multicast users. When enabled, user can preview programs that user has rights for and relevant preview parameters will be valid. Multicast program preview function is enabled in default situation

reset- Reset iptv preview

Zero clearing preview times of all multicast users. Use with command "[igmp preview reset record](#)", command "reset" has the same effect as command "[igmp preview auto-reset-time](#)"

[Case]

Enable multicast preview function:

OLT(config-btv)# igmp preview enable

View preview information:

OLT(config-btv)# show igmp preview all

Total Preview-Profile:2

Preview-Index	Duration(s)	Interval(s)	Time
1	500	10	25
4	60	20	15

10.15 igmp preview-profile

[Command]

igmp preview-profile add/delete preview-index preview-index duration duration interval interval count count

[View] btw view

[Parameter]

preview-index: Multicast preview template index

duration: Duration time, value range in 10-6000 with unit of second

interval: 时间间隔, value range in 1-7650 with unit of second

count: Number of times, value range in 1-255

[\[Description\]](#)

OLT(config-btv)# igmp preview-profile

add - Add preview-profile // Add preview template of multicast program. Use this command when user preview function needs to be modified like extending program preview time, increasing program preview times. After preview template is added successfully, parameters in the template will take effects when user preview programs applied with the adding preview template

delete- Del preview-profile // Delete program preview template. Use this command when user do not need the preview template any more. The template will not exist after deleting

[\[Case\]](#)

Configure preview template 1, setpreview time as 500s, preview interval as 10s and preview times as 25:

OLT(config-btv)# igmp preview-profile add preview-index 1 duration 500 interval 10 count 25

10.16 (show) igmp profile

[\[Command\]](#)

igmp profile add profile-index profile-index

igmp profile delete all /(**profile-index** profile-index)

igmp profile profile-index profile-index **add/modify** **program-index** program-index
forbidden/watch/(preview preview-index)

igmp profile profile-index profile-index **delete** **program-index** program-index

View rights information: **show igmp profile all/(profile-index** profile-index)

[\[View\]](#) btv view

[\[Parameter\]](#)

profile-index: Multicast rights template index

program-index: Multicast program template index

preview-index: Multicast preview template index

[\[Description\]](#)

OLT(config-btv)# igmp profile profile-index

add- Add program group

delete - Delete program group

modify— Modify rights information of program group (Including forbidden, watch, andpreview template applying)

[\[Case\]](#)

Add one rights template:

OLT(config-btv)# igmp profile add profile-index 1

Bind program template1 in rights template 1:

OLT(config-btv)# igmp profile profile-index 1 add program-index 1

View information of rights template:

OLT(config-btv)# show igmp profile all

Total Profile:1

Profile-Index	Profile-Member
1	4

OLT(config-btv)# show igmp profile profile-index 1

Profile Index:1

Program-index	Permission	Mvlan	Program
3	forbidden	10	239.1.1.3
2	preview	10	239.1.1.2
1	watch	10	239.1.1.1
4	preview	10	239.1.1.4

10.17 (show) igmp user

[Command]

igmp user add user-index user-index pon pon-id ont ont-id vlan vlan-id auth/noauth/(max-program count)

igmp user modify user-index user-index auth/noauth/(max-program count)

igmp user delete all/(user-index user-index)

View multicast user information:

show igmp user all

show igmp user user-index user-index

show igmp user online port pon pon-id ont ont-id

show igmp user port pon pon-id ont ont-id

[View] btv view

[Description]

user-index: multicast user template index,value range in 0-4095

pon-id: PON port ID, value range in 1-16

ont-id: ONTID, value range in 1-64

vlan-id: VLANID, value range in 1-4094

count: Maximum program number, value range in 1-32

[Description]

OLT(config-btv)# igmp user

add- Add user

Auth: Authentication is needed. This parameter configures multicast users into users that need authentication. Users with authentication requirement need to bind multicast rights template to watch programs, use command "[igmp user bind-profile](#)" to bind rights template for users

No-auth: Authentication is not needed. Users without authentication requirement have rights to watch all multicast programs configured in the multicast VLAN that user belongs to. Authentication is not needed in default situation. Use command "[igmp multicast-vlan member](#)" to add user as specified multicast VLAN member

max-program { *max-program-num* | **no-limit** }: Maximum program number. Use this command to configure the program number that multicast user can watch at the same time.**no-limit** means the user can watch 32 programs at the same time. When user's total bandwidth is limited, configure the maximum program number that can be watched at the same time to ensure watching fluency.Total

bandwidth of simultaneously online static programs of one user must be less than the maximum bandwidth of the multicast user

delete- Delete user

modify- Modify authentication information of user

[\[Case\]](#)

Configure that user 1 can watch 30 dynamic/static programs (both dynamic and static programs can be watched), attention: VLAN 1 represents the number of Ethernet port on ONT instead of multicast VLAN:

OLT(config-btv)# igmp user add user-index 1 pon 1 ont 1 vlan 1 auth max-program 30

View all IGMP user information:

OLT(config-btv)# show igmp user all

Total User:1

User-Index	Port	ONUID	Vlan	Authority	State	Max-Program
1	pon1	1	1	auth	offline	30

11.RSTP

11.1 spanning-tree

[\[Command\]](#)

spanning-tree (enable | disable)

[\[View\]](#) config view

[\[Parameter\]](#)

enable: Enable global STP protocol

disable: Disable global STP protocol

[\[Description\]](#)

Enable/Disable global STP (Spanning Tree Protocol) protocol. Only when STP protocol both of global and port are enabled, can configuration for STP protocol take effect

[\[Case\]](#)

Open global STP protocol:

OLT(config)# spanning-tree enable

11.2 show spanning-tree info

[\[Command\]](#)

show spanning-tree info

[\[View\]](#) config view

[\[Description\]](#) View relevant information of STP

[\[Case\]](#)

View relevant information of STP:

OLT(config)# show spanning-tree info

```

-----
RSTP switch status      : Enable
Bridge ID [PRI-MAC]     : 32768-e0:67:b3:00:27:62
Root Bridge ID [PRI-MAC] : 32768-e0:67:b3:00:27:62
Bridge max age(s)       : 20
Bridge hello time(s)    : 2
Bridge forward delay(s) : 15
Transmit Hold Count     : 3
Root Path Cost          : 0
-----

```

Port Status :

Port	Priority	Path Cost	Edge Status	Link Type	Role	State
ge1	128	20000	NEdge	P2P	Unknown	Down
ge2	128	20000	NEdge	P2P	Unknown	Down
ge3	128	20000	NEdge	P2P	Unknown	Down
ge4	128	20000	NEdge	P2P	Unknown	Down
ge5	128	20000	NEdge	P2P	Designated	Forwarding
ge6	128	20000	NEdge	P2P	Backup	Discarding
ge7	128	20000	NEdge	P2P	Unknown	Down
ge8	128	20000	NEdge	P2P	Unknown	Down
xge1	128	2000	NEdge	P2P	Unknown	Down
xge2	128	2000	NEdge	P2P	Unknown	Down
lag1	128	20000	NEdge	P2P	Unknown	Down
lag2	128	20000	NEdge	P2P	Unknown	Down
lag3	128	20000	NEdge	P2P	Unknown	Down
lag4	128	20000	NEdge	P2P	Unknown	Down
lag5	128	20000	NEdge	P2P	Unknown	Down
lag6	128	20000	NEdge	P2P	Unknown	Down
lag7	128	20000	NEdge	P2P	Unknown	Down
lag8	128	20000	NEdge	P2P	Unknown	Down
lagL9	128	20000	NEdge	P2P	Unknown	Down
lagL10	128	20000	NEdge	P2P	Unknown	Down
lagL11	128	20000	NEdge	P2P	Unknown	Down
lagL12	128	20000	NEdge	P2P	Unknown	Down
lagL13	128	20000	NEdge	P2P	Unknown	Down
lagL14	128	20000	NEdge	P2P	Unknown	Down
lagL15	128	20000	NEdge	P2P	Unknown	Down
lagL16	128	20000	NEdge	P2P	Unknown	Down

11.3 spanning-tree priority

[\[Command\]](#)

spanning-tree priority*priority*

[\[View\] config view](#)

[\[Parameter\]](#)

priority: Device priority, which must be with the step size of 4096, configured value is smaller, priority of device will be higher, value range in 0-61440

[\[Description\]](#)

Configure priority of device in specified spanning tree instance. Device priority will decide that whether the device will be chosen as root bridge, use this command to configure device priority so as to specify one device to be root bridge of spanning tree. After configuring device priority, root bridge will be chosen according to the setting value of device priority

[\[Case\]](#)

Set spanning tree bridge priority of OLT as 4096:

OLT(config)# spanning-tree priority 4096

11.4 spanning-tree timer forward-delay

[\[Command\]](#)

spanning-tree timer forward-delay *time*

[\[View\] config view](#)

[\[Parameter\]](#)

time: Forward Delay time parameter, which is also time interval of state transition, length of this time parameter is concerned with network diameter of switched network, generally bigger the network diameter is, Forward Delay time should be configured as longer. Time value is in 4-30 with default value of 15

[\[Description\]](#)

Configure Forward Delay time of device (Delay time of state transition). During state transition system needs to wait for a period of time in order to avoid temporary loop, use this command to configure time interval of state transition. After setting Forward Delay time, state transition will be processed in the setting time as interval in the value of 4-30 seconds

[\[Case\]](#)

Configure OLT forward-delay as 20 seconds:

OLT(config)# spanning-tree timer forward-delay 20

11.5 spanning-tree timer hello

[\[Command\]](#)

spanning-tree timer hello *time*

[\[View\] config view](#)

[\[Parameter\]](#)

time: Hello time parameter. Suitable hello time value can ensure that switch will find link failure of network in time and will not occupy too much network sources. Value range in 1-2 seconds with default value of 2 second

[\[Description\]](#)

Configure hello time value. Bridge will send hello message to the surrounding bridge in a particular time to confirm that whether there is any link failure, use this command to configure the this time value. After configuring hello time parameter value, device will send hello message to surrounding bridges in the setting time

[\[Case\]](#)

Configure OLThello time as 1 second:

OLT(config)# spanning-tree timer hello 1

11.6 spanning-tree timer max-age

[\[Command\]](#)

spanning-tree timer max-age *time*

[\[View\]](#) config view

[\[Parameter\]](#)

time: Max Age time parameter, survival cycle maximum threshold of message

[\[Description\]](#)

Configure Max Age of device(survival cycle maximum threshold of message), use this message to check whether configuration message is timed out or not. After configuring Max Age time parameter, device will discard the configuration message that is out of the settin time with value range in 6-40 seconds, default value is 20 seconds

[\[Case\]](#)

Configure Max Age of OLT as 6 seconds:

OLT(config)# spanning-tree timer max-age 6

11.7spanning-tree hold-count

[\[Command\]](#)

spanning-tree hold-count hold-count

[\[View\]](#)

Config view

[\[Parameter\]](#)

hold-count: Rate of forwarding BPDU, maximum of forwarding BPDU in each hellotime cycle, value range in 1-10, unit pps

[\[Description\]](#)

BPDU is message frame thatrunningin the switching among STP switches. BPDU includes the path and priority information that STP requires, STP confirms the root bridge and the path to the root bridge based on these information

[\[Case\]](#)

Configuretehold-count rate of OLT as 2:

OLT(config)# spanning-tree hold-count 2

11.8 spanning-tree edged-port

[Command]

spanning-tree edged-port *port-id* *switch*

or *config* view: **spanning-tree port ge | xge** *port-id* **edged-ports** *switch*

[View] ge view, xge view, link-aggregation view

[Parameter]

port-id: Port ID that needs to be configured

switch: The switch that decides whether the port is edged port, value inenable/disable.

Enable: Configure the specified port as edged port. Edged port does not connect with any other switch directly or indirectly through the network that the port and the switch are connecting.

Disable: Configure specified port as not-edged port

[Description]

Configure current Ethernet port as edged/not-edged port, use this command when it's needed that the port should transform into forwarding status very quickly to ensure network safety. The port that connect with terminal should be configured as edged port and enable BPDU (Bridge Protocol Data Unit) protection function. Device will not receive configuration message from other bridge device after configuring current port as edged port

[Case]

Configure portge 1 as edged port:

OLT(interface-ge)# spanning-tree edged-port ge1 enable

The above command equals the following command:

OLT(config)# spanning-tree port ge 1 edged-port enable

11.9 spanning-tree cost

[Command]

spanning-tree cost *port-id* *cost*

In *config* view: **spanning-tree port ge | xge** *port-id* **cost** *cost*

[View] ge view, xge view, link-aggregation view

[Parameter]

port-id: Port ID that needs to be configured

cost: Port path cost, which is one port attribute, represents cost for connecting network from the port. Smaller the cost value is, better the network the port is connecting is. Value range in 1-200000000

[Description]

Command "**spanning-tree cost**" configure path cost of current port. Using this command to configure path cost of current port probably will cause topological changes and spanning tree will be recalculated.

[Case]

Configure path cost of portge 1 as 500:

OLT(interface-ge)# spanning-tree cost 1 500

The above command equals the following command:

OLT(config)# spanning-tree port ge 1 cost 500

11.10 spanning-tree mcheck

[Command]

spanning-tree mcheck *port-id*

In config view:**spanning-tree port ge|xgeport-id mcheck**

[View] ge view, xge view, link-aggregation view

[Parameter]

port-id: Port ID that needs to be configured

[Description]

Command “**stp mcheck**” executes mCheck operation in global or in port. The port of device with RSTP running will transform into STP compatible mode automatically when connecting devices with STP protocol running

This command is for state transition, forwarded for one time means one state transition

[Case]

Execute one mcheck operation in port ge1:

OLT(interface-ge)# spanning-tree mcheck 1

The above command equals the following command:

OLT(config)# spanning-tree port ge 1 mcheck

11.11 spanning-tree point-to-point

[Command]

spanning-tree point-to-point *port-id mode*

In config view:**spanning-tree port ge|xgeport-id point-to-point mode**

[View] ge view, xge view, link-aggregation view

[Parameter]

port-id: Port ID that needs to be configured

mode: STP point to point mode, value in: true,false,auto

[Description]

Command “spanning-tree point-to-point” configure the link connected with current Ethernet port as point to point link. Use this command to configure link as point to point link to control state switching time of Ethernet port. After configuring the link connected current Ethernet port as point to point link and specifying the Ethernet port that sends quick transition request, if the Ethernet port is point to point type, then the port can make quick transition

[Case]

Configure point to point mode of port ge 1 as true:

OLT(interface-ge)# spanning-tree point-to-point 1 true

The above command equals the following command:

OLT(config)# spanning-tree port ge 1 point-to-point true

11.12 spanning-tree priority

[Command]

spanning-tree priority *port-id* *priority*

In config view: **spanning-tree port ge | xge** port-id priority

[View] ge view, xge view, link-aggregation view

[Parameter]

port-id: Port ID that needs to be configured

priority: Port priority with step size of 16. Smaller the configured value is, higher the port priority will be

[Description]

Command "**spanning-tree priority**" configure port priority of specified spanning tree instance. Port priority is important basis in choosing root port. In spanning tree calculation process, under the same conditions, the port with higher priority will be chosen as root port. After configuring port priority in specified spanning tree instance, device will choose root port according to the configured priority.

