

FD1216S EPON OLT

CLI User Manual

versions : V1.0

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Document description

This manual applies to west dieter FD1216S EPON OLT products, this manual is only as part of the equipment of user manual and document content including instructions for equipment command line management, users should read the information before using EPON OLT equipment.

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The book contract

The command line agreement

Format	Meaning
Bold	Key words of command line(The part of keeping same,and according to the part of input) must make bold
Italic	Command line arguments(the part of according to real dates to replace in the commands)
[]	The selected parts in `[]`
(X Y ...)	The meaning of noting one from two or more
[X Y ...]	The meaning of noting one or none from two or more
<x-y>	The meaning of choicing one from X or Y
\$	The meaning of the last line on behalf of notes

The keyboard operation agreement

Format	Meaning
Character with angle brackets	On behalf of name of key ,for example,<Enter>,<Tab>,<backspace>,<a>,<?> are Enter,tabulation,backspace,lowercase ,letter a and ?
<key1 and key 2>	Pressing a few keys on the keyboard at the same time
<key1,key2>	Pressing the second key after the first key

Sign contract

Book that is used in a variety of logo to represent should pay special attention in the process of operation, these meaning of the symbol is as follows:



Be careful: Remind items that should be paid attention in the operation, improper operations may create the loss of dates or damage of equipment.



Warming: This flag after comments should be given attention, all of the improper operations is likely to be personal damage.



Instructions, tips, tricks, thinks: to make the necessary supplement and Instructions for the description of operation

Term contract

OLT: On behalf of FD1216S system, including the part connected to the switch, top allied equipment mouth and exchange of the main processing module.

PON: On behalf of pon protocol processing module and the pon port connected to the onu.

prompt

The command line is case sensitive

1.The command line interface view

The switch view and view

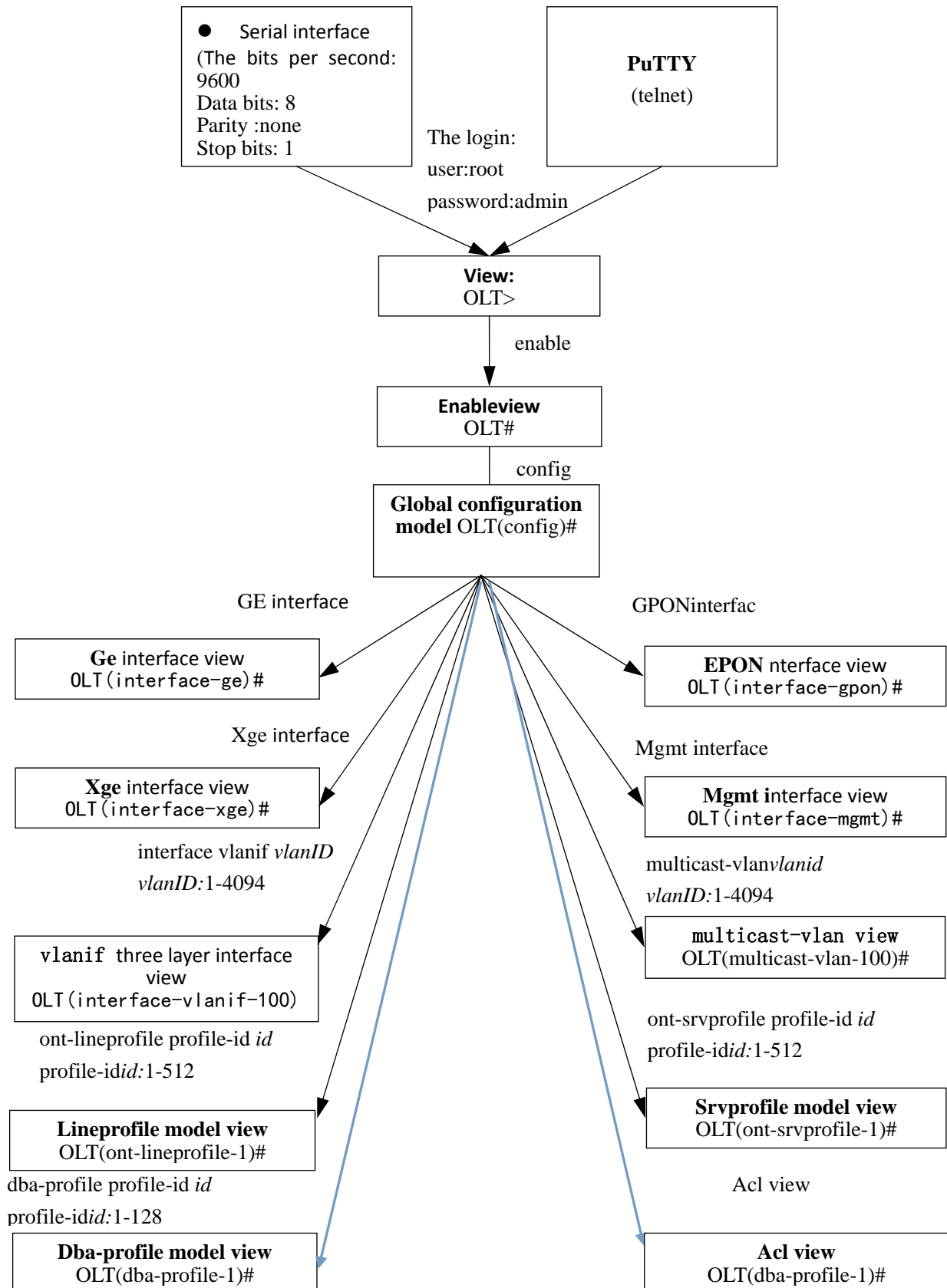
instructions: This command line environment is divided into multiple views ,including:

View model, The following called view or user mode,enter it After inputting password,

The model can perform the most simple commands.the view are as follows: OLT >

- Enablemodel, The following called enableview or Privileged model,entering it by inputting enable commands from viewmodel, this model has a higher privilege than view model.the view are as follows: OLT#
- Configview,Hereinafter referred to as the config view or global configuration mode,entering it from enablemodel by inputting conf terminal,the view are as follows:OLT (config)#
- Geinterface view, Hereinafter referred to as the "view/ge/gigabit interface mode, entering it from configmodel by inputting interface ge: the view are as follows:OLT(interface-ge)#
- Xgeinterface view, Hereinafter referred to as xge/view/Wan Zhao interface mode.Entering it from configmodel by inputting interface ge:the view are as follows: OLT(interface-xge)#
- EPONinterface view,Hereinafter referred to as the view /epon interface mode, entering it from configmodel by epon:the view are as follows:OLT(interface-EPON)#
- Vlanif three layer interface view:entering it from configmodel by inputting interface vlanif vlanID: the view are as follows:OLT(interface-vlanif-20)#
- Management interface MGMT view:entering it from configmodel by inputting interface mgmt:the view are as follows:OLT(interface-mgmt)#
- dba-profile model view:entering it from configmodel by inputting dba-profile profile-id : the view are as follows:OLT(dba-profile-1)#
- lineprofile model view:entering it from configmodel by inputting ont-lineprofile profile-id id: the view are as follows:OLT(ont-lineprofile-1)#
- srvprofile model view:entering it from configmodel by inputting ont-srvprofile profile-id id : the view are as follows:OLT(ont-srvprofile-1)#
- multicast-vlan view:entering it from configmodel by inputting multicast-vlan *vlanid*: the view are as follows:OLT(multicast-vlan-100)#

1.1 Summary of the command line view



1.2 enable

【command】 enable

【View】 view model

【Parameter】 none

【Description】 entering enable model from view model.

【Example】

OLT > enable

OLT #

1.3 config

【command】

config

【View】 enable model

【Parameter】 none

【Description】 entering configmodel from enable model.

【Example】

OLT # config

OLT (config)#

1.4 interface

【command】

interface ge

interface xge

interface EPON

interface vlanif *vlanid*

interface mgmt

【view】 config model

【Parameter】

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

【Description】 entering interfacemodel from config model.(including XGE、 ge、 EPON、 vlanif、 mgnt)。

【example】

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)#
```

1.5 dba-profile

【command】

dba-profile profile-id id

【view】 config model

【Parameter】

Id: Profile ID. <U><1~128>

【Description】 entering DBAmodel from config model.

【example】

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

1.6 ont-lineprofile

【command】

ont-lineprofile profile-id id

【view】 config view

【Parameter】

Id: Profile ID. <U><1~128>

【Description】 entering ont-lineprofileview from config view.

【example】

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

1.7 ont-srvprofile

【command】

ont-srvprofile profile-id id

【view】 config view

【Parameter】

Id: Profile ID. <U><1~128>

【Description】 entering ont-srvprofile view from config view.

【example】

```
OLT(config)# ont-srvprofile profile-id 1
OLT(ont-srvprofile-1)#
```

1.8acl

【command】

acl *aclid*

【view】 config view

【Parameter】

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

【Description】 entering acl view from config view.

【example】

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

1.9 multicast-vlan

【command】

multicast-vlan *vlanid*

【view】 config view

【Parameter】

vlanID: <U><1~4094>

【Description】 entering multicast-vlanview from config view.

【example】

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

1.10 exit

【command】 exit

【view】 any views

【Parameter】 none

【Description】 Exit from the current view and return to a view

【example】

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

2.equipment upgrade

2.1 load

【command】

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

【view】 enableview、configview

【Parameter】

server-ip-address : The IP address of FTP server

user-name : ftpuser

user-password : ftp password of user

filename : To download the application file name

【Description】

This command is used to upgrade the OLT software version and the kernel version, the command need root user login.

【example】

Upgrade application of OLT,the name of application is FD1216S_FW_V1.0.2_150914_1603.img, the IPaddress of ftp server is 192.168.1.16,ftpuser is amdin,password is admin.restarting the OLT after OLT showed upgrade OK.