[Case]

Configure spanning tree priority of port ge 1 as 16:

OLT(interface-ge)# **spanning-tree priority 1 16**

The above command equals the following command:

OLT(config)# spanning-tree port ge 1 priority 16

11.13 show spanning-tree port

[Command]

show spanning-tree port ge | xge port-id

[View] config view

[Parameter]

port-id: Port ID that needs to be configured

[Description] View relevant STP configuration information of ge port or xge port

[Case]

View STP configuration information of port ge1:

OLT(config)# show spanning-tree port ge 1

```
----- ge1  RSTP STATUS:-----
Port STP Mode           : RSTP
Port Priority            : 16
Port Path Cost          : 1600
Port Edge Admin         : Edge
Port Edge Status        : Edge
Port Link Type Admin    : Auto
Port Link Type Status   : P2P
Port Role               : Unknown
Port State              : Down
-----
```

OLT(config)#

11.14 show spanning-tree link-aggregation

[Command]

show spanning-tree link-aggregation group group-id

[View] config view

[Parameter]

group-id: Aggregation port group ID that needs to be configured

[Description] View relevant STP configuration information of aggregation port group

[Case]

View STP configuration information of aggregation port group 1:

OLT(config)# show spanning-tree link-aggregation group 1

----- lag1 RSTP STATUS:-----

```

Port STP Mode           : RSTP
Port Priority            : 128
Port Path Cost          : 20000
Port Edge Admin         : NON-Edge
Port Edge Status        : NEdge
Port Link Type Admin    : Auto
Port Link Type Status   : P2P
Port Role               : Unknown
Port State              : Down

```

OLT(config)#

12.ACL

12.1 (no) time-range

[Command]

time-rangetime-name { start-time to end-time days | from time1 date1 [to time2 date2] }

no time-rangetime-name

[View] confiig view

[Parameter]

time-name: Name of time period, references this name when configuring ACL rules

start-time: Start time of the relative time period, decides a time period with *end-time*, *days* defines date, these three parameters make a relative time period

end-time: End time of the relative time period, decides a time period with *start-time*, *days* defines date, these three parameters make a relative time period

Days: Specific date of relative time period

- Mon: Monday
- Tue: Tuesday

- Wed: Wednesday
- Thu: Thursday
- Fri: Friday
- Sat: Saturday
- Sun: Sunday
- daily: Seven days of whole week
- off-day: Saturday and Sunday
- working-day: Monday to Friday

time1date1: Start time and date of absolute time period

time2date2: End time and date of absolute time period

[\[Description\]](#)

ACL time period consists of relative time and absolute time:

Relative time: Periodical time like: 8:30 to 18:30 on each Monday

Absolute time: From one specific time to another specific time like: 12:00 on June 8th in 2006 to 18:00 on August 8th in 2006

[\[Case\]](#)

Configure one periodical time as work time and effective time as 8:00 to 18:30 on each Monday:

OLT(config)# time-range worktime 08:00 to 18:30 mon

12.2 showtime-range

[\[Command\]](#)

show time-range { all | *time-name* }

[\[View\]](#) config view

[\[Parameter\]](#)

all: View information of all time periods

time-name: Name of time period, use this parameter when viewing specific time period information

[\[Description\]](#)

Time period can be configured by command "[time-range](#)"

[\[Case\]](#)

View time period with time-range as song:

OLT(config)# show time-range song

Current time is 2000-01-15 16:22 Saturday

Time-range : song(Inactive)

08:00 to 10:00 Monday

12.3(no) rule (basic acl)

[\[Command\]](#)

rule *rule-id* (**permit** | **deny**) **source** (*ip-address sour-wildcard* | **any**)

rule *rule-id* (**permit** | **deny**) **source** (*ip-address sour-wildcard* | **any**) **time-range** *name*

no rule *rule-id*

[\[View\]](#) basic acl view

[\[Parameter\]](#)

rule-id: ACL rule ID, bigger the ACL ID is, priority will be higher

deny: Flow of matched message can not get through

permit: Data packet that meets the requirement can get through

ip-address: Source IP address block in ACL

sour-wildcard: Inverse mask, matches mainframe in network with IP address, inverse mask is also called wildcard mast, which tells device that which bit need to match with by marking 0 and 1. In inverse mask, address with corresponding bit as 1 will be ignored in comparison, with corresponding bit as 0 must be checked

any: Match any source IP message

name: Configure ACL effective time period

[\[Description\]](#)

Command “rule” creates ACL rules in Acl-basic mode or Acl6-basic mode. Use this command to create ACL rules according to source IP address of message. After creating rule successfully, command “packet-filter” filters message by using created rules. Combine with Qos strategy, ACL rule can provide service quality guarantee for specific message

no rule: Delete or modify ACL rule

[\[Case\]](#)

Configure that port ge1 can only receive message form IP address 10.10.10.2 in time period of **worktime**:

```
OLT(config)# time-range worktime 8:00 to 18:00 working-day
```

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

```
OLT(acl-basic-2000)# rule 2 permit source 10.10.10.2 0.0.0.0 time-range working-day
```

```
OLT(acl-basic-2000)# rule 1 deny source any time-range working-day
```

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

```
OLT(config)# packet-filter inbound 2000 port ge 1
```

12.4(no) rule (adv acl)

[\[Command\]](#)

When parameter *protocol* is TCP, the command format based on IPv4 is like follows:

```
rule rule-id (permit | deny) tcp [ [source (ip-address sour-wildcard | any)] | [destination (ip-address sour-wildcard | any)] | [src-port port-list | dest-port port-list] | [precedence precedence-value ] | [dscp dscp-value] | [time-range time-range-name]
```

When parameter *protocol* is UDP, the command format based on IPv4 is like follows:

```
rule rule-id (permit | deny) udp [ [source (ip-address sour-wildcard | any)] | [destination (ip-address sour-wildcard | any)] | [src-port port-list | dest-port port-list] | [precedence precedence-value ] | [dscp dscp-value] | [time-range time-range-name]
```

When parameter *protocol* is IP, the command format based on IPv4 is like follows:

```
rule rule-id (permit | deny) ip [ [source (ip-address sour-wildcard | any)] |
[destination(ip-address sour-wildcard | any)] | [src-port port-list | dest-port port-list] |
[precedence precedence-value ] | [dscp dscp-value] ][time-rangetime-range-name]]
```

When parameter *protocol* is IPINIP, the command format based on IPv4 is like follows:

```
rule rule-id (permit | deny) ipinip [ [source (ip-address sour-wildcard | any)] |
[destination(ip-address sour-wildcard | any)] | [src-port port-list | dest-port port-list] |
[precedence precedence-value ] | [dscp dscp-value] ][time-rangetime-range-name]]
```

When parameter *protocol* is ICMP, the command format based on IPv4 is like follows:

```
rule rule-id (permit | deny) icmp [ [source (ip-address sour-wildcard | any)] |
[destination(ip-address sour-wildcard | any)] | [ precedence precedence-value ] | [dscp
dscp-value ] ][time-rangetime-range-name]]
```

When parameter *protocol* is other protocols except TCP, UDP, ICMP, the command format based on IPv4 is like follows:

```
rule rule-id (permit | deny) protocol [ [source (ip-address sour-wildcard | any)] |
[destination(ip-address sour-wildcard | any)] | [src-port port-list | dest-port port-list] |
[precedence precedence-value ] | [dscp dscp-value] ][time-rangetime-range-name]]
```

Command format of modifying rule:

```
rule rule-id (down/move/up)
```

Rule deleting/modifying command format based on IPv4:

```
no rule rule-id( source | destination | precedence | dscp | src-port | dest-port | time-range |
precedence | all)
```

[\[View\]](#) adv acl view

[\[Parameter\]](#)

rule-id: ACL ruleID, bigger the ACL ID is, priority will be higher

permit: Data packet that meets the requirement can get through

deny: Flow of matched message can not get through

ip-address: Source IP address block in ACL rule

sour-wildcard: Inverse mask, matches mainframe in network with IP address, inverse mask is also called wildcard mast, which tells device that which bit need to match with by marking 0 and 1. In inverse mask, address with corresponding bit as 1 will be ignored in comparison, with corresponding bit as 0 must be checked

any: Match any source IP message

time-range-name: Configure ACL effective time period

source: Source IP address of matched message in ACL

destination: Destination IP address of matched message in ACL

precedence: IP layer priority in ACL (the front 3 bits of IP packet header)

dscp: IP layer priority in ACL (the front 6 bits of IP packet header)

dest-port: Destination port of UDP/TCP in ACL

src-port: Source port of UDP/TCP in ACL

ipinip: Match double IP message in ACL, including IP data encapsulation and channel, it is like

the definition in RFC 2003, IP Encapsulation within IP with protocol number 4, which describes the process of how to obtain IP data message and set the message as the carrier of another IP data message. In mobile IP, the new head stipulates how to forward encapsulated datagram to the delivering address of mobile node

[\[Description\]](#)

Command “**rule**” creates advanced ACL rules in Acl-adv mode or Acl6-adv mode. Use this command to create match rules according to source IP address and destination IP address of data packet, protocol type IP is bearing and characteristics of protocol. After creating the rule successfully, command “packet-filter” filters message by using created rules. Combine with Qos strategy, ACL rule can provide service quality guarantee for specific message

no rule: Delete or modify ACL rule

[\[Case\]](#)

Create one advanced ACL to match all ICMP message:

```
OLT(acl-adv-3000)# rule 1 permit icmp
```

[\[Case\]](#)

Delete ACL rule with ID 1:

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

12.5(no) rule (link acl)

[\[Command\]](#)

```
rulerule-id(permit | deny)( [cos cos-value ] | [destinationmac-addrmac-wildcard] |  
[ sourcemac-addrmac-wildcard] | [ inner-cosinner-cos-value] | [ vlan vlan-id] | [inner-vlan  
inner-vlan-id] | [ typeEthernet-type] |[time-rangetime-range-name])
```

no rule rule-id

[\[View\]](#) basic acl view

[\[Parameter\]](#)

rule-id: ACL rule ID, bigger the ACL ID is, priority will be higher

permit: Data packet that meets the requirement can get through

deny: Flow of matched message can not get through

destination: Matched destination MAC address of message in ACL

source: Matched source MAC address of message in ACL

mac-addr: MAC address

mac-wildcard: Inverse mask of MAC address, which is also called wildcard mask, which tells device that which bit need to match with by marking 0 and 1. In inverse mask, address with corresponding bit as 1 will be ignored in comparison, with corresponding bit as 0 must be checked

time-range-name: Effective time period of ACL

inner-cos-value: cos value of inner VLAN of layer 2 message

cos-value: cos value of outer VLAN

vlan-id: VLAN ID value of outer VLAN

inner-cos-value: cos value of inner VLAN ID

Ethernet-type: type field of Ethernet

[\[Description\]](#)

Command “rule” creates ACL rule in Acl-link mode. User this command creates ACL rule according to source MAC address of message, source VLANID, layer 2 protocol type, destination MAC address and other link layer information. After creating the rule successfully, command “packet-filter” filters message by using created rules. Combine with Qos strategy, ACL rule can provide service quality guarantee for specific message

no rule: Delete the specific ACL rule in Access Control List

[Case]

Configure that port ge1 only can receive message from MAC address 22-22-22-22-22-22 in **worktime** period:

```
OLT(config)# time-range worktime 8:00 to 18:00 working-day
```

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

```
OLT(acl-link-5000)# rule 2 permit destination 22:22:22:22:22:22 0000-0000-0000
```

```
OLT(acl-link-5000)# rule 1 deny destination 22:22:22:22:22:22 FFFF-FFFF-FFFF
```

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

```
OLT(config)# packet-filter inbound 5000 port ge 1
```

12.6 show acl

[Command]

show acl (acl-id | all /detail)

[View] config view

[Parameter]

acl-id: Specific ACL ID

all: All ACL

[Description]

[Case]

ACL View all ACL of device:

```
OLT(config)# show acl all
```

Basic ACL 2000, 1 rules hold

```
rule 1 permit source 10.10.10.2 0.0.0.0 time-range working-day
```

12.7 acl (pon side acl)

[View]

Pon side acl view

[Parameter]

802.1p: Defines the concept of priority, the adding 3 bits in MAC frame head specifies priority of data packet, data packet with higher priority will be forwarded first

Dscp: DSCP priority (6 bits), consists of the first 6 bits of IP packet header, has 64 priorities based on the combination of IP layer priority field and service type field

Tos: Based on IP priority field and TOS priority field, TOS has 8 bits of IP layer, the last two bits are not used

End: End current mode

Eth-type: Ethernet type

Exit: Exit current mode

Ip: IP address of data flow

Mac: MAC address of data flow

Port: Protocol port of IP

Protocol: Protocol of IP header, which specifies the protocol payload part of IP packet follows so as to explain what kind of higher layer protocol packet that encapsulated in IP packet mode it is

Tag-num (double/none/single/triple-or-more): Double layer VLAN tag/No VLAN tag/Single VLAN tag/Multiple VLAN tag

Vlan-id: VLAN ID

[Case] :

```
OLT(config)#acl 8001
```

```
OLT(acl-pon-8001)# ip dst-ip 192.168.1.1 src-ip 192.168.2.2
```

```
Exit!
```

```
OLT(config)#Traffic-modify pon-port 1 downstream precedence 4 acl 8001 add-inner-vlan 121
```

Tester permits downstream data flow with source IP 192.168.2.2 and destination IP 192.168.1.1 to get through PON port ge1, priority is 4 (if data flow is binded with several PON ports, then data flow will choose the port with higher priority), and the data flow is added with inner VLAN 121

```
OLT(config)#Traffic-modify ont 1 1 downstream precedence 5 acl 8001 add-inner-vlan 100
```

Tester permits downstream data flow with source IP 192.168.2.2 and destination IP 192.168.1.1 to get through the ONT with ID 1 under the PON port ge1, priority is 5 (if data flow is binded with several PON ports, then data flow will choose the port with higher priority), data flow through ONT will be added with inner VLAN 100

Attention: For outer VLAN configuration, port should be enabled first

- (1) When configuring command "Traffic-modify ont", the accessing flow should be known unicasts it's not effective for multicast flow
- (2) The last two bits of DSCP are not used
- (3) Only the first one of Eth-type field can be matched, so the following command is wrong: traffic-modifyont 1 1 upstream precedence 4 acl 8000 stripinner-vlan(acl 8000 requires eth-type 8863)

12.8 acl down/up/move

[Command]

acl acl-id down/up/move

[View] aclview

[Parameter]

acl-id: Specific ACL ID

[Description]

acl acl-id down: Decrease rule-ID value by one without changing the content of the rule

acl acl-id up: Increase rule-ID value by one without changing the content of the rule

acl acl-id move to: Change rule-ID value into specified rule-ID value without changing the content of the rule

[Case]

OLT(acl-basic-2000)# show rule

Basic ACL 2000, 2 rules hold

rule 2 permit source any

rule 1 deny source any

OLT(acl-basic-2000)# rule 1 down

OLT(acl-basic-2000)# show rule

Basic ACL 2000, 2 rules hold

rule 16 deny source any

rule 2 permit source any

OLT(acl-adv-3000)# rule 2 move to 4

OLT(acl-adv-3000)# show rule

Advanced ACL 3000, 2 rules hold

rule 4 permit ip

rule 1 deny ip

Attention: rule-ID value of the rule that binded with port can not be modified

13. QOS

13.1 (no) packet-filter

[Command]

packet-filter (inbound | outbound) *acl-id* [*rule-id* *rule-id*] **port** (ge | EPON | xge) *port-list*

nopacket-filter (inbound | outbound) *acl-id* [*rule-id* *rule-id*] **port** (ge | EPON | xge) *port-list*

[View]

Config view

[Parameter]

inbound: Ingress direction flow

outbound: Egress direction flow

rule-id: ACL rule ID

acl-id: ACL ID

port-list: Port list

[Description]

Command “**packet-filter**” configures ACL filter rule of specified port and make it effective.

When it is needed to filter flow in port by using ACL rules, use this command

Command “**no packet-filter**” deletes ACL filter rule of specified port.

[Case]

Configure that port ge1 can only receive message from IP address 10.10.10.2 in **worktime** period:

OLT(config)# time-range worktime 8:00 to 18:00 working-day

OLT(config)# acl 2000

OLT(acl-basic-2000)# rule 2 permit source 10.10.10.2 0.0.0.0 time-range worktime

```
OLT(acl-basic-2000)# rule 1 deny source any time-range working-day
OLT(acl-basic-2000)# exit
OLT(config)# packet-filter inbound 2000 port ge 1
```

13.2 (no) traffic-dscp

[Command]

```
traffic-dscp (inbound | outbound ) acl-id [ rule-id rule-id ] port (ge | EPON | xge) port-list
remark-dscp remark-dscp-value
no traffic-dscp (inbound | outbound ) acl-id [ rule-id rule-id ] port (ge | EPON | xge) port-list
```

[View]

Config view

[Parameter]

inbound: Ingress direction flow

outbound: Egress direction flow

rule-id: ACL rule ID

acl-id: ACL ID

port-list: Port list

remark-dscp-value: Remark DSCP value

[Description]

Command “**traffic-dscp**” configures ACL for specified port to remark DSCP and make it effective. When it is needed to remark DSCP message of port by using ACL rules, use this command

Command “**no traffic-dscp**” cancels ACL remarking of specified port. Use this command to delete ACL remarking of specified port

[Case]

Remark DSCP field of the message from IP address 10.10.10.2 in **worktime** period:

```
OLT(config)# time-range worktime 8:00 to 18:00 working-day
OLT(config)# acl 2000
OLT(acl-basic-2000)# rule 2 permit source 10.10.10.2 0.0.0.0 time-range working-day
OLT(acl-basic-2000)# exit
OLT(config)# traffic-dscp inbound 2000 port ge EPON xge 1 mark-dscp 43
```

13.3 (no) traffic-limit

[Command]

```
traffic-limit (inbound | outbound ) acl-id [ rule-id rule-id ] port (ge | EPON | xge) port-list cir
rate-value pir rate-value exceed (drop | reremark-dscp remark-dscp-value )
no traffic-limit (inbound | outbound ) acl-id [ rule-id rule-id ] port (ge | EPON | xge) port-list
```

[View]

Config view

[Parameter]

inbound: Ingress direction flow

outbound: Egress direction flow

rule-id: ACL rule ID

acl-id: ACL ID

port-list: Port list

remark-dscp-value: Remark DSCP value

rate-value: Limit rate of port

[\[Description\]](#)

Command “**traffic-limit**” configure ACL to control flow of specified port and make it effective. Use this command to limit rate of port.

Command “**no traffic-limit**” cancels ACL flow control of specified port, use this command to delete ACL rate limit of specified port

[\[Case\]](#)

Configure that 1 M measured bandwidth and 100 M average peak bandwidth for the message from IP address 10.10.10.2 and the message from port ge1, and the exceeding flow will be discarded in **worktime** period:

```
OLT(config)# time-range worktime 8:00 to 18:00 working-day
```

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

```
OLT(acl-basic-2000)# rule 2 permit source 10.10.10.2 0.0.0.0 time-range worktime
```

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

```
OLT(config)# traffic-limit inbound 2000 port ge1 cir 1024 pir 102400 exceed drop
```

13.4 (no) traffic-mirror

[\[Command\]](#)

traffic-mirror inbound *acl-id* [*rule-id* *rule-id*] port (*ge* | *xge*) *port-list* to (*ge* | *EPON* | *xge*) *port-list*

no traffic-mirror inbound *acl-id* [*rule-id* *rule-id*] port (*ge* | *xge*) *port-list*

[\[View\]](#)

Config view

[\[Parameter\]](#)

inbound: Ingress direction flow

outbound: Egress direction flow

rule-id: ACL rule ID

acl-id: ACL ID

port-list: Port list

[\[Description\]](#)

Command “**traffic-mirror**” configures ACL to mirror flow of specified port and make it effective.

Command “**no traffic-mirror**” cancels ACL flow mirroring of specified port, use this command to delete ACL flow mirroring function of specified port

[\[Case\]](#)

Mirror the message from port ge1 and IP address as 10.10.10.2 to port 2 in **worktime**:

```
OLT(config)# time-range worktime 8:00 to 18:00 working-day
```

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

```
OLT(acl-basic-2000)# rule 2    permit source 10.10.10.2 0.0.0.0  time-range  working-day
OLT(acl-basic-2000)# exit
OLT(config)# traffic-mirror  inbound  2000 port  ge 1  to  ge 2
```

13.5 (no) traffic-outervlan

[Command]

```
traffic-outervlaninbound acl-id  [ rule-idrule-id ]port (ge | EPON | xge) port-list  vlan vlanID
no traffic-outervlaninbound acl-id  [ rule-idrule-id ]port  (ge | EPON | xge) port-list
```

[View]

Config view

[Parameter]

inbound: Ingress direction flow

outbound: Egress direction flow

rule-id: ACL rule ID

acl-id: ACL ID

port-list: Port list

vlanID: Outer layer VLAN ID

[Description]

Command “**traffic-outervlan**” adds ACL outer layer VLAN for specified port

Command “**no traffic-outervlan**” deletes adds ACL outer layer VLAN for specified port

[Case]

Add outer layer VLAN 10 for the message from port ge1and IP address as 10.10.10.2 in **worktime** period:

```
OLT(config)# time-range worktime 8:00 to 18:00 working-day
```

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

```
OLT(acl-basic-2000)# rule 2    permit source 10.10.10.2 0.0.0.0  time-range  working-day
```

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

```
OLT(config)# traffic-outervlan inbound 2000 port  ge 1 vlan  10
```

13.6 (no) traffic-priority

[Command]

```
traffic-priorityinbound acl-id      [ rule-idrule-id ]port (ge | EPON | xge) port-list
remark-prioritypri-value
no traffic-priorityinbound acl-id  [ rule-idrule-id ]port  (ge | EPON | xge) port-list
```

[View]

Config view

[Parameter]

inbound: Ingress direction flow

rule-id: ACL rule ID

acl-id: ACL ID

port-list: Port list

vlanID: Outer layer VLAN ID

pri-value: Priority value

[\[Description\]](#)

Command “**traffic-priority**” configures priority of ACL VLAN for specified port and make it effective, use this command to configure ACL rule to set VLAN priority

Command “**no traffic-outervlan**” deletes the VLAN priority set in ACL of specified port

[\[Case\]](#)

Configure the VLAN priority of message from port ge1 and IP address as 10.10.10.2 as 1 in **worktime** period:

```
OLT(config)# time-range worktime 8:00 to 18:00 working-day
```

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

```
OLT(acl-basic-2000)# rule 2 permit source 10.10.10.2 0.0.0.0 time-range worktime
```

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

```
OLT(config)# traffic-priority inbound 2000 port ge1 remark-priority 2
```

During testing, QOS commands will take effects only when the flow the tester receives is tagged and is matched with ACL rules

13.7 (no) traffic-redirect

[\[Command\]](#)

traffic-redirect *inbound* *acl-id* [*rule-id* *rule-id*] *port* (*ge* | *xge*) *port-list* **to** (*ge* | *EPON* | *xge*) *port-list*

no traffic-redirect *inbound* *acl-id* [*rule-id* *rule-id*] *port* (*ge* | *xge*) *port-list*

[\[View\]](#)

Config view

[\[Parameter\]](#)

inbound: Ingress direction flow

rule-id: ACL rule ID

acl-id: ACL ID

port-list: Port list

[\[Description\]](#)

Command “**traffic-redirect**” configures ACL to redirect flow of specified port and make it effective.

Command “**no traffic-redirect**” cancels flow redirection in ACL for specified port

[\[Case\]](#)

Redirect the message from port ge1 and IP address as 10.10.10.2 to port ge2 in **worktime** period:

```
OLT(config)# time-range worktime 8:00 to 18:00 working-day
```

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

```
OLT(acl-basic-2000)# rule 2 permit source 10.10.10.2 0.0.0.0 time-range worktime
```

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

```
OLT(config)# traffic-redirect inbound 2000 port ge1 to ge2
```

Redirect the message matched with ACL rules under specified port or port list to another port to forward, after configuring successfully, the redirected message will be forwarded in the redirection port instead of the original port

13.8 (no) traffic-statistic

[Command]

traffic-statistic (inbound | outbound) *acl-id* [*rule-id**rule-id*]**port** (ge | xge) *port-list*
no traffic-statistic (inbound | outbound) *acl-id* [*rule-id**rule-id*]**port** (ge | xge) *port-list*

[View]

Config view

[Parameter]

inbound: Ingress direction flow

outbound: Egress direction flow

rule-id: ACL rule ID

acl-id: ACL ID

port-list: Port list

[Description]

Command “**traffic-statistic**” configures ACL to make flow statistics for specified port and make it effective

Command “**no traffic-statistic**” cancels flow statistics in ACL for specified port, use this command to disable flow statistical function in ACL for specified port

[Case]

Make flow statistics for the message from port ge1 and IP address 10.10.10.2 in **worktime** period:

OLT(config)# time-range worktime 8:00 to 18:00 working-day

OLT(config)# acl 2000

OLT(acl-basic-2000)# rule 2 permit source 10.10.10.2 0.0.0.0 time-range working-day

OLT(acl-basic-2000)# exit

OLT(config)# **traffic-statistic**inbound 2000 port ge 1

View flow statistics information: show qos-info traffic-statistic port ge 5

13.9 traffic-statisticclear-counters

[Command]

traffic-statisticclear-counters (inbound | outbound) *acl-id* [*rule-id**rule-id*]**port** (ge | xge) *port-list*

[View]

Config view

[Parameter]

inbound: Ingress direction flow

outbound: Egress direction flow

rule-id: ACL rule ID

acl-id: ACL ID

port-list: Port list

[Description]

Command “**traffic-statisticclear-counters**”clears statistics information of specified port that is configured with ACL

[Case]

Clear statistics information produced from message with IP address 10.10.10.2 of port ge1 in **worktime** period:

```
OLT(config)# time-range worktime 8:00 to 18:00 working-day
```

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

```
OLT(acl-basic-2000)# rule 2 permit source 10.10.10.2 0.0.0.0 time-range working-day
```

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

```
OLT(config)# traffic-statistic clear-counters inbound 2000 port ge 1
```

13.10 traffic-tos

[Command]

traffic-tosclear-counters (**inbound** | **outbound**) *acl-id* [*rule-id**rule-id*]**port** (*ge* | *xge*) *port-list*
remark-tos (*tos value*)

[View]

Configview

[Parameter]

inbound: Ingress direction flow

outbound: Egress direction flow

rule-id: ACL rule ID

*acl-id:*ACL ID

port-list: Port list

Tos value: TOS value that needs to be configured

[Description]

Command“**traffic-tos**clear-counters” modifies flow TOS value of matched ACL rule into specified TOS value:

13.11 show qos-info

[Command]

show qos-info ([*traffic-dscp*] | [*traffic-tos*] | [*traffic-limit*] | [*traffic-mirror*] |
[*traffic-outervlan*] | [*traffic-priority*] | [*traffic-redirect*] | [*traffic-statistic*] |
traffic-translate | [*all*]) **port** (*ge* | *xge*) *port-list*

[View]

config view

[Parameter]

port-list: port list

[Description]

View port QOS strategy of device

[Case]

View all QOS strategies of portge1:

```
OLT(config)# show qos-info all port ge 1
```

traffic-tos on ge1:

Inbound:

Matches: acl 2020 rule 2 running

Remark-tos : 3

OLT(config)#

13.12 qos queue-scheduler

[\[Command\]](#)

qos queue-scheduler wrrqueue0-weight queue1-weight queue2-weight queue3-weight queue4-weightqueue5-weightqueue6-weightqueue7-weight

qos queue-schedulerstrict-priority

[\[View\]](#)

Config view

[\[Parameter\]](#)

strict-priority: Strict priority scheduling, in this mode, system schedule queues according to priority strictly, only when the queue with high priority is empty, can it schedule message of queue with lower priority. Disadvantage of PQ scheduling mode: when congestion happens, if the queue with high priority has longexisting packet, message of queue with lower priority will not get timely scheduling so that the corresponding application will time out

wrr: Weighted Round Robin mode. When applying this mode, every queue will be set with one weight (which represents share of sources), and each queue will be scheduled according to the configured weight so that every queue will receive services. Queues with same priority but different weight, bigger the weight is, longer it takes until the queue gets scheduled, which can ensure the queue with the lowest priority will obtain a certain bandwidth and avoid that message in queues with lower priority can not acquire service in a long time when applying PQ scheduling

queue0-weight/queue1-weight/queue2-weight/queue3-weight/queue4-weight/queue5-weight/queue6-weight/queue7-weight:Configured weight of each queue. System support 8 queues (queue0–queue8) with total weight value of 100 (sum of 8 weights)

[\[Description\]](#)

Commmand “**queue-scheduler**” configures system queue scheduling mode. Queue scheduling firstly divides messages that are forwarded at the same port into several queues, then schedules queues like message of which queue should be forwarded first and which one will be later. User can choose different queue scheduling mode depends on how important the business is so as to ensure that system can still provide QoS gurantee for important business when there is congestion in network. After configuring queue scheduling mode successfully, system will forward message of queue in the new configured scheduling mode

[\[User Guide\]](#)

System supports PQ, WRR, WRR+PQ scheduling mode. When one queue is empty, another queue will be scheduled instantly so that bandwidth source will be fully used

- When WRR queue scheduling is existing, the sum of weight value must be 100
- WRR+PQ scheduling mode is the combination of WRR scheduling mode and PQ scheduling mode, when there is queue weight value of 0, then queue scheduling mode is PQ+WRR scheduling mode. In this mode, system firstly will schedule queues with weight value 0 in PQ mode, then schedule other queues whose weight is not 0, and priority of PQ queue is higher than WRR queue
- When configuring WRR+PQ queue scheduling, queue in PQ scheduling mode should be high priority queue, alternated configuration of PQ and WRR is not allowed
- System default scheduling mode is PQ scheduling

[Case]

Configurete queue scheduling mode as WRR mode, set the weight of queue 0-8 as 15 15 20 10 10 10 10 10 respectively to schedule message with all kinds of priority:

```
OLT(config)#qos cosq-map cos0 1 cos1 2 cos2 3 cos3 4 cos4 5 cos5 6 cos6 7 cos7 0
```

```
OLT(config)#qos queue-scheduler wrr 15 15 20 10 10 10 10 10
```