```
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

upgrade inter of the OLT, the name of application is FD1216S_Kernel_150914_1605.img, the IPaddress of ftp server is 192.168.1.16, ftpuser is amdin, password is admin.restarting the OLT after OLT showed upgrade OK.

```
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】

This command is used to check the hardware of olt,software and the info of inter version.

【example】

Checking the info of version

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】

This command is used to query devices currently executing load, copy or backup schedule of operation.This command is used to query devices currently executing load, copy or backup schedule of operation,using this commandif you need to view the current operation process and understand the status of the operationWhen the equipment is performing load, copy and backup operation.

【example】

Checking the process of loading

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.management of equipment

3.1 reboot

【command】

reboot

【view】 enableview、configview

【Parameter】

【Description】

This command is used to reboot OLT, rootuser only has this limitation.

【example】

Reboot the 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】 vlanifview, MGMTview

【Parameter】

ip-addr: IPaddress.IPaddress is divided into five categories,user can choice a suitable IP network according to the real situation.host address has special effects when it is part of 0 or all of 0 and isnot used to usual IP address.

ip-mask: subnet mask

【Description】

ip addresscommand is used to configure IP address of VLAN interface and subnet mask.using this command when it needs to enjoy 3 layer transimition with IP messages in the vlan.and this command is going to make 3 layer transimit when IP interface and subnet are configured successfully.

【example】

To Configure the ip address 192.168.100.123 for VLAN interface 100 , subnet mask is 255.255.255.0。

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

Configuring out-of-hand management ip192.168.1.105, subnet mask is 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】 configview

【Parameter】

【description】

This command is used to check the ip address of the out of hand management,maximum unit of the transmittion and MAC address of equipment.

【example】

Checking the ip address of the out of hand management.

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】 configview

【Parameter】

vlan interface number : range from 1 to 4094.

【description】

This command is used to quer the details of the vlanif interface.

【example】

Checking the relevant info adout the ifinterface 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

Query all info of the vlanifinterface.

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 info

【command】

show device info

【view】 enableview、 config view

【Parameter】

【description】

Checking the info of OLTequipment.

Device model: the type of equipment.

Device MAC address: MACaddress of equipment

Device serial-number:serial number of equipment.

Device vendor name: trade name of the equipment.

【example】

Query the info

OLT(config)# show device info

```
-----  
Device model           : FD1216S  
Device MAC address     : E0:67:B3:00:00:01  
Device serial-number   :  
Device vendor name     :  
-----
```

3.6 dhcp-client

【command】

dhcp-client { enable | disable }

【view】 vlanif view

【parameter】

enable: open the DHCP client

disable: close the DHCP client

【description】

This command is used to the 3 layer interface , open or close the function of DHCP client.

【example】

Open the DHCP client function of vlanif1 interface.

```
OLT(config-interface-vlanif-1)# dhcp-client enable
```

3.7 dhcp-client renew

【command】

dhcp-client renew

【view】 vlanif view

【parameter】

【description】

This command is used to the 3 layer interface, open the interface of renew switch.this command will be used when we need actively to make IP address of interface and then request messages that include renewal or repeated requirement will be send.

【example】

Open the renew swith of vlanif1 interface.

```
OLT(config-interface-vlanif-1)# dhcp-client renew
```

3.8 dhcp-client release

【command】

dhcp-client release

【view】 vlanif view

【parameter】

【description】

This command is used to the 3 layer interface and free the IP of that.this command will be executed when we need to delete the ip address applied dynamically and then touched release messages to noticed the DHCP interface about freedom of interface.

【example】

Free the IP of vlanif1

```
OLT(config-interface-vlanif-1)# dhcp-client release
```

3.9 dhcp-client option60

【command】

dhcp-client option60 *option60*

no dhcp-client option60

【view】 vlanif view

【parameter】

【description】

This command is used to configure the info of option60 when DHCP-Client send the request of message .this command is used to configure the info of option60 in order to coordinate with uplink that configured 3 layer relay of DHCP according to the option60.no command is used to configure the info of option60,and recover the default.

【example】

Configure the option60 info of dhcp-client of the vlanif1 “CDATA-VLANIF” .
OLT(config-interface-vlanif-1)# dhcp-client option60 CDATA-VLANIF

Recover the default about the option60 info of dhcp-client of the vlanif
OLT(config-interface-vlanif-1)# no dhcp-client option60

3.10 show dhcp-client

【command】

show dhcp-client [interface vlanif *vlanif*]

【view】 config view

【parameter】

interface vlanif *vlanif*: index of three layer interface

【description】

This command is used to query all of the some appointed info and detail info after opening the function of the DHCP Client.

【example】

Checking all of the based info of interface opened the dhcp client.
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

Query the detail information of the ip under interface vlanif1, after enable the function of dhcp client .

```
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
```

3.11 show dhcp-client option60

【command】

show dhcp-client option60 [interface vlanif *vlanif*]

【view】 config view

【parameter】

interface vlanif *vlanif*: index of 3 layer interface.

【description】

This command is used to query the info of option60 configured in the vlan 3 layer interface.

【example】

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

4. Condition monitoring

4.1 show fan

【command】

show fan

【view】 enableview、configview

【parameter】

【description】

This command is used to displays the fan working condition.

【example】

displaying the fan working condition

OLT# show fan

```
-----  
FAN[1] status: Normal      (7207RPM)  
FAN[2] status: Normal      (7060RPM)  
FAN[3] status: Normal      (7265RPM)
```

FAN[4] status: Normal (7207RPM)

4.2 show temperature

【command】

show temperature

【view】 enableview、configview

【parameter】

【description】

This command is used to display theReal-time temperature of equipment.

【example】

displaying theReal-time temperature of equipment

OLT(config)# show temperature

The temperature of the board: 36.5(C)

4.3 show memory

【command】

show memory

【view】 enableview、configview

【parameter】

【description】

This command is used to display memory usage.

【example】

displaying memory usage.

OLT# show memory

Total memory	: 502MB
Free memory	: 435MB
Used percent	: 5%

4.4 show version

【command】

show version

【view】 enableview、configview

【parameter】

【description】

This command is used to display device software version and hardware version.

【example】

displaying device software version and hardware version.

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)

4.5 time

【command】

time *time*

【view】 configview

【parameter】

time: equipment time and format: YYYY/MM/DD-HH:MM:SS

【description】

This command is used to configure equipment time

【example】

configuring equipment time

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

4.6 show time

【command】

show time

【view】 enableview、configview

【parameter】

【description】

This command is used to display device time

【example】

displaying device time

OLT(config)# show time

Sat Jan 1 08:28:31 2000

4.7 show uptime

【command】

show uptime

【view】 enable view、 config view

【parameter】

【description】

This command is used to display start-up time and work time of equipment

【example】

Displaying start-up time and work time of equipment

OLT(config)# show uptime

System up time : 0 day 0 hour 55 minute 14 second

System boot time : Fri Oct 9 23:13:07 2015

4.8 ntp-service unicast-service

【command】

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

【view】 config view

【parameter】

ipaddress : the IP address of NTP server

Domain name : The domain name of NTP serve.

【description】

Configuring the service of OLT NTP

【example】

Configuring the ip address of OLT NTP 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 : the IP address of NTP server

Domain name : The domain name of NTP serve.

【description】

Delete configuration of OLT NTP

【example】

Delete configuration of OLT NTP about 202.120.2.101

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 the OLT NTP session information.

clock source: The clock server IP address.

【example】

View the OLT NTP session 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* | *gmt- timezone*)

【view】 config view

【parameter】

gmt+: The eastern time zone

gmt-: the western time zone

timezone :time zone, format is hh:mm,maximun of the estern time zone is 18:00, maximun of the western time zone is 18:00。

【description】

Configure the estern time zone or the western time zone of system.“GMT+”represent the estern time zone, just as local time faster than Greenwich mean time, “GMT-”represent the western time zone, just as local time slower than Greenwich mean time。

【example】

Set the current system time zone to GMT + 7:00

OLT(config)# timezone gmt+ 08:00

4.12 show timezone

【command】

show timezone

【view】 config view

【parameter】

【description】

This command is used to the time zone of query system。

【example】

Query the time zone of system

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: The IP address of the domain name of server.

【description】

This command is used to set the system domain name server IP address。

【example】

Set up the domain name of server for 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:The IP address of the domain name of server.

【description】

This command is used to delete the domain name of server. And no answer to the parameter is used to delete the preferred and secondary DNS server.

【example】

delete the domain name of server

OLT(config)# no dns server

5.Configuration management

5.1 backup

【command】

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

【view】 enable view、config view

【parameter】

server-ip-address : The IP address of the ftp server.

user-name : ftp user

user-password : ftp password of user

filename : The backup configuration of file name, the name of the set and do not need to file format

【description】

This command is used to backup configuration of olt

【example】

backup configuration of equipments named config, The IP address of the ftp server is 192.168.1.16, ftp user is amdin, and password is admin。

OLT(config)# backup configuration of 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 : The IP address of the ftp server.

user-name : ftp user

user-password : ftp password

filename : load the name of backup configuration,which filled according to the name of configure in ftp server.

【description】

This command is used to load backup configuration of olt

【example】

backup configuration of equipments named config, The IP address of the ftp server is 192.168.1.16, ftp user is amdin, and password is 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】

This command is used to view real-time configuration file. user who need to verify the configuration use this command when user complete a group of configuration.

【example】

Checking equipment current real-time configuration file.

5.4 save

【command】

save

【view】 enable view、 config view

【parameter】

【description】

This command is used to save the current configuration file equipment

【example】

save the current configuration file equipment