13.13 show queue-scheduler

[Command]

show queue-scheduler

[View]

Config view

[Description]

View current queue scheduling mode of system

[Case]

View current queue scheduling mode of system:

```
OLT(config)# show queue-scheduler
```

Queue scheduler mode : WRR

Queue	Scheduler Mode	WRR Weight
0	WRR	15
1	WRR	15
2	WRR	20
3	WRR	10
4	WRR	10
5	WRR	10
6	WRR	10
7	WRR	10

Queue map:

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

13.14 traffic-translate

[Command]

traffic-statistic (inbound | outbound) *acl-id* [*rule-id* *rule-id*] **port** (ge | xge) *port-list* *vlan*
(*vlan value*)

[View]

Configview

[Parameter]

inbound: Ingress direction flow

outbound: Egress direction flow

rule-id: ACL rule ID

acl-id: ACL ID

port-list: Port list

vlan value: VLAN value

[Description]

Change the VLAN of ingress/egress data flow of the port binded with ACL rule into the configuring VLAN (VLAN Translation)

[Case]

Change the VLAN of ingress/egress data flow of the port matched with rule2 of ACL 2000 into VLAN 19 for forwarding and receiving:

OLT(config)#Traffic-translate inbound 2000 rule-id 2 port ge 5 vlan 19

13.15 traffic-modify

[Command]

traffic-modify *pon-port* *port-id* [*downstream/upstream*] **precedence** *precedence-id* **acl** *acl-id*
[*8021p/add-inner-vlan/add-top-vlan/cos/deny/strip-inner-vlan/strip-top-vlan/swap-inner-vlan*
/swap-top-vlan] *vlan-id*

traffic-modify *ont* *port-id* *ont-id* [*downstream/upstream*] **precedence** *precedence-id* **acl** *acl-id*

[8021p/add-inner-vlan/add-top-vlan/cos/deny/strip-inner-vlan/strip-top-vlan/swap-inner-vlan/swap-top-vlan] vlan-id

[\[Parameter\]](#)

rule-id: ACL rule ID

acl-id: ACL ID

port-id: Port list

Ont-id: ONT ID

Vlan-id: VLAN value

Precedence-id: ACL priority value, configuration command with higher priority will take effects first

Cos: Queue scheduling

[\[Case\]](#)

add-inner-vlan 10 : Add an inner VLAN 10 to egress/ingress data flow in the PON port matched with ACL with the highest priority

add-top-vlan 10: Add an outer VLAN 10 ponegress/ingress data flow in the PON port matched with ACL with the highest priority

Deny: Specified flow can not get through

Strip-inner/top-vlan: vlan Strip inner/outer VLAN of specified data flow

Swap-inner/top-vlan: Substitute VLNA of inner/outer datagram

Attention: This command is used with the PON ACL (8000-8199) commands

13.16 show packet-filter

[\[Command\]](#)

show packet-filterall /aclacl-id [rule-idrule-id]port (ge | PON | xge) port-list

[\[View\]](#)

Config view

[\[Parameter\]](#)

rule-id: ACL rule ID

acl-id: ACL ID

port-id: Port list

[\[Description\]](#)

View binding information of ACL with port

[\[Case\]](#)

OLT(config)# show packet-filter port ge 2

inbound acl 3000 rule 4 port ge 2 running

13.17 show traffic-modify

[\[Command\]](#)

show traffic-modifyall/ ont (all | ont-id)/pon-port (port-id | all)

[\[View\]](#)

Config view

[\[Parameter\]](#)

port-id: PON port ID

ont-id: ONTport ID

all: All

[\[Description\]](#)

View information of port binding data flow

[\[Case\]](#)

View relevant information by following two ways:

OLT(config)# show traffic-modify ont 1 1

traffic-modify ont 1 1 upstream precedence 4 acl 8000 deny

OLT(config)# show traffic-modify all

traffic-modify ont 1 1 upstream precedence 4 acl 8000 deny

14. DHCP

14.1 dhcp-snooping enable

[\[Command\]](#)

dhcp-snooping enable

[\[View\]](#)

Config view

[\[Parameter\]](#)

无

[\[Description\]](#)

dhcp-snooping enable: When enabled, trust/untrust port function, MAC address detection function, rate limit function of DHCP message from untrust port, port recovery function, option82 function, ARP dynamic monitoring function and ARP quick response function will be enabled

[\[Case\]](#)

Enable DHCP-SNOOPING function:

OLT(config)# dhcp-snooping enable

14.2 dhcp-snooping disable

[\[Command\]](#)

dhcp-snooping disable

[\[View\]](#)

Config view

[\[Parameter\]](#)

[\[Description\]](#)

Disable DHCP-SNOOPING function: When disabled, trust/untrust port function, MAC address

detection function, rate limit function of DHCP message from untrust port, port recovery function, option82 function, ARP dynamic monitoring function and ARP quick response function will be disabled

[\[Case\]](#)

Disable DHCP-SNOOPING function:

OLT(config)# **dhcp-snooping disable**

14.3 show dhcp-snooping configuration

[\[Command\]](#)

show dhcp-snooping configuration

[\[View\]](#)

Config view

[\[Parameter\]](#)

No parameter

[\[Description\]](#)

View DHCP-SNOOPING configuration

[\[Case\]](#)

View DHCP-SNOOPING configuration:

OLT(config)# **show dhcp-snooping configuration**

DHCP Snooping Configurations

Switch DHCP Snooping status : Enable
DHCP Snooping verification of hwaddr status : Disable
DHCP Snooping option82 status : Disable
DHCP Snooping option82 policy : Keep
DHCP Snooping database write-delay time : 7200(s)
Switch ARP detection status : Disable
Switch ARP reply-fast status : Disable
DHCP Relay status : Disable
DHCP Relay server : Unknow
DHCP Relay gateway : Unknow

DHCP Snooping is configured on following vlans :

Port	Trusted	CircuitId	RemoteId	Rate-limit(pps)
ge1	No	default	default	300
ge2	No	default	default	300
ge3	No	default	default	300
ge4	No	default	default	300
ge5	No	default	default	300
ge6	No	default	default	300

ge7	No	default	default	300
ge8	No	default	default	300
xge1	No	default	default	300
xge2	No	default	default	300
pon1	No	default	default	300
pon2	No	default	default	300
pon3	No	default	default	300
pon4	No	default	default	300
pon5	No	default	default	300
pon6	No	default	default	300
pon7	No	default	default	300
pon8	No	default	default	300
pon9	No	default	default	300
pon10	No	default	default	300
pon11	No	default	default	300
pon12	No	default	default	300
pon13	No	default	default	300
pon14	No	default	default	300
pon15	No	default	default	300
pon16	No	default	default	300
lag1	No	default	default	300
lag2	No	default	default	300
lag3	No	default	default	300
lag4	No	default	default	300
lag5	No	default	default	300
lag6	No	default	default	300
lag7	No	default	default	300
lag8	No	default	default	300
lagL9	No	default	default	300
lagL10	No	default	default	300
lagL11	No	default	default	300
lagL12	No	default	default	300
lagL13	No	default	default	300
lagL14	No	default	default	300
lagL15	No	default	default	300
lagL16	No	default	default	300

14.4 (no) dhcp-snooping vlan

[Command]

dhcp-snooping vlan*vlan-list*

no dhcp-snooping vlan*vlan-list*

[View]

Config view

[\[Parameter\]](#)

vlan-list: Add specified VLAN list

[\[Description\]](#)

dhcp-snooping vlan: Add specified snooping VLAN, DHCP message in the snooping VLAN range of will be snooped, and DHCP message out of the snooping VLAN range will be forwarded without changing any

no dhcp-snooping vlan*vlan-list*: Delete specified snooping VLAN

[\[Case\]](#)

Add snooping VLAN 100, 200, 300

OLT(config)# dhcp-snooping vlan 100,200-300

14.5 (no) dhcp-snooping trust port

[\[Command\]](#)

dhcp-snooping trust port (ge | xge | EPON | lag) *port-list*

no dhcp-snooping trust port (ge | xge | EPON | lag) *port-list*

[\[View\]](#)

Config view

[\[Parameter\]](#)

port-list: Add specified port list

[\[Description\]](#)

dhcp-snooping trust port : Configure trust ge port, which can receive all DHCP messages

no dhcp-snooping trust port: Configure untrust port, which can not receive DHCP response message

[\[Case\]](#)

Configure port GE10, GE12, xGE1 and EPON3-5 as trust port, GE1-GE5, xGE2, EPON2, EPON 5 as untrust port:

OLT(config)# dhcp-snooping trust port ge 10,12

OLT(config)# dhcp-snooping trust port xge 1

OLT(config)# dhcp-snooping trust port EPON 3-5

OLT(config)# no dhcp-snooping trust port ge 1-5

OLT(config)# no dhcp-snooping trust port xge 2

OLT(config)# no dhcp-snooping trust port EPON 2,5

14.6 dhcp-snooping chaddr-check

[\[Command\]](#)

dhcp-snooping chaddr-check enable

dhcp-snooping chaddr-check disable

[\[View\]](#)

Config view

[\[Parameter\]](#)

port-list: Add specified port list

[\[Description\]](#)

dhcp-snooping chaddr-check enable: When enabled, system will check whether the MAC address of DHCP request message from untrust port is the same as CHADDR field, snoop the message if it is the same, discard the message if not

dhcp-snooping chaddr-check disable: Disable MAC address detection of untrust port

[\[Case\]](#)

Disable MAC address detection of untrust port:

OLT(config)# dhcp-snooping chaddr-check disable

14.7 dhcp-snooping limit-rate

[\[Command\]](#)

dhcp-snooping limit-rate rateport (ge | gon | xge | lag) port-list

[\[View\]](#)

Config view

[\[Parameter\]](#)

rate: Limit the rate of DHCP request message

port-list: Port that needs to be configured

[\[Description\]](#)

Configure receiving rate of DHCP request message from GE port, message over the configured rate will be discarded. Rate limit of trust port can be configured but will not take effects unless configure as untrust port

[\[Case\]](#)

Limit the receiving rate of DHCP message from port GE6 and GE9 as 20pps, rate limit for port xGE1 as 100pps and rate limit for port EPON2-8 as 50pps:

OLT(config)# dhcp-snooping limit-rate 20 port ge 6,9

OLT(config)# dhcp-snooping limit-rate 100 port xge 1

OLT(config)# dhcp-snooping limit-rate 100 port EPON 2-8

14.8 dhcp-snooping opton82

[\[Command\]](#)

dhcp-snooping opton82 enable

dhcp-snooping opton82 disable

[\[View\]](#)

Config view

[\[Parameter\]](#)

No parameter

[\[Description\]](#)

When enabled, system will add Option82 information in DHCP request message from untrust port and strip the Option82 information of DHCP response message from trust port

[\[Case\]](#)

Enabel DHCP option82 function:

OLT(config)# dhcp-snooping option82 enable

14.9 dhcp-snooping option82 policy

[Command]

dhcp-snooping option82 policy (keep|drop|replace)

[View]

Config view

[Parameter]

keep: Forward DHCP message with Option82 field without changing

drop: Discard DHCP message with Option82 field

replace: Replace Option82 field in DHCP message then forward the message

[Description]

dhcp-snooping option82 policy: Option82 forwarding policy configuration based request message

[Case]

Configure DHCP forwarding policy as the original forwarding policy:

OLT(config)# dhcp-snooping option82 policy keep

14.10 dhcp-snooping binding

[Command]

dhcp-snooping binding mac ip vl an port (ge | EPON| xge | lag)port-id

[View]

Config view

[Parameter]

mac: MAC address of static binding entry

ip: IP address of static binding entry

vlan: VLAN of static binding entry

port-id: Port ID of static binding entry

[Description]

dhcp-snooping binding: Binding policy configuration based on request message

[Case]

Add one static binding entry with MAC address 00:0f:1f:c5:10:08, IP address 192.168.1.101, VLAN 100 and port ge10:

OLT(config)# dhcp-snooping binding mac 00:0f:1f:c5:10:08 ip 192.168.1.101 vlan100 port ge 10

14.11 dhcp-snooping bind-table clear

[Command]

Delete entries of DHCP snooping binding list according to type:

dhcp-snooping bind-table clear (all | static | dynamic | ip-address)

Delete entries of DHCP snooping binding list according to VLAN type:

dhcp-snooping vlan *vlan-id* bind-table clear (all | static | dynamic | ip-address)

[\[View\]](#)

Config view

[\[Parameter\]](#)

Vlan-id:Delete snooping entries in specified VLAN

all:Delete all entries in snooping binding list

static: Delete static entries in snooping binding list

dynamic: Delete dynamic entries in snooping binding list

ip-address: Delete entries with specified IP in snooping binding list

[\[Description\]](#)

Delete entries of snooping binding list

[\[Case\]](#)

Delete all entries of snooping binding list:

OLT(config)# dhcp-snooping bind-table clear all

14.12 dhcp-snooping bind-table write-delay

[\[Command\]](#)

dhcp-snooping bind-table write-delay *time*

[\[View\]](#)

Config view

[\[Parameter\]](#)

time: Write delay time

[\[Description\]](#)

Configure delay time of writing into flash for DHCP snooping binding list. When DHCP snooping binding list is changed, system will wait for the configured time then write the list entries into flash

[\[Case\]](#)

Configure that DHCP snooping binding list will be updated after 4 seconds when the list is changed:

OLT(config)# dhcp-snooping bind-table write-delay 240

14.13 dhcp-snooping bind-table delete-time

[\[Command\]](#)

dhcp-snooping bind-table delete-time *time*

[\[View\]](#)

Config view

[\[Parameter\]](#)

time:Delete time of dynamic entries

[Description]

Configure the delete time of dynamic entries in DHCP snooping binding list. Dynamic entries will be deleted after the configured time when lease time is over instead of being deleted right away in the end of lease time

[Case]

Configure that dynamic entries will be deleted after 240 seconds when lease time is over:
OLT(config)# dhcp-snooping bind-table delete-time 240

14.14 dhcp-snooping bind-table write-to-flash

[Command]

dhcp-snooping bind-table write-to-flash

[View]

Config view

[Parameter]

No parameter

[Description]

Write DHCP snooping binding list into flash manually

[Case]

Write DHCP snooping binding list into flash manually:
OLT(config)# dhcp-snooping bind-table write-to-flash

14.15 dhcp-snooping bind-table save-to-tftp

[Command]

dhcp-snooping bind-table save-to-tftp ip

[View]

Config view

[Parameter]

ip: IP address of TFTP server binding entries will be saved to

[Description]

Write DHCP snooping binding list into flash manually and upload the list to TFTP server:

[Case]

Write DHCP snooping binding list into flash manually and upload the list to TFTP server with IP address 192.168.1.1:
OLT(config)# dhcp-snooping bind-table save-to-tftp 192.168.1.1

14.16 show dhcp-snooping bind-table

[Command]

show dhcp-snooping bind-table (all | static | dynamic | ip | vlan)

show dhcp-snooping vlan *vlan-id* bind-table (all | static | dynamic | ip)

[View]

Config view

[Parameter]

Vlan-id:Delete snooping entries in specified VLAN

all:Delete all entries in snooping binding list

static: Delete static entries in snooping binding list

dynamic: Delete dynamic entries in snooping binding list

ip-address: Delete entries with specified IP in snooping binding list

[Description]

View entries of DHCP snooping binding list

[Case]

View all information of DHCP snooping binding list:

OLT(config)# show dhcp-snooping bind-table all

database entries count: 5

database entries delete time: 300(s)

MacAddress	IpAddress	Vlan	Port	Lease(s)	Type	Status
00:50:BA:50:73:27	192.168.12.5	1	ge13	594	Dynamic	Valid
00:50:BA:50:73:26	192.168.12.4	1	ge13	594	Dynamic	Valid
00:50:BA:50:73:25	192.168.12.3	1	ge13	594	Dynamic	Valid
20:89:84:2A:1A:91	192.168.12.2	1	ge13	541	Dynamic	Valid
00:0F:1F:C5:10:08	192.168.1.101	100	ge10	-	Static	Valid

14.17 dhcp-snooping arp-reply-fast

[Command]

Enable ARP fast reply function:

dhcp-snoopingarp-reply-fast enable

Disable ARP fast reply function:

dhcp-snoopingarp-reply-fast disable

[View]

Config view

[Parameter]

No parameter

[Description]

dhcp-snoopingarp-reply-fast enable: When enabled, system will choose to make fast ARP reply according to DHCP snooping list, when this function is enable, system will snoop ARP message, if system can find relative records of the ARP message in DHCP snooping list, system will fast reply the ARP request instead of broadcasting the message to uplink network so that ARP broadcasting message will be reduced

dhcp-snoopingarp-reply-fast disable: Disable ARP fast reply function

[Case]

Enable ARP fast reply function:

OLT(config)# dhcp-snooping arp-reply-fast enable

14.18 dhcp-snooping arp-detect

[Command]

Enable ARP detection function:

dhcp-snooping arp-detect enable

Disable ARP detection function:

dhcp-snooping arp-detect disable

[View]

Config view

[Parameter]

No parameter

[Description]

dhcp-snooping arp-detect enable: When enabled, system will check legality of the user who sends ARP message according to DHCP snooping so as to avoid ARP attacks

dhcp-snooping arp-detect disable: Disable ARP detection function

[Case]

Enable ARP detection function:

OLT(config)# dhcp-snooping arp-reply-fast enable

14.19 dhcp-client

[Command]

dhcp-client { enable | disable }

[View] vlanifview

[Parameter]

enable: Enable DHCP client function

disable: Disable DHCP client function

[Description]

Enable/Disable DHCP client function in layer 3 port

[Case]

Enable DHCP client function of interface VLANIF 1:

OLT(config-interface-vlanif-1)# dhcp-client enable

14.20 dhcp-client renew

[Command]

dhcp-client renew

[View] vlanifview

[Parameter]

[Description]

This command is used in layer 3 interface mode to enable renew switch of interface, so that the interface can obtain IP initiatively, firstly system will send request message to DHCP server to renew a lease or apply a new IP

[\[Case\]](#)

Enable renew switch of interface VLANIF 1:

OLT(config-interface-vlanif-1)# dhcp-client renew

14.21 dhcp-client release

[\[Command\]](#)

dhcp-client release

[\[View\]](#) vlanif view

[\[Parameter\]](#)

[\[Description\]](#)

This command is used in layer 3 interface mode to release IP of interface. Use this command to delete IP the interface has applied dynamically, firstly system will send release message to DHCP server to realese IP of the interface

[\[Case\]](#)

Release IP of interface VLANIF 1:

OLT(config-interface-vlanif-1)# dhcp-client release

14.22(no) dhcp-client option60

[\[Command\]](#)

dhcp-client option60 *option60*

no dhcp-client option60

[\[View\]](#) vlanif view

[\[Parameter\]](#)

[\[Description\]](#)

Configure option60 information of request message from DHCP client. Use this command to configure option60 information of interface to cooperate with upstream device when the upstream device is configured with DHCP layer 3 relay based on option60. Command “no” removes the configured option60 information of user and reset into default value.

[\[Case\]](#)

Configure option60 information of DHCP-client ofVLANIF1 as “CDATA-VLANIF”:

OLT(config-interface-vlanif-1)# dhcp-client option60 CDATA-VLANIF

[\[Case\]](#)

Reset option60 of DHCP-client of VLANIF1 into default value:

OLT(config-interface-vlanif-1)# no dhcp-client option60

14.23 show dhcp-client

[\[Command\]](#)

show dhcp-client [**interface vlanif** *vlanif*]

[\[View\]](#) config view

[\[Parameter\]](#)

interface vlanif *vlanif*: Index of layer 3 interface

[\[Description\]](#)

View basic information and detailed information of all interfaces or one specified interface that enabled DHCP client function:

[\[Case\]](#)

View basic information of all interfaces that enabled DHCP client function:

OLT(config)# show dhcp-client

Index	Name	FSM	IP/MASK	Leased Until Time
1	vlanif1	BOUND	192.168.2.46/24	2016-04-05 20:36:42+0800

[\[Case\]](#)

View detailed information of interface VLANIF 1 that enabled DHCP client function and obtained IP:

OLT(config)# show dhcp-client interface vlanif 1

Interface name: vlanif1

DHCP-CLIENT: enable

Current FSM state: BOUND

DHCP OPTION60: -

Interface's hardware address: E0:67:B3:00:00:04

Dynamic IP address: 192.168.2.46

Subnet mask: 255.255.255.0

Lease obtained time: 2016-04-05 19:36:42+0800

14.24 show dhcp-client option60

[\[Command\]](#)

show dhcp-client option60 [**interface vlanif** *vlanif*]

[\[View\]](#) config view

[\[Parameter\]](#)

interface vlanif *vlanif*: Index of layer 3 interface

[\[Description\]](#)

View DHCP-Client option60 information of each VLAN layer 3 interface of system

[\[Case\]](#)

View DHCP-Client option60 information of layer 3 interface VLANIF 1:

OLT(config)# show dhcp-client option60 interface vlanif 1

VLANIF	OPTION60
--------	----------

1 CDATA-VLANIF

--- 192.168.2.225 ping statistics ---
4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 5.169/5.400/5.561 ms

15.link-aggregation

15.1 member add/delete

[Command]

Add member port in aggregation group:

member add (*ge* | *xge*) *port-list* **link-aggregation group***group-id*

Delete member port in aggregation group:

member delete (*ge* | *xge*) *port-list* **link-aggregation group***group-id*

[View]

lag view

[Parameter]

port-list: Port list

group-id: Aggregation group, 1-8 is manual Aggregation group, 9-16 is static Aggregation group

[Description]

Device FD1216S supports 16 aggregation groups, command “member add” adds member port in aggregation group, command “member delete” deletes member port in aggregation group

[Case]

Add port GE1 in aggregation group 1:

OLT(config-interface-aggregation)# member add ge 1 link-aggregation group 1

Delete GE1 in aggregation group 1:

OLT(config-interface-aggregation)# member delete ge 1 link-aggregation group 1

15.2 (no) flow-control/ (lacp set)/mtu

[Command]

(no) flow-control *portlist* (Enable flow control function of aggregation port)

lacp set system priority*priority* (System priority, priority of the whole device as well)

mtu*port-list* MTU-value (Data Maximum Transmission Unit)

[View]

lag view

[Parameter]

port-list: Aggregation port list

MTU-value: Maximum Transmission Unit

priority: Priority

[Case]

Configure priority of static LACP aggregation port as 1:

```
OLT(config-interface-aggregation)# lacp set system priority 1
```

Enable flow control function of aggregation port group:

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

Configure Maximum Transmission Unit of aggregation port group:

```
OLT(config-interface-aggregation)# mtu 1 1500
```

15.3 showlacp system priority/port priority

[Command]

show lacp system priority/port priority port-list

[View]

lag view

[Description]

View device priority/port priority in aggregation group

[Case]

View system priority:

```
OLT(config-interface-aggregation)# show lacp system priority
```

```
lacp system priority value: 32768
```

[Case]

View priority of port GE5 of aggregation group:

```
OLT(config-interface-aggregation)# show lacp port priority ge 5
```

```
lacp port priority: 32768
```

15.4 link-aggregation group/port-priority

[Command]

link-aggregation group *group-id* unicast balance (dest-ip |dest-mac |source-dest-ip | source-dest-mac | source-ip | source-mac)

link-aggregation group non-unicast balance (dest-mac|source-dest-mac | source-port| source-mac)

[View]

lag view

[Parameter]

group-id: Aggregation group

[Description]

Configure share mode in aggregation group for known unicast

dest-ip// Load sharing based on destination IP

dest-mac//Load sharing based on destination MAC

source-dest-ip//Load sharing based on source IP and destination IP

source-dest-mac //Load sharing based on source MAC and destination MAC

source-ip//Load sharing based on source IP

source-mac//Load sharing based on source MAC

Attention: OLT(config-interface-aggregation)# link-aggregation group 1 unicast balance

(Default setting is load sharing based on source MAC)

[\[Case\]](#)

Configure the load sharing mode of the device as sharing based on destination IP:

```
OLT(config-interface-aggregation)# link-aggregation group 1 unicast balance dest-ip
```

15.5 reset statistics port

[\[Command\]](#)

```
reset statistics port group-id
```

[\[View\]](#)

lag view

[\[Parameter\]](#)

group-id: Aggregation group

[\[Description\]](#)

Clear statistics information of aggregation port

[\[Case\]](#)

Clear statistics information of aggregation port 2:

```
OLT(config-interface-aggregation)# reset statistics port 2
```

15.6 link-aggregation port-priority

[\[Command\]](#)

```
link-aggregation port-priority(ge | xge) port-id value lacp
```

[\[View\]](#)

lag view

[\[Parameter\]](#)

port-id: Port ID

value: Priority of aggregation port

[\[Description\]](#)

Configure the priority of aggregation port manually

[\[Case\]](#)

Configure the priority of aggregation port 1 as 6000:

```
OLT(config-interface-aggregation)# link-aggregation port-priority ge 1 6000 lacp
```

15.7 show link-aggregation group summary/ge

[\[Command\]](#)

```
show link-aggregation group summary/ge port-id
```

[\[View\]](#)

lag view

[\[Parameter\]](#)

port-id: Port ID

[\[Description\]](#)

View configuration information of each port

[\[Case\]](#)

View configuration information of each port:

OLT(config-interface-aggregation)# show link-aggregation group summary

15.8 show link-aggregation statistics

[\[Command\]](#)

show link-aggregation statistics portgroup-id

[\[View\]](#)

lag view

[\[Parameter\]](#)

group-id: Aggregation group ID

[\[Description\]](#)

View flow statistics of aggregation group and its member ports

[\[Case\]](#)

View flow statistics of aggregation group and its member ports:

OLT(config-interface-aggregation)# show statistics port 3

link-aggregation group 3 statistics:

Direction	Total (bytes)	Uncast (pkts)	Bcast (pkts)	Mcast (pkts)	Err (pkts)
RX	0	0	0	0	0
TX	0	0	0	0	0

member xge2 statistics:

Direction	Total (bytes)	Uncast (pkts)	Bcast (pkts)	Mcast (pkts)	Err (pkts)
RX	0	0	0	0	0
TX	0	0	0	0	0

link-aggregation group 1 statistics:

Direction	Total (bytes)	Uncast (pkts)	Bcast (pkts)	Mcast (pkts)	Err (pkts)
RX	0	0	0	0	0
TX	0	0	0	0	0

15.9 no/shutdown

[Command]

shutdown *Port list*

no flow-control/link-aggregation/mtu/port-name/shutdown/spanning-tree/vlan

[Parameter]

Port-list: Aggregation port list

[Description]

OLT(config-interface-aggregation)# no
flow-control //Disable flow control function of port
link-aggregation // Restore priority of port into default value (32768)
mtu //Restore Maximum Transmission Unit of aggregation group into default
value (1024 bytes)
port-name //Delete name of aggregation group
shutdown //Enable port of aggregation group
spanning-tree //Disable Rapid Spanning Tree protocol of aggregation group
vlan //Disable VLAN configuration

[Case]

Disable port 1 of aggregation group:

OLT(config-interface-aggregation)# shutdown 1

15.10 show lacp system priority

[Command]

show lacp system priority

[View]

lag view

[Description]

When links of several switches are aggregated together, the aggregation group with higher priority will forward data first

When links

[Case]

View system priority:

OLT(config-interface-aggregation)# lacp set system priority 1000

OLT(config-interface-aggregation)# show lacp system priority

lacp system priority value: 1000

15.11 show portspanning-tree/state/vlan

[Command]

show portspanning-tree/state/vlan

[View]

lag view

[Description]

View relevant information of aggregation port:

[Case]

View Spanning Tree information of aggregation port:

OLT(config-interface-aggregation)# show port spanning-tree 1

```
----- lag1 RSTP STATUS:-----
Port STP Mode           : RSTP
Port Priority            : 128
Port Path Cost          : 20000
Port Edge Admin         : NON-Edge
Port Edge Status        : NEdge
Port Link Type Admin    : Auto
Port Link Type Status   : P2P
Port Role               : Unknown
Port State              : Down
```

[Case]

View VLAN information of aggregation port:

OLT(config-interface-aggregation)# show port vlan 1

```
-----
Port: lag1   Native-Vlan: 1   Mode: Access
-----
Tagged-Vlan:
-
-----
Untagged-Vlan:
1
-----
```

[Case]

View state information of aggregation port:

OLT(config-interface-aggregation)# show port state all

```
-----
Port    Pvid  Auto   Speed Dup   Flow  Learn  Enable  Link  Mtu
      Nego  /Mbps lex   Ctrl
-----
lag1    1     enable 0     full on   enable enable off  1000
lag2    1     enable 0     full on   enable enable off  1500
lag3    1     enable 0     full on   enable enable off  1500
lag4    1     enable 0     full on   enable enable off  1500
lag5    1     enable 0     full on   enable enable off  1500
lag6    1     enable 0     full on   enable enable off  1500
lag7    1     enable 0     full on   enable enable off  1500
lag8    1     enable 0     full on   enable enable off  1500
lagL9   1     enable 0     full on   enable enable off  1500
lagL10  1     enable 0     full on   enable enable off  1500
lagL11  1     enable 0     full on   enable enable off  1500
lagL12  1     enable 0     full on   enable enable off  1500
```

lagL13	1	enable	0	full	on	enable	enable	off	1500
lagL14	1	enable	0	full	on	enable	enable	off	1500
lagL15	1	enable	0	full	on	enable	enable	off	1500
lagL16	1	enable	0	full	on	enable	enable	off	1500

16. Router

16.1 ip route-static

[Command]

ip route-static *ip-addr ip-mask gateway*

[View]config view

[Parameter]

ip-addr: IP address. There are five kinds of IP address, user can choose suitable IP subnet according to the actual conditions, IP addresses with mainframe address part being all 0 or 1 have particular uses, which can not be used as common IP address. In the format of x.x.x.x

ip-mask: Subnet mask, in the format of x.x.x.x.

gateway: gateway IP address in the format of x.x.x.x.