```
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】

This command is used to erase the configuration file and execute the command. OLT will restore factory Settings after restart the OLT.

【example】

to erase the 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】

This command is used to save the configuration file

【example】

Checking the saved configuration file.

OLT(config)# show saved-config

#Saving user: root

#Saving time: 2000-01-01 05:33:19+0000

No DBA profile configurations

No line profile configurations

No service profile configurations

No ONT authenticated

interface mgmt

ip address 192.168.1.105 255.255.255.0

exit

6.users management

6.1 user add

【command】

user add *name group*

【view】 config view

【parameter】

name : user name of new user

group : New users belonging to a group is root、 admin、 guest

【description】

This command is used to add new user, new users belonging to a group is root、 admin、 guest
RootUser has all permissions of equipment.

Admin User has configured to check permissions and do not have to restart, upgrade the permissions.

GuestUsers have to check the configuration and backup function.

【example】

Creating a guest user named C-DATA and password is C-DATA

OLT(config)# user add C-DATA guest

Enter new password for user C-DATA:

Confirm new password for user C-DATA:

7.ports

7.1 shutdown

【command】

shtdown *port-list*

【View】 View ge ; view EPON ;View xge ; View link-aggregation

【Parameter】

port-list: the list of port to be set up.

【Description】

Turn the port off.

【Example】

Turn the port ge off:

OLT(interface-ge)# shutdown 1

7.2 no shutdown

【Command】

no shtdown *port-list*

【View】 View ge ; view EPON ;View xge ; View link-aggregation

【Parameter】

port-list: the list of port to be set up.

【Description】

Turn the port on.

【Example】

Turn the port ge1 on.

OLT(interface-ge)# no shutdown 1

7.3 show port state

【Command】

show port state all

show port state *port-id*

【View】 View ge ; view EPON ;View xge ; View link-aggregation

【Parameter】

port-id: To-be-checked serial number of port.

【Description】

Check the detailed information of port or check the port-list of OLT.

【Example】

Check the detailed information of port ge1:

```
OLT(interface-ge)# show port state 1
ge1 information summary :
current port state : enable
current link state : DOWN
The Maximum Transmit Unit is 1500
Link speed is autonegotiation(1000 MBps)
link duplex is autonegotiation(FULL)
Flow-control is supported
broadcasts stormcontrol 0(pps)
multicasts stormcontrol 0(pps)
unicasts stormcontrol 0(pps)
native-vlan is 300
Port link-type: Access
Tagged VLAN ID : none
Untagged VLAN ID :
300,
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
```

check the port-list of OLT:

OLT(interface-ge)# show port state all

Port	Optic Status	Pvid	Auto Nego	Speed /Mbps	Dup lex	Flow Ctrl	Learn	Enable	Link	Mtu
ge1	normal	100	enable	1000	full	off	enable	enable	on	1500
ge2	normal	1	enable	1000	full	on	enable	enable	off	1500
ge3	normal	1	enable	1000	full	off	enable	enable	on	1500
ge4	absence	1	enable	1000	full	on	enable	enable	off	1500
ge5	absence	1	enable	1000	full	on	enable	enable	off	1500
ge6	absence	1	enable	1000	full	on	enable	enable	off	1500
ge7	absence	1	enable	1000	full	on	enable	enable	off	1500
ge8	absence	1	enable	1000	full	on	enable	enable	off	1500
ge9	-	1	enable	1000	full	on	enable	enable	off	1500
ge10	-	1	enable	1000	full	on	enable	enable	off	1500
ge11	-	1	enable	1000	full	on	enable	enable	off	1500
ge12	-	1	enable	1000	full	on	enable	enable	off	1500
ge13	-	1	enable	1000	full	on	enable	enable	off	1500
ge14	-	1	enable	1000	full	on	enable	enable	off	1500
ge15	-	1	enable	1000	full	on	enable	enable	off	1500

7.4 show port ddm-info

【Command】

show port ddm-info *port-id*

【View】 View EPON

【Parameter】

ddm-info *port-id*: To-be-checked port number.

【Description】

The command is used to check the information of Digital Diagnostic Monitoring of port PON. Using the command when need to check the temperature of port PON、 the power supply voltage、 transmit bias current、 transmit power、 receive the information of power.

【Example】

To check the information of Digital Diagnostic Monitoring of port PON.

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

```

7.5 show port vlan

【Command】

show port vlan *port-id*

【View】 View ge ; view EPON ;View xge ; View link-aggregation.

【Parameter】

port-id: To-be-checked PON port number.

【Description】

The command is use to query configuration information of port VLAN.

【Example】

query configuration information of port VLAN:

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

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

```
Tagged-Vlan:  
-  
-----
```

```
Untagged-Vlan:  
1  
-----
```

7.6 auto-neg

【Command】

auto-neg *port-list switch*

【View】 View ge.

【parameter】

port-list: To-be-checked port list.

switch: Automatic Negotiation Mode Switch, Value: enable、disable。

【Description】

This command is used to enable or disable Ethernet auto-negotiation mode. In enable case, docking port and the Ethernet port automatically negotiation port speed and duplex mode, and the system displays from the consultations. In disable case, the port speed and mode of operation of the value set as the system default values or human (force).

【Example】

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

7.7 duplex

【Command】

duplex *port-listduplex*

【View】 view ge ; View xge ;

【Parameter】

port-list: To-be-checked port list.

duplex: duplex mode of Ethernet, Value: half、full。

【Description】

This command is used to configure the Ethernet port duplex mode. After successful configuration, the Ethernet port will be set at full duplex or half duplex mode.

【Example】

OLT(interface-ge)# duplex 1 full

7.8 speed

【Command】

speed *port-listspeed*

【View】 View ge.

【Parameter】

port-list: To-be-checked port list.

speed: the speed of Ethernet port ;Value: 10,100,1000

【Description】

This command is used to set the Ethernet port speed, port works at set rate.

【Example】

Ge1 port speed is set as 100Mbit/s.

OLT(interface-ge)# speed 1 100

7.9 flow-control

【Command】

flow-control *port-list*

no flow-control *port-list*

【View】 ge views EPON views ;xge views; link-aggregation views.

【Parameter】

port-list: To-be-checked port list.

【Description】

Opening ports for flow control function, The command “no” is used to close the port flow control function.

【Example】

OLT(interface-EPON)# flow-control 1

7.10 mirror

【Command】

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

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

【View】 ge views EPON views ;xge views; link-aggregation views.

【Parameter】

src-port: the port number of src- port.

port-id: Mirroring destination port.

direction :

Mirror source port messages:

ingress: Mirror source port receives packets. Duplicate it completely and output to the port mirroring destination.

egress: Mirror source ports to send messages. Duplicate it completely and output to the port mirroring destination.

all: Mirror source port transceiver two-way message. Duplicate the message and output it to the port mirroring destination.

【Description】

This command is used to configure the Ethernet port mirroring function. When traffic on a port in the system needs to be duplicated to the other ports to output, for traffic observation, network troubleshooting, data analysis, using this command. When Ethernet port mirroring feature is set successfully, the mirror source port Specifies the message will be copied to the mirror in the direction of destination port.

【Example】

To duplicate the intact message of mirror source port ge1 and output it to port mirroring destination GE2

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

7.11 show mirror

【Command】

show mirror

【View】 ge views EPON views ;xge views; link-aggregation views.

【Parameter】

【Description】

Displaying the port mirroring configuration information

【Example】

Under ge view, port mirroring configuration information is displayed.

OLT(interface-ge)# show mirror

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

7.12 mtu

【Command】

mtu *port-list mtu-value*

no mtu *port-list*

【View】 ge views EPON views ;xge views; link-aggregation views.

【Parameter】

port-list: Needing to configure the MTU ports

mtu-value: the value of mtu, value: 328~16356

【Description】

MTU:Command is used to set the port MTU (Maximum Transmission Unit,MTU). MTU, in each time the maximum packet size that can be transmitted on the port. The system default MTU is 1500. No command is used to set the port MTU ad default value.

【Example】

To configure the ge1mtu as2000.

OLT(interface-ge)# mtu 1 2000

7.13 reset port statistic

【Command】

reset port statistic *port-id*

【View】 ge views EPON views ;xge views; link-aggregation views.

【Parameter】

port-id: Need to configure the port number

【Description】

This command is used to clear port statistics.

【Example】

Empty the ge1 port statistics.

OLT(interface-ge)# reset port statistic 1

7.14 show port statistics

【Command】

show port statistics *port-id*

【View】 ge views EPON views ;xge views;

【Parameter】

port-id: To-be- checked the port number.

【Description】

This command is used to query the port statistics. According to these information, Users can determine the current device in order to detect timely and troubleshoot. Total (bytes) is the port total bytes sent/received, Uncast (pkts) is the port number of unicast packets received/sent, Bcast (pkts) is the port number of broadcast packets received/sent, Mcast (pkts) is the port number of multicast packets received/sent, Err (pkts) port is the number of error packets received/sent.

【Example】

Query the information of ge9.

OLT(interface-ge)# show port statistics 9

```

-----
Direction  Total          Uncast          Bcast          Mcast          Err
           (bytes)        (pkts)         (pkts)         (pkts)         (pkts)
-----
RX          320734         454            2215           1212           0
TX          35232         456            0              0              0
-----

```

7.15 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 *xgeport-id*

show mac-address port EPON*port-id*

show mac-address static

show mac-address timer

show mac-address vlan*vlan-id*

【View】 View config

【Parameter】

- all:** Query information of all MAC addresses in the MAC address table.
- black-hole:** Query the MAC address in the MAC address table which in a black hole.
- dynamic:** Query the dynamic MAC address in the MAC address table.
- port port-id:** Query the MAC dress learning from a port.
- static:** Query the static MAC address in the MAC address table.
- timer:** Check MAC address aging time.
- vlan vlan-id:** Queries the specified VLAN ID corresponds to the MAC address.

【Description】

This command is used to query the MAC address table information in the system. When you add or delete the MAC address, you can use this command to check the current MAC address table in the dynamic and the static MAC address information.

【Example 1】

Query table MAC address which all belong to the upstream port ge1of the OLT .

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

```

-----
Total: 1
-----
MAC                VLAN   Port   MAC-Type
-----
E0:67:B3:00:1B:24  1      ge1    static
-----

```

【Example2】

Query all the static MAC address information in MAC address table .

OLT(config)# show mac-address static

```

-----
Total: 2
-----
MAC                VLAN   Port   MAC-Type
-----
E0:67:B3:00:E2:3B  100    ge1    static
E0:67:B3:48:97:0A  100    ge1    static
-----

```

7.16 show location

【Command】

show location mac-address

【View】 View config

【Parameter】

mac-address: MAC 地址。

【Description】

【Example】

Querying source port information corresponding to 3C:97:0E:FD:0C:69address .
OLT(config)# show location 3C:97:0E:FD:0C:69

MAC	VLAN	Port	MAC-Type
3C:97:0E:FD:0C:69	100	ge9	dynamic

7.17 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】 View config

【Parameter】

port-list: To-be-checked port list.

count: The limited number of MAC addresses.

【Description】

This command can sets the maximum number of MAC addresses ,when the number exceeds the maximum number,discarded which exceeds the MAC address.

【Example】

Limiting the number of MAC addresses of OLT ge1 to 100.

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

7.18 mac-address static

【Command】

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

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

【View】 View config

【Parameter】

port-list: To-be-checked port list.

vlan-id: The static MAC address which is corresponding to VLAN id.

mac-address: Static MAC address,\.

【Description】

Command is used to configure static MAC addresses for PW. After successful configuration, device does not need a earning process of MAC address,but directly according to the static MAC to transmit data.

【Example】

Adding a static MAC address to OLT ge1 port,the corresponding VLAN is 100.

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

7.19 mac-address timer

【Command】

mac-address timer *aging-time*

mac-address timer no-aging

【View】 View config

【Parameter】

aging-time : MAC address aging time.

no-aging: sets the MAC address as not aging.using this parameter when you do not need to open the MAC address aging

【Description】

This command is used to set the aging time of dynamic entries in MAC dynamic address table . After MAC address aging time setting successfully,it takes effect immediately,and the system regularly check the dynamic MAC address, if in aging periods (1 – twice times the aging time), the system does not send or receive any message that carries the source MAC address, the corresponding MAC address is removed from the MAC address table. Dynamic MAC address aging regular release the MAC address resource,which avoid the system cannot learn new MAC addresses.

【Example】

The MAC address aging time is set to 60 seconds

```
OLT(config)# mac-address timer 60
```

7.20 mac-address learning

【Command】

mac-address learning port ge *port-listswitch*

mac-address learning port EPON *port-listswitch*

mac-address learning port xge *port-listswitch*

【View】 View config

【Parameter】

port-list : To-be-checked port list.

switch : MAC address learning function switch, value: enable、disable。

【Description】

This command is used to enable or disable ONT MAC address learning function. When it comes to the scene of a great number learning MAC address(such as a dedicated user) and so on, can be configured as disable.

【Example】

The OLT ge1 of enable of MAC address learning function.
OLT(config)# mac-address learning port ge 1 enable

7.21 mac-address black-hole

【Command】

mac-address black-hole *vlan-id**mac-address*

no mac-address black-hole *vlan-id**mac-address*

【View】 View config

【Parameter】

vlan-id: the MAC address of the black hole corresponds to VLAN ID .

【Description】

Specify the MAC address table of the black hole. If a packet's source MAC address or destination MAC address MAC address MAC address table entries is equal to a black hole, the switch discards the message.

【Example】

Add MAC address table entries of a black hole. MAC address for the black hole: E0:67:B3:A5:39:A2, the corresponding VLAN is 50.
OLT(config)# mac-address black-hole 50 e0:67:b3:a5:39:a2

7.22 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 xge *port-id type*

mac-address flush static

mac-address flush vlan *vlan-id type*

【View】 View config

【Parameter】

port-id: To-be-checked port list.

type: The MAC address type which is need to clear .

vlan-id: cears the specified VLAN ID corresponds to the MAC address.

【Description】

This command is used to remove all, or specific types of MAC address.

【Example】

Clears all OLT ge1 dynamic MAC address
OLT(config)# mac-address flush port ge 1 dynamic

7.23 traffic-suppress

【Command】

traffic-suppress *port-id***broadcast**(**k**bps|**p**ps)*value*
traffic-suppress *port-id* **multicast** (**k**bps|**p**ps) *value*
traffic-suppress *port-id* **unicast** (**k**bps|**p**ps) *value*
no traffic-suppress *port-id* (**unicast** | **multicast** | **broadcast**) (**k**bps|**p**ps) *value*

【View】 view ge ,view EPON,view xge, view link-aggregation .

【Parameter】

port-id: To-be-checked port list.

broadcast: By setting the allowing broadcast current to port, to realize the purpose of inhibiting port broadcasting storms.

multicast: By setting the allowing unknown multicast traffic on the ports, to achieve the purpose of inhibiting port unknown multicast storm.

unicast: By setting the port allows unknown unicast traffic, to achieve the purpose of inhibiting port unknown unicast storm.

kbps *value* : *Suppression of flow values*, Range of values: (1~1000000)

pps *value* : Value. (U)(1~1488100)

【Description】

Broadcasting of the traffic-suppress command is used to configure the port, unknown multi-cast and unknown uni-cast traffic, suppression level to prevent such messages take up too many network resources, causing network congestion. No command is used to close the port flow inhibit feature

【Example】

Ge1 broadcast traffic limited to 1024kbps
OLT(interface-ge)# traffic-suppress 1 broadcast kbps 1024

【Example】

Ge1 broadcast traffic limited to2048kbps
OLT(interface-ge)# traffic-suppress 1 multicast kbps 2048

Ge1 broadcast traffic limited to 10240kbps
OLT(interface-ge)# traffic-suppress 1 unicast kbps 10240

6.2 user delete

【Command】

user delete *name*

【View】 View config

【Parameter】

name : To-be-deleted name of user.

【Description】

This command is used to delete the already created user, attention : the root user cannot be deleted.

【Example】

Delete a created user whose name is C-DATA.