[Description]

Configure static router of OLT, there should be only one default static router

[Case]

Configure static default router of OLT with gateway as 192.168.2.253:

```
OLT(config)# ip route-static 0.0.0.0 0.0.0.0 192.168.2.253
```

Successfully add static routing entries!

```
OLT(config)#
```

16.2 show ip route-static

[Command]

show ip route-static

[View]config view

[Parameter]

[Description]

View static default router of OLT

[Case]

View information of OLT static default router:

```
OLT(config)# show ip routing-table
```

Destination/Mask	Proto	Prio	Cost	Flags	NextHop	Interface
0.0.0.0/0	Static	0	0	D	192.168.2.253	-----

OLT(config)#

17.ONT Management

17.1 ont add

[\[Command\]](#)

ont add *port-id* *ont-id* **mac-auth** *mac-address*

ont add *port-id* *ont-id* **loid-auth** *loid*

ont add *port-id* *ont-id* **loid-auth** *loid* **password-auth** *password*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: EPON port that the ONT is connecting

ont-id: ONT ID

mac-address: mac address in the format of *xx:xx:xx:xx:xx:xx*

loid: LOID of ONT that needs to be authenticated

password: Password that needs to be authenticated

mac-auth *mac-address*: Specify ONT authentication method as MAC address authentication, OLT will check MAC address reported by ONT, authentication will get through and ONT will get online if the MAC address is consistent with the configuration

loid-auth *loid* **password-auth** *password*: Specify ONT authentication method as LOID authentication, OLT will check whether LOID reported by ONT is consistent with the configuration, authentication will get through and ONT will get online if it is

loid-auth *loid* **password-auth** *password*: Specify ONT authentication method as LOID authentication + password, OLT will check whether LOID and password reported by ONT is consistent with the configuration, authentication will get through and ONT will get online if it is

[\[Description\]](#)

Add ONT with specified ONT ID based on MAC address or LOID + password

[\[Case\]](#)

Add ONT with ONT ID 2 in EPON OLT port PON 1, set with MAC authentication method and the authenticated MAC address as 22:22:22:22:22:22:

OLT(interface-epon)# ont add 1 2 mac-auth 22:22:22:22:22:22

17.2 ont alarm

[\[Command\]](#)

ont alarm dying-gasp *port-list* **enable** | **disable**

ont alarm optical *port-list* *ont-id* *option* **enable** | **disable** **UPPER-THRESHOLD** **LOWER-THRESHOLD**

[\[View\]](#) epon view

[\[Parameter\]](#)

port-list: EPON port list the ONT is connecting

ont-id: ONT ID

enable: Enable specific alarm function

disable: Disable specific alarm function

UPPER-THRESHOLD: Maximum threshold

LOWER-THRESHOLD: Minimum threshold

option includes:

bias-alarm: Bias alarm

bias-warning: Bias warning

rx-power-alarm:Receiving optical power alarm

rx-power-warning: Receiving optical power warning

temperature-alarm: Temperature alarm

temperature-warning: Temperature-warning

tx-power-alarm: Transmitting optical power alarm

tx-power-warning: Transmitting optical power warning

voltage-alarm: Voltage alarm

voltage-warning: Voltage warning

[\[Description\]](#)

Enable or disable power-off alarm, bias alarm/warning, receiving optical power alarm/warning, temperature alarm/warning, transmitting optical alarm/warning, voltage alarm/warning and other functions

[\[Case\]](#)

Enable voltage alarm function of ONT with ID 1 under port PON1 and set the maximum threshold as 10, minimum threshold as -10:

```
OLT(config-interface-epon)# ont alarm optical 1 1 tx-power-alarm enable 10 -10
```

17.3 ont authmode

[\[Command\]](#)

ont authmode port-list option

[\[View\]](#) epon view

[\[Parameter\]](#)

port-list: EPON port list

option includes:

all: All ONT needs authentication

loid: LOID authentication method

mac: MAC address authentication method

mac-or-loid: MAC address authentication method or LOID authentication method

mac-or-loid-password: MAC address authentication method or LOID +passwordauthentication method

[\[Description\]](#)

Configure ONT authentication method of ONT under PON port:

[\[Case\]](#)

Configurete ONT authentication method under portPON1 as MAC address authentication:

```
OLT(config-interface-epon)# ont authmode 1 mac
```

17.4 ont mac-aging

[Command]

ont mac-aging port-list ont-id **aging-time** time

[View] epon view

[Parameter]

port-list: EPON port list

ont-id: ONT ID

time: Aging time, value range in 0-36000, unit second, 0 represents never age

[Description]

Configurete MAC address aging time of ONT under PON port, default value is 60 seconds

[Case]

ConfigureteMAC address aging time of ONT1 under PON1 port as 36 seconds:

OLT(config-interface-epon)# ont mac-aging 1 1 aging-time 36

17.5 ont black-list

[Command]

ont black-list add port-list mac-address

ont black-list delete port-list mac-address

[View] epon view

[Parameter]

port-list: EPON port list

mac-address: MAC address in the format of xx:xx:xx:xx:xx:xx

[Description]

Configurete ONT black list of PON port, ONT in the black list can not register in OLT

[Case]

Add ONT with MAC address 23:23:23:45:23:43 under portPON1in ONT black list:

OLT(config-interface-epon)# ont black-list add 1 23:23:23:45:23:43

17.6 ont confirm

[Command]

ont confirm port-idmac-authmac-address

ont confirm port-idloid-auth loid **password-auth** password

ont confirm port-id allmac-auth |(loid-auth password)

[View] epon view

[Parameter]

port-id: EPON port ID connected with ONT

mac-address: mac address in the format of xx:xx:xx:xx:xx:xx

loid: LOID of ONT that needs to be confirmed

password: Password that needs to be confirmed

all: Batch confirm ONT found automatically under EPON port

mac-auth *mac-address*: Specify ONT authentication method as MAC authentication

ONT will submit MAC address to OLT, use this command to apply MAC authentication

loid-auth *loid*: Specify ONT authentication method as LOID authentication

mac-auth | (loid-auth password): MAC authentication or LOID + password authentication

[\[Description\]](#)

Confirm ONT in automatic discovery state. If automatic discovery is enabled in OLT, when ONT is connected to OLT, OLT will obtain registration information of ONT, and ONT will be in automatic discovery state. Use this command to confirm ONT so that ONT can enter normal working state, then relevant service of ONT can be configured, this command can batch register ONT as well

[\[Case\]](#)

Confirm all automatic discovering ONT in EPON OLT port PON1:

OLT(interface-EPON)# ont confirm 1 all mac-auth

Number of ONTs that can be added: 2, success: 2

17.7 ont cancel

[\[Command\]](#)

ont cancel *port-id*(**all** | **mac** *mac-addr*)

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: EPON port ID with ONT connected that needs to be canceled

mac-address: mac address in the format of xx:xx:xx:xx:xx:xx

all: Cancel all automatic discovering ONT under EPON port

mac *mac-addr*: MAC address that needs to be canceled

[\[Description\]](#)

Cancel ONT in automatic discovery state:

[\[Case\]](#)

Cancel all automatic discovering ONT under EPON OLT port PON1:

OLT(interface-EPON)# ont cancel 1 all

17.8 ont default-setting

[\[Command\]](#)

ont default-setting *port-id*(**all** | *ont-id*)

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: Reset ONT under EPON port with specified port ID to default settings

all: Reset all ONT under EPON port to default settings

ont-id: ONT ID

[\[Description\]](#)

Reset all/specified ONT under EPON port to default settings

[Case]

Reset ONT with ID 20 under EPON OLT port PON1 to default settings:

OLT(config-interface-epon)# ont default-setting 1 20

17.9 ont delete

[Command]

ont delete *port-id*(all | *ont-id*)

[View] epon view

[Parameter]

port-id: EPON port ID connected with ONT that needs to be deleted

all: Delete all ONT under specified EPON port

ont-id: ONT ID that needs to be deleted

[Description]

Delete ONT, configuration information of ONT will be deleted too so that the ONT will be logged out

[Case]

Delete ONT with ID 2 under EPON OLT port PON1:

OLT(interface-EPON)# ont delete 1 2

[Case]

Delete all ONT under EPON OLT port PON1:

OLT(interface-EPON)# ont delete 1 all

This command will delete all the ONTs in port. Are you sure to execute this command? (y/n)[n]:y

Number of ONTs that can be delete: 1, success: 1

17.10 ont description

[Command]

ont description *port-id**ont-id* *describe-value*

[View] epon view

[Parameter]

port-id: EPON port ID connected with ONT that needs to be add with description

ont-id: ONT ID that needs to be add with description

describe-value: ONT description information

[Description]

Add description information for ONT which will be convenient for management

[Case]

Add description information of "test" to ONT with ID 1 under EPON OLT port PON 1:

OLT(interface-EPON)# ont description 1 1 test

17.11 ont encrypt

[Command]

ont encryptport-list ont-id **enable** | **disable**

[View]

epon view

[Parameter]

port-list: Port that needs to be configured

ont-id: ONT ID

enable: Enable port encryption function

disable: Enable port encryption function

[Description]

Configure encryption function, data message forwarded from specified PON port to specified ONT will be encrypted

[Case]

Enable encryption function of portPON1 to ONT 4:

OLT(config-interface-epon)# ont encrypt 1 4 enable

17.12 ont multicast-mode

[Command]

ont multicast-modeport-list ont-id **ctc** | **igmp-snooping** | **transparent**

[View]

epon view

[Parameter]

port-list: Port that needs to be configured

ont-id: ONT ID

ctc:ctc standard mode

igmp-snooping:IGMP SNOOPINGmode

transparent:Passthrough mode

[Description]

Configure ONT multicast mode

[Case]

Configure multicast mode of portPON1 to ONT4 as IGMP SNOOPING mode:

OLT(config-interface-epon)# ont multicast-mode 1 4 igmp-snooping

17.13 ont multicast fast-leave

[Command]

ont multicastfast-leave port-list ont-id **enable** | **disable**

[View]

epon view

[\[Parameter\]](#)

port-list: Port that needs to be configured

ont-id: ONT ID

enable: Enable multicast fast leave function

disable: Disable multicast fast leave function

[\[Description\]](#)

Enable /Disable ONTmulticast fast leave function

[\[Case\]](#)

Enablemulticast fast leave function ofport PON1 toONT4:

OLT(config-interface-epon)# ont multicast fast-leave 1 4 enable

OLT(config-interface-epon)#

17.14 load file /ont load

[\[Command\]](#)

load file ftp ip-addr user-nameuser-password file-name

ont loadport-list ont-id file-name

[\[View\]](#)

epon view

[\[Parameter\]](#)

ip-addr:IP address of FTP server

user-name: Login username of FTP server

user-password: Password of FTP server

port-list:Port list that needs to be configured

ont-id:ONT ID

file-name: Firmware name for upgrading

[\[Description\]](#)

Command “load file” to download firmware to OLT, FTP server should be opened firstly in PC, command “ont load” upgrade ONT with the downloaded firmware

[\[Case\]](#)

Download firmware with file name “test” to OLT:

OLT(config)# load file ftp 192.168.5.85 admin admin test

[\[Case\]](#)

Upgrade ONT4 under port PON1 with firmware “test”:

OLT(config-interface-epon)# ont load 1 4 test

17.15 ont fec

[\[Command\]](#)

ont fecport-idont-idenable | disable

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: Port ID connected with ONT that needs to configure FEC function

ont-id: ONT ID

[\[Description\]](#)

Enable / disable FEC function of specified ONT underPON port

[\[Case\]](#)

Enable FEC function of ONT1 underEPON OLT PON1:

OLT(config-interface-epon)# ont fec 1 1 enable

OLT(config-interface-epon)#

17.16 ont autofind

[\[Command\]](#)

ont autofind *port-idswitch*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT that needs to enable automatic discovery function

switch:ONT automatic discovery switch value in: enable, disable

[\[Description\]](#)

Enable/Disable ONT automatic discovery function of EPON OLT PON port:

[\[Case\]](#)

Enable ONT automatic discovery function in port PON1:

OLT(interface-EPON)# ont autofind 1 enable

17.17 ont activate

[\[Command\]](#)

ont activate*port-id(all | ont-id)*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT that needs to be activated

all: Activate all ONT under specified PON port, for batch activate ONT

ont-id: Activate specified ONT with ONT ID under specified PON port

[\[Description\]](#)

Activate ONT in deactivated state. ONT can only work normally in activated state. ONT is activated in default situation

[\[Case\]](#)

Activate ONT 1 under port PON1:

OLT(interface-EPON)# ont activate 1 1

[\[Case\]](#)

Activate all deactivatedONT under port PON1:

OLT(interface-EPON)# ont activate 1 all

Number of ONTs that can be activated: 1, success: 1

17.18 ont deactivate

[\[Command\]](#)

ont deactivate*port-id*(all | *ont-id*)

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT that needs to be deactivated

all: Deactivate all ONT under PON port, for batch inactivate ONT

ont-id: Deactivate specified ONT with ONT ID under specified PON port

[\[Description\]](#)

Deactivate ONT, ONT can only work normally in activated state, use this command to deactivate ONT when it is no need for ONT working normally. ONT is activated in default situation

[\[Case\]](#)

deactivate ONT1 under port PON1:

OLT(interface-EPON)# ont deactivate 1 1

[\[Case\]](#)

Deactivate all activated ONT under port PON1:

OLT(interface-EPON)# ont deactivate 1 all

Number of ONTs that can be deactivated: 1, success: 1

17.19 ont modify

[\[Command\]](#)

ont modify*port-id**ont-id*auth-type**loid-auth***loid***password-auth** *password*

ont modify*port-id**ont-id*auth-type**mac-auth***mac-addr*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT whose authentication configuration needs to be modified

ont-id: Modify authentication configuration of specified ONT under PON port

mac-addr: Mac address in the from of xx:xx:xx:xx:xx:xx

loid: LOID of NOT whose authentication configuration needs to be modified

password: Modifying password

[\[Description\]](#)

Modify ONT authentication method

[\[Case\]](#)

Modify authentication method of ONT2 under PON1 as MAC authentication:

OLT(config-interface-epon)# ont modify 1 1 auth-type mac-auth 12:12:12:12:12:12

17.20 ont reboot

[\[Command\]](#)

ont reboot *port-id* (all | *ont-id*)

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT that needs to be rebooted

all: Reboot all ONT under PON port

ont-id: ONT ID

[\[Description\]](#)

Reboot specified ONT or all ONT

[\[Case\]](#)

Reboot ONT1 under port PON2:

OLT(interface-EPON)# ont reboot 2 1

17.21 ont re-register

[\[Command\]](#)

ont re-register*port-id* (**all** | *ont-id*)

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

all: Re-register all ONT under PON port

ont-id: ONT ID

[\[Description\]](#)

Re-register all ONT or specified ONT under PON port;

[\[Case\]](#)

Re-register ONT4 under port PON1:

OLT(config-interface-epon)# ont re-register 1 4

OLT(config-interface-epon)# PON 1 ONU 4 offline!

PON 1 ONU 4 online!

17.22 ont ring check

[\[Command\]](#)

ont ring check*port-id**ont-id***auto-shutdown** | **disable** | **enable**

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id: ONT ID

auto-shutdown: Disable ONT port automatically when loop exists

enable: Enable ONT loop detection function

disable: Disable ONT loop detection function

[\[Description\]](#)

Enable or disable ONT loop detection function and automatically shutdown ONT when loop exists

[\[Case\]](#)

Enable loop detection function of ONT4 underportPON1:

OLT(config-interface-epon)# ont ring check 1 4 enable

17.23ont ipconfig

[Command]

ont ipconfig *port-id* **ont-id** **ip-address** *ip* **mask** *mask* **gateway**
gateway **manage-vlan** *manage-vlan* **priority** *priority*.

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

ip: IP address of ONT in the format of x.x.x.x

mask: IP mask in the format of x.x.x.x

gateway: Device gateway address in the format of x.x.x.x

manage-vlan: Management VLAN ID

priority: Priority

[Description]

Configure IP address, mask, gateway, management VLAN and priority

[Case]

Configure IP address as 192.168.2.12/24, gateway as 192.168.2.254, management VLAN as 10, and priority as 0 of port PON13:

```
OLT(config-interface-epon)# ont ipconfig 131 ip-address 192.168.2.12 mask 255.255.255.0
gateway 192.168.2.254 manage-vlan 10 priority 0
```

17.24ont sla

[Command]

ont sla *port-id* **ont-id** **upstream** **assure** *bandwidth* **fix** *bandwidth* **max** *bandwidth*
ont sla *port-id* **ont-id** **downstream** **assure** *bandwidth* **fix** *bandwidth* **max** *bandwidth*

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

bandwidth: Bandwidth value, value range in 0-1000000

upstream: Upstream

downstream: Downstream

The following three parameters are selective for configuration:

assure: Assure bandwidth

fix: Fixed bandwidth

max: Max bandwidth (Best effort bandwidth)

[Description]

Configure rate limit function of upstream and downstream of ONT

[Case]

Configure upstream assure bandwidth as 2000, fixed bandwidth as 1000 and max bandwidth as 100000 of port PON1:

```
OLT(config-interface-epon)# ont sla 1 1 upstream assure 2000 fix 1000 max 100000  
OLT(config-interface-epon)#
```

17.25ont snmp-config

[Command]

```
ont snmp-config port-id ont-id v2c readgroup writegroup trap-ip-addr snmp-port
```

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

v2c: SNMP version 2

readgroup: read community

writegroup: write community

trap-ip-addr: Trap IP address in the format of x.x.x.x

snmp-port: SNMP port ID

[Description]

Configure read/write community of SNMP, trap address and SNMP port ID of ONT:

[Case]

Configure read community as public, write community as private, trap IP address as 192.168.5.100 and SNMP port as 53 of ONT4 under port PON1:

```
OLT(config-interface-epon)# ont snmp-config 1 4 v2c public private 192.168.5.100 53
```

17.26ont statistics

[Command]

```
ont statistics port-id ont-id etheth-port disable | enable period period
```

```
ont statistics port-id ont-id pondisable | enable period period
```

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

enable: Enable data statistics function

disable: Disable data statistics function

eth-port: Ethernet port ID of ONT

period: Statistical cycle, value range in 1-864000, unit second

[Description]

Enable or disable data statistics function of PON port or Ethernet port of ONT and set its statistics cycle

[Case]

Enable data statistics function of PON port of ONT under port PON1 and set the statistics cycle as 300 seconds:

```
OLT(config-interface-epon)# ont statistics 1 4 pon enable period 300
```

17.27 ont port config catv

[Command]

ont port config *portid ontidcatv ont-portidoperational-stateon|off*

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

ont-portid: CATV port ID of ONT

on: Enable CATV port of ONT

off: Disable CATV port of ONT

[Description]

Enable or disable CATV port ID of ONT

[Case]

Enable CATV port 1 of ONT4 under port PON1:

OLT(config-interface-epon)# ont port config 1 4 catv 1 operational-state on

17.28 ont port config eth auto-neg

[Command]

ont port config *portid ontideth ont-portidauto-negenable|disable|restart*

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

ont-portid: Ethernet port ID of ONT

enable: Enable auto-negotiation function of Ethernet port of ONT

disable: Disable auto-negotiation function of Ethernet port of ONT

restart: Restart auto-negotiation function of Ethernet port of ONT

[Description]

Enable/Disable Ethernet auto-negotiation function of ONT

[Case]

Enable auto-negotiation function of port eth1 of ONT4 under port PON1:

OLT(config-interface-epon)# ont port config 1 4 eth 1 auto-neg enable

17.29 ont port config eth ds-policing

[Command]

ont port config *portid ontideth ont-portidds-policingcir bandwidth pir bandwidth*

ont port config *portid ontideth ont-portidds-policingunconcern*

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

ont-portid: Ethernet port ID of ONT

bandwidth: Bandwidth value, value range in 64-1024000, unit kpbs

cir: Assure bandwidth

pir: Best effort bandwidth

unconcern: Unconcern bandwidth

[\[Description\]](#)

Configure downstream bandwidth limit of Ethernet port of ONT:

[\[Case\]](#)

Configure downstream bandwidth limit of port eth1 of ONT4 under port PON1 as unconcern:

OLT(config-interface-epon)# ont port config 1 4 eth 1 ds-policing unconcern

17.30 ont port config eth up-policing

[\[Command\]](#)

ont port config portid ontideth ont-portidup-policingcir bandwidth pir bandwidth

ont port config portid ontideth ont-portidup-policingunconcern

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id: ONT ID

ont-portid: Ethernet port ID of ONT

bandwidth: Bandwidth value, value range in 64-1024000, unit kpbs

cir: Assure bandwidth

pir: Best effort bandwidth

unconcern: Unconcern bandwidth

[\[Description\]](#)

Configure upstream bandwidth limit of Ethernet port of ONT:

[\[Case\]](#)

Configure upstream bandwidth limit of port eth1 of ONT4 under port PON1 as unconcern:

OLT(config-interface-epon)# ont port config 1 4 eth 1 ds-policing unconcern

17.31 ont port config eth flow-control

[\[Command\]](#)

ont port config portid ontideth ont-portidflow-controlon | off

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id: ONT ID

ont-portid: Ethernet port ID of ONT

on: Enable flow control function of Ethernet port of ONT

off: Disable flow control function of Ethernet port of ONT

[\[Description\]](#)

Enable or disable flow control function of Ethernet port of ONT

[\[Case\]](#)

Enable flow control function of port eth1 of ONT4 under port PON1:
OLT(config-interface-epon)# ont port config 1 4 eth 1 flow-control on

17.32 ont port config eth learned-mac-clear

[\[Command\]](#)

ont port config *portid ontideth ont-portid***learned-mac-clear**

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id: ONT ID

ont-portid: Ethernet port ID of ONT

[\[Description\]](#)

Clear learned MAC address of Ethernet port of ONT:

[\[Case\]](#)

Clear learned MAC address of port eth1 of ONT4 under port PON1:
OLT(config-interface-epon)# ont port config 1 4 eth 1 learned-mac-clear

17.33 ont port config eth max-mac-count

[\[Command\]](#)

ont port config *portid ontideth ont-portid***max-mac-count** *count*

ont port config *portid ontideth ont-portid***max-mac-count** *no-learning*

ont port config *portid ontideth ont-portid***max-mac-count** *unlimited*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id: ONT ID

ont-portid: Ethernet port ID of ONT

count: Quantity, value range in 1-254

no-learning: Port will not learn MAC address

unlimited: No quantity limit

[\[Description\]](#)

Configurete quantity of MAC address learned in the Ethernet port ofONT:

[\[Case\]](#)

Configurete MAC address quantity port that eth1 of ONT under port PON1 can learned:
OLT(config-interface-epon)# ont port config 1 4 eth 1 max-mac-count unlimited

17.34 ont port config eth multicast-max-group-num

[\[Command\]](#)

ont port config *portid ontideth ont-portid***multicast-max-group-num** *count*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id: ONT ID

ont-portid: Ethernet port ID of ONT

count: Quantity, value range in 1-254

[\[Description\]](#)

Configure the maximum number of multicast group of Ethernet port of ONT

[\[Case\]](#)

Configure the maximum number of multicast group of port eth1 of ONT under port PON1 as 3:

OLT(config-interface-epon)# ont port config 1 4 eth 1 multicast-max-group-num 3

17.35 ont port config eth multicast-tagstrip

[\[Command\]](#)

ont port config *portid ontideth ont-portid***multicast-tagstrip** *tag|untag*

ont port config *portid ontideth ont-portid***multicast-tagstrip translation** *svlan-id cvlan-id*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id: ONT ID

ont-portid: Ethernet port ID of ONT

tag: Not strip multicast vlan tag

untag: Strip multicast vlan tag

translation *svlan-id cvlan-id*: multicast VLAN transform, transform *svlan-id* into *cvlan-id*

[\[Description\]](#)

Configure the processing method of Ethernet port of ONT for multicast data flow:

[\[Case\]](#)

Configure the processing method of eth1 of ONT4 under port PON1 for multicast data flow as stripping multicast VLAN tag:

OLT(config-interface-epon)# ont port config 1 4 eth 1 multicast-tagstrip untag

17.36 ont port config eth operational-state

[\[Command\]](#)

ont port config *portid ontideth ont-portid***operational-state** *on|off*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id: ONT ID

ont-portid: Ethernet port ID of ONT

on: Enable Ethernet port ofONT

off: Disable Ethernet port of ONT

[\[Description\]](#)

Enable or disable Ethernet port of ONT

[\[Case\]](#)

Enable port eth1 of ONT4 under port PON1:

OLT(config-interface-epon)# ont port config 1 4 eth 1 operational-state on

17.37ont port native-vlan

[\[Command\]](#)

ont port native-vlan*portid ontidethont-portidvlan vlan-id*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID

ont-id: ONT ID

ont-portid: Ethernet port ID of ONT

vlan-id:Configure port 的 native-vlanid

[\[Description\]](#)

Configure PVID of ONT port

[\[Case\]](#)

Configure PVID of port eth1 of ONT4 under PON13 as 10:

OLT(config-interface-epon)# ont port native-vlan 13 1 eth 1 vlan 10

17.38 show ont info

[\[Command\]](#)

show ont info*port-id(ont-id| all)*

[\[View\]](#)config view,epon view

[\[Parameter\]](#)

port-id: PON port ID

ont-id: ONT ID

all: View relative information of all ONT under one PON port

[\[Description\]](#)

View relative information of ONT including ONT current state, relevant configuration and information of ONT T-CONT

Port: PON port ID in OLT

ONT ID: ONT ID configured by user

MAC: ONTMAC address

Control flag:

active: ONT is on activated state, ONT can be activated in OLT, ONT and log in only whenONT is on active state。

deactive: ONT is on deactivated state. Command “ont activate” can activate deactivated ONT

Run state: ONT running state including “online”, “offline” state, running state will be “online” when ONT is on line

Config state: Configuration state, which indicates that whether configuration of ONT is received or restored and status of receiving and restoring including “initial”, “failed”, “Success”

initial: ONT is on the process of configuration receiving or restoring

failed: ONT failed to receive or restore configuration

Success: ONT received or restore configuration successfully

[Case]

View relevant information of all ONT under port PON13:

OLT(config)# show ont info 13 all

Port	ONT ID	MAC	Control flag	Run state	Config state	Match state
13	1	22:22:22:22:22:11	Active	Offline	Initial	Initial
13	2	E0:67:B3:16:67:1A	Active	Online	Failed	Match
13	3	E0:67:B3:09:DF:0E	Active	Online	Success	Match
Total: 3, online 2						

17.39 show ont statistics

[Command]

show ont statistics *port-id* *ont-id* **eth** *eth-port* **states**

show ont statistics *port-id* *ont-id* **pon** **states**

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

eth-port: Ethernet port ID Of ONT

[Description]

View information of statistics function of PON port or Ethernet port of ONT:

[Case]

View information of statistics function of PON port of ONT under port PON1:

OLT(config-interface-epon)# show ont statistics 1 4 eth 1 status

Status : Enable

Period : 300

OLT(config-interface-epon)#

17.40 show ont ipconfig

[Command]

show ont ipconfig *port-id* *ont-id*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id: ONT ID

[\[Description\]](#)

View management IP address, gateway, management VLAN of ONT

[\[Case\]](#)

View management IP address of ONT4 under port PON1:

OLT(config-interface-epon)# show ont ipconfig 1 4

ONT IP : 192.168.101.1

ONT subnet mask : 255.255.255.0

ONT gateway : 192.168.101.1

ONT manage VLAN : 1

ONT manage priority : 5

OLT(config-interface-epon)#

17.41 show ont snmp-config

[\[Command\]](#)

show ont snmp-config *port-id**ont-id*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id: ONT ID

[\[Description\]](#)

View SNMP configuration information of ONT

[\[Case\]](#)

View SNMP configuration information of ONT4 under port PON1:

OLT(config-interface-epon)# show ont snmp-config 1 4

17.42 show ont alarm

[\[Command\]](#)

show ont alarm optical*port-id**ont-id*

show ont alarm dying-gasp*port-id***/all**

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id: ONT ID

optical: Optical power alarm

dying-gasp: Dying gasp

[Description]

View ONT alarm configuration information like optical power, temperature and ONT dying gasp alarm configuration information

[Case]

View alarm configuration information like optical power, temperature of ONT4 under port PON1:

OLT(config-interface-epon)# show ont alarm optical 1 4

Tx optical power warning	: disable
Tx optical power alarm	: disable
Rx optical power warning	: disable
Rx optical power alarm	: disable
Bias current warning	: disable
Bias current alarm	: disable
Supply voltage warning	: disable
Supply voltage alarm	: disable
Temperature warning	: disable
Temperature alarm	: disable

OLT(config-interface-epon)#

17.43 show ont multicast-group

[Command]

show ont multicast-group *port-idont-id*

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

[Description]

View information of multicast group that ONT joined in

[Case]

View information of multicast group ONT4 under port PON1 joined in:

OLT(config-interface-epon)# show ont multicast-group 1 4

ERROR : There is not any onu group record.