```
OLT(config)# user delete C-DATA
```

6.3 user group

【Command】

user group *name group*

【View】 View config

【Parameter】

name : To-be-changed name of group.

group : THE new name of group.

【Description】

This command is used to change the user constituency.

【Example】

To turn the user C-DATA to group admin.

```
OLT(config)# user group C-DATA admin
```

6.4 user password

【Command】

user password *name*

【View】 View config

【Parameter】

name : Change password user name.

【Description】

This command is used to change a user's password.

【Example】

To change the password of user C-DATA to admin.

```
OLT(config)# user password C-DATA
```

Enter new password for user C-DATA:

Confirm new password for user C-DATA:

6.5 show user

【Command】

show user

【View】 View config

【Parameter】

【Description】

This command is used to query the device for all users you've created.

【Example】

To query the device for all users who have created

OLT(config)# show user

```
-----  
User                Group  
-----  
root                root  
admin                admin  
C-DATA              admin  
-----
```

8. VLAN

8.1 vlan

【Command】

vlan *vlan-list*

novlan *vlan-list*

【View】 View config

【Parameter】 *vlan-list*: VLAN list, When you need to add a single or a batch of VLAN, using this parameter. Value range: 1-4094.

【Description】

VLAN command is used to add a bulk or multiple . No VLAN command is used to delete a single or a batch of VLAN .

【Example】

Creating vlan 100

OLT(config)# vlan 100

Batch creating vlan 200-220

OLT(config)# vlan 200-220

8.2 show vlan

【Command】

show vlan all

show vlan *vlan-id*

【View】 View config

【Parameter】 **all**: Checking all existing VLAN information

vlan-id: VLAN ID, Used to identify a unique VLAN.

【Description】

This command is used to query for all existing VLAN, or queries a specified VLAN, thus observing the VLAN which contains ports and ports tag processing mode

【Example】

Checking the information of VLAN 100.

OLT(config)# show vlan 100

```

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

```

8.3 vlan mode

【Command】

vlan mode *port-list mode*

【View】 viewge ;view EPON;view xge;view link-aggregation.

【Parameter】

port-list: To-be-set port list of model VLAN.

mode: model vlan ;contains model access、 model hybrid、 model trunk.

【Description】

Access mode only allow untagged packets to enter, and attaching native VLAN port for untagged , the messages which come from port will be peeling off the label. Trunk mode allows multiple messages with different label to enter, which base on the label of message exist in trunk list. Out message keep original label. Hybrid mode is a collection of access or trunk mode, hybrid mode port allows multiple messages with different label into and out of message you can set the label or keep pulling off labels.

【Example】

To set the OLT ge1 port ad trunk model.将 OLT ge1

OLT(interface-ge)# vlan mode 1 trunk

8.4 vlan access

【Command】

vlan access *port-list vlan-id*

【View】 viewge ;view EPON;view xge; view link-aggregation.

【Parameter】

port-list: To-be-set port list .

vlan-id: VLAN ID, it is used to identify a unique VLAN.

【Description】

Add access VLAN to port, if the VLAN is already exists and the port VLAN mode is access.

【Example】

Adding access vlan 100 to ge1 port.

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

8.5 vlan trunk

【Command】

vlan trunk *port-list* allowed *vlan-list*

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

【View】 viewge ;view EPON;view xge; view link-aggregation.

【Parameter】

port-list: To-be-set port list .

vlan-list: VLAN list.

【Description】

Add access VLAN to port, if the VLAN is already exists and the port VLAN mode is trunk

【Example】

ge1 port adds trunk vlan 100, 200,300

```
OLT(interface-ge)# vlan trunk 1 allowed 100,200,300
```

ge1 : trunk allowed vlan:

Fail: 0, Success: 3

8.6 vlan hybrid

【Command】

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

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

【View】 viewge ;view EPON;view xge; view link-aggregation.

【Parameter】

port-list: To-be-set port list .

tagged | untagged: The message of untagged device that comes from port is tagged or untagged.

vlan-list: VLAN list.

【Description】

Adding a hybrid VLAN port, provided that the VLAN you want to add already exists, and the port VLAN mode is hybrid.

【Example】

Ge1 port add hybrid vlan 100 by using tagged model and add vlan 100 by using untagged model.

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

```
ge1 : hybrid add tag vlan:
```

```
Fail: 0, Success: 1
```

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

```
ge1 : hybrid add untag vlan:
```

```
Fail: 0, Success: 1
```

8.7 vlan native-vlan

【Command】

```
vlan native-vlan port-list vlan-id
```

【View】 viewge ;view EPON;view xge; view link-aggregation.

【Parameter】

port-list: To-be-set port list .

vlan-id: VLAN ID, using to identify a unique VLAN.

【Description】

Configuring the native VLAN ports. When Untagged packets enter port, it will mark native vlan. When tagged message leave the port , if the tag is equal to the native VLAN of the port, then the message would be removed.

【Example】

ge1 port native vlan is set as 100.

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

8.8 show port vlan

【Command】

```
show port vlan port-id
```

【View】 viewge ;view EPON;view xge; view link-aggregation.

【Parameter】

port-id: To-be-set port list .

【Description】

Displaying the condition of port.

【Example】

Showing the condition of vlan of ge1 port.

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

```
-----  
Port: ge1   Native-Vlan: 100   Mode: Hybrid  
-----
```

```
Tagged-Vlan:  
-
```

Untagged-Vlan:

1,100,1000

8.9 interface vlanif

【Command】

interface vlanif *vlan-id*

【View】 view config

【Parameter】

vlan-id: VLAN ID, it is used to identify a unique VLAN.

【Description】

Interface Vlan If command is used to creating VLANIF port and entering to VLANIF model through global configuration model.Under VLANIF model,it can configure IP address for virtual three-layer interface.

【Example】

In the case of VLAN 100 has been created, creating VLANIF interface of VLAN 100 and entered to the corresponding VLANIF pattern.

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

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

8.10 show interface vlanif

【Command】

show interface vlanif (*all* | *vlan-id**vlan-id*)

【View】 view config

【Parameter】

Vlan-id:To query the specified VLAN ID

【Description】

Thecommand is used to query `vlanif` interface for more information.

【Example】

Querying related information of vlanif 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
```

Querying all information of vlanif interface.

OLT(config)# show interface vlanif all

Interface	IP Address	Netmask
vlanif[100]	192.168.100.123	255.255.255.0
vlanif[200]	192.168.101.123	255.255.255.0

9.Multicast module

9.1 igmp-snooping

【Command】

igmp-snooping enable

igmp-snooping disable

【view】 config view

【parameter】

enable: open the function of igmp-snooping of olt

disable: close the function of igmp-snooping of olt

【description】

in order to distribute the multicast data packets on the second floor, IGMP Snooping(Internet Group Management Protocol Snooping, The Internet group management protocol)run on the second floor equipment, equipment with the host IGMP Snooping manage and control data packet forwarding through the listening for the IGMP packets between three layer and host.

【example】

Open the function of igmp-snooping of olt

OLT(config)# igmp-snooping enable

9.2 igmp-snooping fast-leave

【command】

igmp-snooping fast-leave switch

【view】 config view

【parameter】

switch: igmp-snooping switch of fast-leaving, value: on, off

【description】

on: Open the function of igmp-snooping fast-leaving of olt.In order to make sure of weather online or offline,ONT do't need to send a specific set of query message,but updating the local multicast table cording to the multicast when user enable igmp snooping-quickly leave or ont receive multicast message.this command is used to switchchannels faster

off: When user turn off the igmp snooping - fast leave function or enable igmp snooping - quickly leave, ONT received the user multicast to leave a message, you need to send a specific set of the query to confirm user online, if group of query cycle still have not received the user's report

message after a timeout, this command is used to switch channels faster.

【example】

Open the function of igmp-snooping fast-leaving of olt
OLT(config)# igmp-snooping fast-leave on

9.3 igmp-snooping host-aging-time

【Command】

igmp-snooping host-aging-time *time*

【View】 config view

【Parameter】

time : members of the aging time of the port

【Description】

if member of the port didn't receive the group by group in the aging time of the IGMP membership report message, switch would delete the port from the group by group published a port in the list .

【Example】

Configure members of the aging time of the port as 60 seconds
OLT(config)# igmp-snooping host-aging-time 300

9.4 igmp-snooping router-aging-time

【Command】

igmp-snooping router-aging-time *time*

【View】 config view

【Parameter】

time : the aging time of the igmp-snooping port

【Description】

if the aging time of the igmp-snooping port didn't receive the group by group in the aging time of the IGMP membership checking message or PIM Hello message, switch would delete the port from the group by group published a port in the list .

【Example】

Configure the aging time of the igmp-snooping port as 300 seconds
OLT(config)# igmp-snooping router-aging-time 300

9.5 igmp-snooping querier

【Command】

igmp-snooping querier enable

igmp-snooping querier disable

[【View】](#) config view

[【Parameter】](#)

enable: enable the querier of igmp snooping

disable: disable the querier of igmp snooping

[【Description】](#)

In running the IGMP multicast networks, there will be a three layer multicast device ACTS as the IGMP query, being responsible for sending IGMP query message, three layer multicast equipment can turn to establish and maintain in the network layer multicast published items

But two layer equipment can't support IGMP in a three layer multicast network equipment, So we can not realize the IGMP query related functions. In order to solve this problem, we can make the IGMP Snooping query on the layer 2 device, the layer 2 device can turn to establish and maintain the data link layer multicast published items

[【Example】](#)

```
OLT(config)# igmp-snooping querier enable
```

9.6 igmp-snooping querier interval

[【Command】](#)

igmp-snooping querier interval *time*

[【View】](#) config view

[【Parameter】](#)

interval *time*: *The query time interval*

[【Description】](#)

Sending the query time interval

[【Example】](#)

Configure the query time interval of igmp snooping as 60 seconds

```
OLT(config)# igmp-snooping querier interval 60
```

9.7 igmp-snooping querier max-response-time

[【Command】](#)

igmp-snooping querier max-response-time *time*

[【View】](#) config view

[【Parameter】](#)

max-response-time *time*: Query the maximum response time

[【Description】](#)

the host will configure a timer for its each multicast group Since switch receives a query message. Timer value between 0 and the maximum response time randomly be selected. When any timer value reduced to zero, the host will send this group of members of the group of news report. The rational allocation of maximum response time can make the host response to a query

information quickly,so the router can quickly grasp the existence of the multicast group members.

【Example】

Configure the maximum response time as 10 seconds
OLT(config)# igmp-snooping querier max-response-time 10

9.8 igmp-snooping querier source-ip

【Command】

igmp-snooping querier source-ip *source_ip*

【View】 config view

【Parameter】

source_ip: source ip address of igmp message.

【Description】

the device will not set it on the second floor for dynamic router port that the source IP address is 0.0.0.0 ,thus affecting the establishment of the published data link layer multicast turn item, eventually the normal multicast data cannot be forwarded.

【Example】

Configure the source ip address of igmp snooping as 192.168.1.1
OLT(config)# igmp-snooping querier source-ip 192.168.1.1

9.9 show igmp-snooping config

【Command】

show igmp-snooping config

【View】 config view

【Parameter】

【Description】

Checking the Configuration information of igmp snooping.Including the igmp snooping is open, quickly leave is whether open or close, igmp snooping,ports and aging time is whether opened or close, maximum response time, query interval and the source IP address is open

【Example】

Query the Configuration information of igmp snooping
OLT(config)# show igmp-snooping config

```
-----  
Snooping switch           : Disable  
Fast leave                 : Off  
Host aging time(s)        : 260  
Router aging time(s)      : 130  
-----
```

```
Query switch               : Enable
```

Max response time(s) : 10
Query interval(s) : 60
Source ip of the query : 192.168.1.1

9.10 show igmp-snooping group

【Command】

show igmp-snooping group (all | ip-addressip-address | static | vlanvlan-id)

【View】 config view

【Parameter】

【Description】

Query the multicast table of olt

【Example】

Query the multicast table of olt

OLT(config)# show igmp-snooping group all

Total Groups:2

Index:1

IP address:224.2.2.2

Mac address:01:00:5e:02:02:02

vlan :100

RouterPort: NONE

MemberPort: ge13

Index:2

IP address:239.255.255.250

Mac address:01:00:5e:7f:ff:fa

vlan :100

RouterPort: NONE

MemberPort: ge13

9.11 multicast-vlan

【Command】

multicast-vlan vlan-id

no multicast-vlan vlan-id

【View】 View config

【Parameter】

vlan-id: MulticastVLAN ID。 Only after the corresponding VLAN is created ,it can be used to create multicast VLAN ID.

【Description】

Multicast-VLAN command is used to create a multicast VLAN, and enters VLAN of multicast mode. Multicast VLAN is a application of VLAN, users can configure the multicast-related parameters under the VLAN for multicast mode.

【Example】

Creating a multicast VLAN 100 and enter the corresponding multicast VLAN mode.

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

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

9.12 show multicast-vlan

【Command】

show multicast-vlan (all | vlan-id *vlan-id*)

【View】 view config

【Parameter】

all: Displaying all multicast-vlan.

vlan-id: Showing the multicast-vlan which have specified *vlan-id*.

【Description】

【Example】

9.13 port

【Command】

port (ge | EPON | xge) *port-id*

noport (ge | EPON | xge) *port-id*

【View】 view multicast-vlan

【Parameter】

port-id: entering to the port number of multicast-vlan.

【Description】

This command is used to divide the OLT ports into specified multicast VLAN. No command is used to delete the from the multicast VLAN.

【Example】

To add the ge1 to multicast vlan 100.

```
OLT(multicast-vlan-100)# port ge 1
```

9.14 multicast-unknown

【Command】

multicast-unknown policy (discard | transparent)

[【View】](#) view config

[【Parameter】](#)

discard: System discards received unknown multicast traffic.

transparent: The system diffuse received unknown multicast traffic.

[【Description】](#)

This command is used to configure reduction strategy of unknown multicast traffic. If the multicadt traffic carrying unknown multicast vlan , which is calles pass-through. No special-purpose unknown multicast would occupy bandwidth, usually configured to drop.

[【Example】](#)

Configuring unknown multicast suppression policies are passthrough mode.

```
OLT(config)# multicast-unknown policy transparent
```

10.RSTP

10.1 spanning-tree

[【Command】](#)

spanning-tree (enable | disable)

[【View】](#) view config

[【Parameter】](#)

enable: Opening the global STP Protocol.

disable: Turning the global STP Protocol off.

[【Description】](#)

This command is used to turn on/off the global STP (Spanning Tree Protocol) Protocol. Only if the global STP on the port I is open, all about the STP protocol configuration could take effect.

[Example】](#)

Opening the global STP agreement .

```
OLT(config)# spanning-tree enable
```

10.2 spanning-tree priority

[【Command】](#)

spanning-tree priority*priority*

[【View】](#) view config.

[【Parameter】](#)

priority: Device priority.This value must be 4096-step. Setting the smaller the number, higher the priority of the device.

Range value: 0-61440, the step size is 4096.

[【Description】](#)

Command is used to set the device in the designated priority in spanning-tree . Priority of the device size determines whether the device can be selected as the root bridge of the spanning tree, when the priority of the device needs to be configured, and realize that some device can generate the root bridge.using this command. After setting the device priority, the device will be become the gist of whether select the device to generate root bridge.

【Example】

Setting the priority of spanning-tree of OLT as 4096.

```
OLT(config)# spanning-tree priority 4096
```

10.3 spanning-tree timer forward-delay

【Command】

spanning-tree timer forward-delay *time*

【View】 viewconfig

【Parameter】

time: orward Delay time parameter. State Migration interval. This length of time parameter is related with exchange networks diameter. In General, larger network diameter, longer the Forward Delay time is configured

Range value : 4-30, The default value: 15。

【Description】

This command is used to set the device Forward Delay (delay of State Migration). In order to prevent temporary loops, in state migration ,it needs to wait for a period of time, when you need to set the interval of the State migration, using this command. After you set the Forward Delay time of equipment, state migration see this value as the time interval. range: 4-30 seconds

【Example】

Setting the forward-delay of OLT as 20s.

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

10.4 spanning-tree timer hello

【Command】

spanning-tree timer hello *time*

【View】 view config

【Parameter】

time: parameter of hello time.Appropriate time of Hello time ensure that it can find link default on the network without taking too much of the network resources. Range: 1-2 second, default is 2 seconds

【Description】

This command is used to set up the device the Hello time (message send periodic) time parameter. Bridge every time sends hello messages to circumambient bridge in order to confirm that the link is faulty or not, when you need to set the time interval, using this command.

The Hello time parameter of device was set , equipment based on set time intervals, send Hello message to the switch around.

【Example】

Setting the hello time of OLT as 1s.

```
OLT(config)# spanning-tree timer hello 1
```

10.5 spanning-tree timer max-age

【Command】

spanning-tree timer max-age *time*

【View】 view config

【Parameter】

time: time parameter of max age, The maximum age of a message threshold.

【Description】

Command is used to set the device's Max Age (maximum age of a message) time parameter. When you need to determine whether the configuration message obsolete, using this command. After you set the Max Age time parameters of the device, the device discard configuration messages which exceed the setting value. Range: 6-40 second, the default value is 20 seconds.

【Example】

Setting the max age of OLT as 6s.

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

10.6 spanning-tree edged-port

【Command】

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

【View】 view ge ;view EPON;view xge; view link-aggregation.