OLT(config-interface-epon)#

17.44 show ont multicast-mode

[Command]

show ont multicast-mode *port-idont-id*

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

[\[Description\]](#)

View ONT multicast mode

[\[Case\]](#)

View multicast mode of ONT4 under port PON1:

OLT(config-interface-epon)# show ont multicast-mode 1 4

ONT multicast mode: IGMP/MLD Snooping

OLT(config-interface-epon)#

17.41 show ont attribute

[\[Command\]](#)

show ont attribute *port-id* *ont-id*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id: ONT ID

[\[Description\]](#)

View ONT attribute including MAC address aging time, multicast fast leave, port isolation and so on

[\[Case\]](#)

View attribute of ONT4 under port PON1:

OLT(config-interface-epon)# show ont attribute 1 4

```
-----
Multicast fast leave switch      : Enable
Port isolate switch              : Disable
MAC aging time(s)                : 60
Encrypt mode                     : Enable
Ring check switch                : Enable
Ring check auto-shutdown switch : Enable
-----
```

OLT(config-interface-epon)#

17.42 show ont port attribute

[\[Command\]](#)

show ont attribute *port-id* *ont-id* *eth all*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id: ONT ID

[\[Description\]](#)

View attribute of Ethernet port of ONT

[Case]

View attribute of all Ethernet ports of ONT4 under port PON1:

OLT(config-interface-epon)# show ont port attribute 1 4 eth all

ONT	ONT	Auto-neg	Speed	Duplex	Port	Flow	Native	Priority
port			(Mbps)		switch	control	VLAN	
4	1	Enable	Auto	Auto	on	on	1	0

OLT(config-interface-epon)#

17.43 show ont port learned-mac

[Command]

show ont port learned-mac *port-id* *ont-id* *eth* *ont-portid*

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

ont-portid: Ethernet port ID of ONT

[Description]

View learned MAC address in specified Ethernet port of ONT

[Case]

View learned MAC address in port eth1 of ONT5 under port PON1:

OLT(config-interface-epon)# show ont port learned-mac 1 5 eth 1

Index	MAC
1	F0:DE:F1:62:C5:97
2	74:D0:2B:A1:F1:84
3	E0:67:B3:00:57:3E
4	5C:FF:35:0D:D8:C5
5	EC:6C:9F:05:49:79
6	20:6A:8A:54:6C:7D

OLT(config-interface-epon)#

17.44 show ont port state

[Command]

show ont port state *port-id* *ont-id* *catv* *catv-portid*

show ont port state *port-id* *ont-id* *eth* *ont-portid* */all*

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

ont-portid/all: Ethernet port ID of ONT, **all** represents all Ethernet ports

catv-portid: CATV port ID of ONT

[Description]

View status of specified CATV port and Ethernet port of ONT

[Case]

View status of CATV port of ONT5 under port PON1:

OLT(config-interface-epon)# show ont port state 1 5 catv 1

ONT	Port	Type	Operational-State	Rx-Power
5	1	CATV	On	P0<=-9dBm

OLT(config-interface-epon)#

[Case]

View status of port eth1 of ONT5 under port PON1:

OLT(config-interface-epon)# show ont port state 1 5 eth 1

ONT Port-type	: ETH
ONT port switch	: on
ONT port flow control	: off
Policing switch	: off
Policing CIR(kbps)	: 0
Policing CBS(bytes)	: 0
Policing EBS(bytes)	: 0
Ds-policing switch	: off
Ds-policing CIR(kbps)	: 0
Ds-policing PIR(kbps)	: 0
ONT port max mac count	: unlimit
ONT port auto-neg	: enable

OLT(config-interface-epon)#

17.45 show ont port vlan

[Command]

show ont port vlan *port-id* *ont-id* **eth** *ont-portid*

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

ont-portid: Ethernet port ID of ONT

[\[Description\]](#)

View VLAN of specified Ethernet port ofONT

[\[Case\]](#)

View VLAN of port eth1 of ONT4 under port PON1:

OLT(config-interface-epon)# show ont port vlan 1 4 eth 1

```
-----  
VLAN type                : Transparent  
-----
```

OLT(config-interface-epon)#

17.46 show ontblack-list

[\[Command\]](#)

show ont black-list*port-idall*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

[\[Description\]](#)

View all information of ONT black list under PON port:

[\[Case\]](#)

View all information of ONT black list under port PON1:

OLT(config-interface-epon)# show ont black-list 1 all

```
-----  
Index  MAC                Try-Count  Last-Auth-Time  
-----  
1      12:12:12:12:12:12      0          1900-01-00 00:00:00  
-----
```

Total: 1

OLT(config-interface-epon)#

17.47 show ont load

[\[Command\]](#)

show ont load *state port-id*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

[\[Description\]](#)

View upgradingstatus of all ONT under PON port

[\[Case\]](#)

View upgrading status of all ONT under port PON1:

OLT(config-interface-epon)# show ont load state 1

17.48 show ont autofind

[Command]

show ont autofind *port-id*(all | *macmac-value*)

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

macmac-value: View auto-discovered ONT of system according to specified MAC address

all: View all information of auto-discovered ONT under PON port

[Description]

View basic information of auto-discovered ONT of system. When adding ONT, use this command to view ONT MAC that needs to be confirmed and auto-discovery time and other relative information

[Case]

View all auto-discovered ONT under port PON1:

OLT(config-interface-epon)# show ont autofind 13 all

Index	MAC	Autofind-Time
1	E0:67:B3:AA:BB:0C	2000-01-01 00:01:37
2	00:01:62:45:66:05	2000-01-01 08:02:24
3	00:01:62:45:99:07	2000-01-01 08:02:25
Total: 3		Total: 3

17.49 show ont capability

[Command]

show ont capability *port-id**ont-id*

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

[Description]

View actual hardware capability information of online ONT under PON port including ONT port type and quantity

[Case]

View actual capability set of ONT1 under port PON13:

OLT(config-interface-epon)# show ont capability 13 1

Port	: 13
ONT-ID	: 1
Number of uplink PON ports	: 1

Number of POTS ports : 0
Number of ETH ports : 1

17.50 show ont config-capability

[Command]

show ont config-capability *port-id* *ont-id*

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

[Description]

View ONT capability set configured by user so as to check whether ONT capability set configured by user is matched with ONT actual capability set

[Case]

View capability set configured by user of ONT1 under port PON13:

OLT(config-interface-epon)# show ont config-capability 13 1

Port	: 13
ONT-ID	: 1
Number of POTS ports	: 0
Number of ETH ports	: 4

17.51 show ont optical-info

[Command]

show ont optical-info *port-id* *ont-id*

[View] epon view

[Parameter]

port-id: PON port ID connected with ONT

ont-id: ONT ID

[Description]

View relative information of ONT optical module under PON port to check that whether ONT optical module is working normally. This command is usually used in regular maintenance and trouble shooting

[Case]

View optical module information of ONT1 under port PON13:

OLT(config-interface-epon)# show ont optical-info 13 1

Voltage(V)	: 3.49
Tx optical power(dBm)	: 1.7181

Rx optical power(dBm) : -5.8670
Laser bias current(mA) : 9.25
Temperature(C) : 41.76

17.52show ont version

[\[Command\]](#)

show ont version *port-idont-id*

[\[View\]](#) epon view

[\[Parameter\]](#)

port-id: PON port ID connected with ONT

ont-id:ONT ID

[\[Description\]](#)

View version information of ONT like version of software and hardware, manufacturer and so on

[\[Case\]](#)

View version information of ONT1 under PON13:

OLT(config-interface-epon)# show ont version 13 1

Port	: 13
ONT-ID	: 1
OUI Version	: CTC3.0
ONT model	: 14R
Extended model	: unknown
ONT mac address	: E0:67:B3:AA:BB:0C
ONT hardware version	:
ONT software version	: V2.1.12
ONT chipset vendor ID	: 67-83
ONT chipset model	: 12850
ONT chipset revision	: 160
ONT chipset version/date	: 111
ONT firmware version	: 0x060f010ec703

18. Log Management

18.1 loghost add

[\[Command\]](#)

loghost add *ip-addrhost-name*

[\[View\]](#)config view

[\[Parameter\]](#)

ip-addr: IP address of SYSLOG server

host-name: SYSLOG server name, unique identification of SYSLOG server.

[\[Description\]](#)

Add SYSLOG server. Device will produce a lot of logs when running, but the memory space of device is limited, this command adds log server for device log collecting and saving. After adding SYSLOG server successfully, some important information of device can be recorded in the log server by SYSLOG mechanism

[\[Case\]](#)

Add SYSLOG server with IP address as 192.168.1.223 and server name as log:

OLT(config)# loghost add 192.168.1.223 log

18.2 loghost delete

[\[Command\]](#)

loghost delete ip ip-addrnamehost-name

[\[View\]](#)config view

[\[Parameter\]](#)

ip-addr: IP address of SYSLOG server

host-name: SYSLOG server name, unique identification of SYSLOG server.

[\[Description\]](#)

Delete log server. When IP address of log server is changed or not used any more, use this command to delete the log server, then user can reset into IP address of another log server or the original log server

[\[Case\]](#)

Delete log server with IP address as 192.168.1.223:

OLT(config)# loghost delete ip-addr 192.168.1.223

18.3 loghost activate

[\[Command\]](#)

loghost activate ip ip-addrnamehost-name

[\[View\]](#) config view

[\[Parameter\]](#)

ip-addr: IP address of SYSLOG server

host-name: SYSLOG server name, unique identification of SYSLOG server.

[\[Description\]](#)

Activate log host. Only after activating log host by this command, can system submit log information to the log host and configure output control level and status of output switch of log host

[\[Case\]](#)

Activate log host with IP address as 192.168.1.223:

OLT(config)# loghost activate ip-addr 192.168.1.223

18.4 loghost deactivate

[Command]

loghost deactivate (ip-addr ip-addr host-name host-name)

[View] config view

[Parameter]

ip-addr: IP address of SYSLOG server

host-name: SYSLOG server name, unique identification of SYSLOG server.

[Description]

Deactivate log host when the log host that is activated is not used temporarily, system will not report log information to the log host after deactivating the log host successfully

[Case]

Deactivate log host with IP address as 192.168.1.223:

OLT(config)# loghost deactivate ip-addr 192.168.1.223

18.5 show loghost list

[Command]

show loghost list

[View] config view

[Parameter]

[Description]

View configuration information of SYSLOG server like IP address, host name, host status and so on:

[Case]

View all information of SYSLOG server:

OLT(config)# show loghost list

IP address	Host name	Terminal state
192.168.5.67	test	inactive

OLT(config)#

18.6 syslog priority

[Command]

syslog priority severity severity

[View] config view

[Parameter]

severity: priority

Level 5: critical。

Level 4: error。

Level 3: warning。

Level 2: notice。

Level 1: debug

[\[Description\]](#)

Configure OTL log priority. OLT only output log information that equals or is higher than current system log priority. If log level is configured as the highest priority of critical, then OLT only outputs log information with critical priority. If log priority is configured as notice, then OLT will output log information of critical, warning and notice priority. We suggest user configuring log priority as notice

[\[Case\]](#)

Configure severity of syslog priority as notice:

OLT(config)# syslog priority severity notice

18.7 show syslog priority severity

[\[Command\]](#)

show syslog priority severity

[\[View\]](#) config view

[\[Parameter\]](#)

[\[Description\]](#)

View current system log priority

[\[Case\]](#)

View log priority of current system:

OLT(config)# show syslog priority severity

Syslog priority severity: notice

OLT(config)#

18.8 backup log

[\[Command\]](#)

backup log ftp server-ip-address user-name user-password filename

[\[View\]](#) config view

[\[Parameter\]](#)

server-ip-address: IP address of FTP server

user-name: Login username of FTP server

user-password: Login password of FTP server

filename: Log filename

[\[Description\]](#)

Manually save log information to FTP server

[\[Case\]](#)

Configure IP address as 192.168.1.223, username as admin, password as admin and filename as log of FTP server for saving logs:

```
OLT(config)# backup log ftp 192.168.1.223 admin admin logback
```

Start backup log files

The backup is successful

18.9 erase log

[\[Command\]](#)

erase log

[\[View\]](#) config view

[\[Parameter\]](#)

[\[Description\]](#)

Erase OLT log information

[\[Case\]](#)

Erase OLT log information:

```
OLT(config)# erase log
```

18.10 show alarmhistory

[\[Command\]](#)

show alarmhistory

[\[View\]](#) enable view, config view

[\[Parameter\]](#)

[\[Description\]](#)

View alarm history information

[\[Case\]](#)

View alarm history information:

```
OLT# show alarm history
```

```
2000/01/01 06:04:24 PON 1 ONU 1 offline!
```

```
2000/01/01 06:05:00 PON 1 ONU 1 online!
```

18.11 show alarmpriority

[\[Command\]](#)

show alarmpriority

[\[View\]](#) config view

[\[Parameter\]](#)

[\[Description\]](#)

View alarm priority

[\[Case\]](#)

View alarm priority:

OLT(config)# show alarm priority

Alarm priority severity: error

18.12 show log

[\[Command\]](#)

show log

[\[View\]](#) enable view, config view

[\[Parameter\]](#)

[\[Description\]](#)

View all log information

[\[Case\]](#)

View all log information ofOLT:

OLT(config)# show log

2000/01/03 11:39:16 [root@Console:13] logoff

2000/01/03 11:44:05 [root@192.168.5.70:43] logoff

2000/01/03 12:33:20 [root@192.168.5.70:43] logon via Telnet successfully

2000/01/03 12:33:21 [192.168.5.70@root] cmd: enable

2000/01/03 12:33:22 [192.168.5.70@root] cmd: config

2000/01/03 12:33:31 [192.168.5.70@root] cmd: interface link-aggregation

2000/01/03 12:38:54 [root@192.168.5.70:43] logoff

OLT(config)#

18.13 alarm priority

[\[Command\]](#)

alarm priority (critical | error | notice | warning)

[\[View\]](#) config view

[\[Parameter\]](#)

critical: Dangerous level

error: Error level

notice: Notice level

warning: Warning level

[\[Description\]](#)

Configure alarm priority. OLT only shows alarm information with the same or higher alarm priority compared with current system alarm priority in CLI. If alarm priority is configured as critical, then OLT only outputs log information with critical priority. If log priority is configured as warning, then OLT will output log information of critical, warning and notice priority. We suggest user configuring log priority as notice

[\[Case\]](#)

OLT(config)# alarm priority critical

19. Device Diagnostic Information

ping

[Command]

ping destination

[View] enable viewconfig view

[Parameter]

destination: IP address or names of destination mainframe

[Description]

Test accessibility between device and destination mainframe

[Case]

Test network accessibility between device and destination mainframe with IP address of 192.168.5.254:

```
OLT(config)# ping 192.168.5.254
```

```
PING 192.168.5.254 (192.168.5.254): 56 data bytes
```

```
64 bytes from 192.168.5.254: seq=0 ttl=64 time=1.304 ms
```

```
64 bytes from 192.168.5.254: seq=1 ttl=64 time=0.491 ms
```

```
64 bytes from 192.168.5.254: seq=2 ttl=64 time=0.510 ms
```

```
64 bytes from 192.168.5.254: seq=3 ttl=64 time=0.498 ms
```

```
--- 192.168.5.254 ping statistics ---
```

```
4 packets transmitted, 4 packets received, 0% packet loss
```

```
round-trip min/avg/max = 0.491/0.700/1.304 ms
```

```
OLT(config)#
```

traceroute

[Command]

traceroute (destination address or hostname) **hops** (hops-id) **timeout** (time-id) **ttl** (ttl-id)

[View]

Config view

[Parameter]

destination address or hostname: Host name or destination IP address

hops-id: Maximum router hop times after data message arriving at destination host name or IP address

Time-id: Wait for the time (unit millisecond) specified by timeout for each response

Ttl-id: TTL (Time to Live) value of the first testing data packet

[Description]

Command "traceroute" figures out the path for one PC to another PC of network

[Case]

Test path from PC to Yahoo server:

```
Traceroute yahoo.com hops 30 timeout 4 ttl 20
```

[Case]

View path from device to the host with IP address 192.168.5.254:

OLT# traceroute 192.168.5.254

traceroute to 192.168.5.254 (192.168.5.254), 30 hops max, 38 byte packets

1 192.168.5.254 1.055 ms 0.329 ms 0.316 ms

Concluding Remarks

Thanks for using products of Shenzhen C-Data Technology Co. Ltd.

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