【Parameter】

port-id: To-be-set port list.

switch: Port as an edge port switches or not. Values: enable, and disable. Enable: set the specified Ethernet port as edge port. Edge ports : not directly connected with any switch or through a network port is indirectly connected with any switch port. Disable: set the specified Ethernet ports for non-edge ports.

【Description】

This command is used to configure the Ethernet port as an edge port or not. When you want to allow the port quickly migrate to the forwarding State, can also guarantee network security when using this command. For directly connected to the terminals of the port, the port should be set to the edge port, start at the same time BPDU (Bridge Protocol Data Unit) protection function. After you set the current Ethernet port as the edge port device,it will not receive any messages which comes from other bridge device .

【Example】

Setting ge1 as edge port.

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

10.7 spanning-tree cost

【Command】

spanning-tree cost *port-id cost*

【View】 view ge ;view EPON;view xge; view link-aggregation.

【Parameter】

port-id: To-be-set port list.

cost: The port path cost. The cost is a ports quantity,which reflect that the cost of port related with network , lower the value is,better the connection of port.range:1-200000000。

【Description】

spanning-tree cost command is used to set spanning-tree cost of port presently,after setting the cost,May cause the change of topology, spanning tree recalculate.

【Example】

Setting the spanning-tree cost of port of ge1 as 500.

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

10.8 spanning-tree mcheck

【Command】

spanning-tree mcheck *port-id switch*

【View】 view ge ;view EPON;view xge; view link-aggregation.

【Parameter】

port-id: To-be-set port list.

switch: mcheck switch。 value: enable、 disable。

【Description】

STO mcheck command is used to execute mCheck operation at the global or port. On devices of running the RSTP , if a port is connected to the device, the port is automatically migrated to the STP-compatible mode

【Example】

Opening the mcheck of ge1.

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

10.9 spanning-tree point-to-point

【Command】

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

【View】 view ge ;view EPON;view xge; view link-aggregation.

【Parameter】

port-id: To-be-set port list.

mode: point-to-point mode of spanning-tree., value: true,false,auto

【Description】

Spanning-tree point-to-point command is used to set the current Ethernet port which is link of point-to-point. . When need to control the switch time of Ethernet status, you need to configure whether the link is a point-to-point link, using this command. Setting the current link connected as the Ethernet port of point-to-point links, command the Ethernet ports send fast migration request, if the Ethernet port meet the point-to-point link, you can move quickly.

【Example】

Setting the point-to-point mode of fe1 as true.

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

10.10 spanning-tree priority

【Command】

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

【View】 view ge ;view EPON;view xge; view link-aggregation.

【Parameter】

port-id: To-be-set port list.

priority: priority of port.This value must be a 16-step. Configured value is smaller, the higher the priority of the port.

【Description】

Spanning-tree priority command is used to set the priority of the port in the spanning-tree of instance ,Port priority is important gist which determine whether the port is selected as a root port. In the calculation process of spanning-tree, the high priority ports will be selected as the root port under the same conditions . Setting the priority of port in the specify spanning tree instance , the device would select the port based on high or low priority.

The priority of port spanning-tree is16.

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

11.ACL

11.1 time-range

【Command】

time-range*time-name* { *start-time***to***end-time**days* | **from***time1date1* [**to***time2date2*] }

no time-range*time-name*

【View】 config view

【Parameter】

time-name: the name of time period, Configure ACL rules refer to this name。

start-time: The start time of relative time period。 identify a time range with the end-time, *days* define date, Three parameters to determine a relative time period。

end-time: The end time of relative time period。 identify a time range with the start-time, *days* define date, Three parameters to determine a relative time period。

Days: The exact time of relative time period 。

- Mon: Monday
- Tue: Tuesday
- Wed: Wednesday
- Thu: Thursday
- Fri: Friday
- Sat: Saturday
- Sun: Sunday
- daily: daily
- off-day: Saturdays and Sundays
- working-day: Monday to friday

time1date1: The starting time and date of absolute time period。

time2date2: The end time and date of absolute time period

【Description】

The ACL period is divided into relative and absolute time:

Relative time: Refers to the periodic time, for example, Every Monday at 8:30 to 18:30。

Absolute time: From a specific time to another time, For example, on June 8, 2006 12:00 until 18:00 on August 8, 2006。

【Example】

Example: Configure a cycle period worktime, the effective time is 8:00 to 18:30 on every Monday。

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

11.2 display time-range

【Command】

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

【View】 config view

【Parameter】

all: Query information all the time.

time-name: the name of time period. When you need to query information about the specified time period, you can use this parameter.

【Description】

You can use the time - range command setting period of time.

【Example】

Query the time period that time-range called yuanxin

```
OLT(config)# show time-range yuanxin
```

```
Current time is 2000-01-01 01:15 Saturday
```

```
Time-range : yuanxin(Active)
```

```
From 2015-12-12 22:33 to 2015-12-12 23:11
```

```
11:22 to 11:33 Daily
```

11.3rule (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. ACL ID is the bigger the priority;

deny: Don't allow to match the flow through the message.

permit: Eligible packets will be allowed to pass;

ip-address: The original IP address section in the ACL rules;

sour-wildcard: wildcard mask; IP address and the mask used to match with the network number of hosts

any: Matches any the original IP packet;

name: The ACL effective time period

【Description】

Rule : this command is used to create ACL rule in the Acl-basic mode and Acl6-basic mode, you can use this command, when you need to create ACL rule according to the source IP address of packets. After successfully creating rules, you can use the packet-filter command

reference for packet filtering rules. Or you can used with QoS policy for a particular message service quality assurance.

no rule : This command is used to delete or modify the ACL rules.

【Example】

In the worktime period, specified port 1 can only receive message from IP address for 10.10.10.2.

```
OLT(config)# time-range worktime 8:00 to 18:00 working-day
OLT(config)# acl 2000
OLT(acl-basic-2000)# rule 2 permit source 10.10.10.2 0.0.0.0 time-range working-day
OLT(acl-basic-2000)# rule 1 deny source any time-range working-day
OLT(acl-basic-2000)# exit
OLT(config)# packet-filter inbound 2000 port ge 1
```

11.4 rule (adv acl)

【Command】

When protocol is TCP , the command format based on the IPv4 as follow

```
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-rangetime-range-name]]
```

When protocol is UDP , the command format based on the IPv4 as follow:

```
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-rangetime-range-name]]
```

When protocol is IP, the command format based on the IPv4 as follow:

```
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 protocol is ipinip , the command format based on the IPv4 as follow :

```
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 protocol is icmp , the command format based on the IPv4 as follow

```
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 protocol is other agreement except the TCP, UDP, ICMP, the command format based on the IPv4 as follow:

```
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-range***time-range-name*]

The command format based on the rules of IPv4 of delete or modify as follows:

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

【View】 `adv acl view`

【Parameter】

rule-id: ACL Rule-ID。ACL ID is the bigger the priority;

permit: Don't allow to match the flow through the message;

deny: The original IP address section in the ACL rules;

ip-address: The source ip address of ACL rules;

sour-wildcard: wildcard mask; IP address and the mask used to match with the network number of hosts;

any: Matches any the original IP packet;

time-range-name: The ACL effective time period;

source: The ACL matching the original IP address of a message;

destination: The ACL matching the Destination IP address of a message;

precedence: Matching IP layer priority;

dscp Matching IP layer priority;

dest-port: matching the UDP or TCP destination port;

src-port: matching the UDP or TCP source port;

all: Delete the whole ACL;

【Description】

rule:command is used to create advanced ACL rule in ACL-adv mode and ACL6-adv mode, you can use this command, when you need match rules according to the source address, destination address, the protocol type based IP, aimed at the characteristics of the agreement. Successfully create rules, you can use the command reference for packet filtering rules. Or cooperate with QoS command used for a particular message service quality assurance.

no rule:Command is used to delete or modify the rules of the ACL

【Example】

Example: create a senior acls to match all icmp message;

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

Example: delete the rules that the ACL rule id is 1;

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

11.5 rule (link acl)

【Command】

rule *rule-id* (**permit** | **deny**) ([**cos** *cos-value*] | [**destination** *mac-addr* *mac-wildcard*] | [**source** *mac-addr* *mac-wildcard*] | [**inner-cos** *inner-cos-value*] | [**vlan** *vlan-id*] | [**inner-vlan** *inner-vlan-id*] | [**type** *Ethernet-type*] | [**time-range** *time-range-name*])

no rule *rule-id*

【View】 basic acl view

【Parameter】

rule-id: ACL Rule-ID。ACL ID is the bigger the priority;

permit: Don't allow to match the flow through the message;

deny: The original IP address section in the ACL rules;

source: the original IP address of a ACL matching message;

destination: The Destination IP address of a ACL matching message;

mac-addr: mac address

mac-wildcard: the wildcard mask of mac address;

time-range-name: The ACL effective time period;

inner-cos-value: matching the cos value of the inner vlan in the message of data link layer

cos-value: matching the value of the outer vlan

vlan-id: matching the value of the outer vlanid

inner-cos-value: matching the value of the inner vlanid

Ethernet-type: matching the type option of Ethernet

【Description】

Rule: Command is used to create ACL rule in ACL-link mode, you can use this command, when you need match rules according to the source address, destination address, the protocol type based data link layer. Successfully create rules, you can use the command reference for packet filtering rules. Or cooperate with QoS command used for a particular message service quality assurance.

no rule: Command is used to delete the access control list specified ACL rules.

【Example】

In the worktime period, specified port 1 only can receive from the destination MAC address is 22-22-22-22-22-22 message

```
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
```

11.6 show acl

【Command】

Show acl (*acl-id* | **all**)

【View】 config view

【parameter】

acl-id: Specific ACL

all: Show all of the ACL

[【Description】](#)

[【Example】](#)

Querying all of the ACL information about devices

```
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. QOS

12.1 packet-filter

[【Command】](#)

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

no packet-filter (inbound| outbound) *acl-id* [*rule-id**rule-id*]**port** (ge | EPON | xge) *port-list*

[【View】](#)

Config view

[【Parameter】](#)

Inbound: The traffic on inbound packets of the interface

Outbound: the traffic on outbound packets of the interface

rule-id: the rule ID of ACL

acl-id: ACL's name

port-list: ports list

[【Description】](#)

packet-filter: This command is used to config ACL filter rules for special port, and make it effect. you can use this command, when you need to use the ACL rules to filter on port traffic.

no packet-filter: This command is used to cancel the designated port of ACL filtering rules. When you need to delete the specified port acls to filter rules, use this command.

[【Example】](#)

In the worktime period, specified port 1 can only receive message from IP address for 10.10.10.2

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

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

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

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

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

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

12.2 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: the trafficon inbound packets of the interface

Outbound: the trafficon outbound packets of the interface

rule-id: the rule ID of ACL

acl-id: ACL's name

port-list: ports list

remark-dscp-value: To remark the DSCP value

【Description】

traffic-dscp: Command is used to configure an ACL for the specified port of DSCP tags again, and make it into effect. When you need to use the ACL rules of port of DSCP message tag, use this command.

no traffic-dscp: Command is used to cancel the designated port of the ACL. When you need to delete the specified port of ACL to tag, use this command.

【Example】

Command is used to cancel the designated port of the ACL. When you need to delete the specified port of ACL to tag, use this command.

```
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
```

12.3 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* | **remark-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: the trafficon inbound packets of the interface

Outbound: the traffic on outbound packets of the interface

rule-id: ID the rule ID of ACL

acl-id: ACL's name

port-list: ports list

remark-dscp-value : To remark the DSCP value

rate-value:The rate of the interface

【Description】

traffic-limit: Command is used to specify the discharge port configuration ACL, and make it into effect. When you need to use the ACL rules for port rate limit, use this command.

no traffic-limit: This command is used to cancel the ACL traffic restrictions specified port. When you need to delete the specified port of ACL speed limit function, use this command.

【Example】

In the worktime period, message from IP address is 10.10.10.2, message came in from interface 1, the guarantee bandwidth is 1 M, the average bandwidth is 100 M, the exceeding flow discarded.

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

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

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

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

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

12.4 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: the traffic on inbound packets of the interface

Outbound: the traffic on outbound packets of the interface

rule-id: ID the rule ID of ACL

acl-id: ACL's name

port-list: ports list

【Description】

traffic-mirror: This command is used to configuration ACL traffic mirror for specify port, and make it into effect. When you need to use the ACL rules on port traffic mirror, you can use this command.

no traffic-mirror: This command is used to cancel ACL traffic mirror of the specified port, When you need to delete the ACL traffic mirror function of the specified port, you can use this command.

【Example】

In the worktime period, that message' IP address is 10.10.10.2 from the port 1, it mirrored to port 2.

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

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

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

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

```
OLT(config)# traffic-mirror inbound 2000 port ge 1 to ge 2
```

12.5 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: the traffic on inbound packets of the interface

Outbound: the traffic on outbound packets of the interface

rule-id: the rule ID of ACL

acl-id: ACL's name

port-list: ports list

vlanID: Add the outer label

【Description】

traffic-outervlan: This command is used to configure an ACL outer vlan for the specified port, and make it into effect. When you need to use the ACL rules to add outer vlan for port, you can use this command.

no traffic-outervlan: Command is used to cancel the addition of ACL outer vlan for the specified port. When you need to delete the addition of ACL outer vlan for the specified port, you can use this command.

【Example】

In the worktime period, add outer vlan10 to message that is from port 1 and its ip is 10.10.10.2.

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

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

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

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

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

12.6 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: the traffic on inbound packets of the interface

Outbound: the traffic on outbound packets of the interface

rule-id: ID the rule ID of ACL

acl-id: ACL' s name

port-list: ports list

vlanID: Add the outer label

*pri-value:*The value of the priority

【Description】

traffic-priority: Command is used to configure vlan priority for the specified port, and make it into effect. When you need to use the ACL rules to change VLAN priority, you can use this command.

no traffic-outervlan: Command is used to cancel ACL specified vlan priority of the specified port. When you need to delete the specified port's the vlan priority, you can use this command.

【Example】

In the worktime period, the message are specified that the priority of vlan is 1, ip address of the message is 10.10.10.2

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

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

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

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

```
OLT(config)# traffic-priority inbound 2000 port ge 1 remark-priority 2
```

12.7 traffic-redirect

【Command】

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

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

【View】

Config view

【Parameter】

Inbound: the traffic on inbound packets of the interface

Outbound: The traffic on outbound packets of the interface

rule-id: the rule ID of ACL

acl-id: ACL' s name

port-list: ports list

【Description】

traffic-redirect: Command is used to configuration ACL redirects for specify port, and make it into effect. When you need to use the ACL rules to redirect traffic of port, you can use this command.

no traffic-redirect: Command is used to cancel ACL traffic mirrorof the specified port. When you need to delete the ACL traffic mirror function of the specified port,you can use this command.

【Example】

In the worktime period, the message that its ip address is 10.10.10.2 are redirect to port 2,
OLT(config)# time-range worktime 8:00 to 18:00 working-day
OLT(config)# acl 2000
OLT(acl-basic-2000)# rule 2 permit source 10.10.10.2 0.0.0.0 time-range working-day
OLT(acl-basic-2000)# exit
OLT(config)# traffic-redirect inbound 2000 port ge 1 to ge 2

12.8 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: the traffic on inbound packets of the interface

Outbound: the traffic on outbound packets of the interface

rule-id: the rule ID of ACL

acl-id: ACL's name

port-list: ports list

【Description】

traffic-statistic: Command is used to configuration ACL statistics for specify the discharge port and make it take effect. When you need to use the ACL rules on port traffic statistics, you can use this command.

no traffic-statistic: Command is used to cancel the ACL traffic statistics of the specified port. When you need to delete the ACL traffic statistics of the specified port, you can use this command.

【Example】

In the worktime period, the message that its ip address is 10.10.10.2 have traffic statistics. And the message is from port 1

```
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
```

12.9 traffic-statistic clear-counters

【Command】

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

【View】

Config view

【Parameter】

Inbound: the traffic on inbound packets of the interface

Outbound: the traffic on outbound packets of the interface

rule-id: the rule ID of ACL

acl-id: ACL' s name

port-list: ports list

【Description】

traffic-statistic clear-counters: This command is used to remove the configuration which is traffic statistics of the specified port ,and make it take effect.

【Example】

In the worktime period,removing the flow statistics of message that is from port 1 ,and the ip address of the message is 10.10.10.2.

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

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

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

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

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

12.10 show qos-info

【Command】

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

【View】

Config view

【Parameter】

port-list: ports list

【Description】

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

this command is used to view the QOS policies of the equipment port

【Example】

In the worktime period, View all the QOS strategy from port 1.

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

```
traffic-limit on ge1:
```

Inbound:

```
Matches: acl 2000 rule 1 running
```

```
Target rate: cir 64(kpbs) pir 9984(kbps)
```

```
Exceed: Drop
```


12.11 qos queue-scheduler

【Command】

```
qos queue-scheduler wrrqueue0-weight queue1-weight queue2-weight  
queue3-weight
```

```
qos queue-schedulerstrict-priority
```

【View】

Config view

【Parameter】

strict-priority: Strict Priority Scheduling, Applying this model, the system in strict accordance with the priority queue for scheduling. Only high priority queue is empty, you can schedule message in the lower priority queues. But there are disadvantage about PQ scheduling model, when congestion occurs, because there are group keeping long time in the higher priority queue, the message in the low priority queue would have been without timely scheduling and cause the corresponding application timeout.

wrr: Weighted round queue scheduling WRR (weighted round robin) model. User needed to configure a weight that expresses the proportion of access to resources for each queue when this command is applied. In order to ensure every queue gain suitable service, user must round among queue according to a weight. Each queue priority identical but different weights, the greater the weight, the queue scheduling will be the longer. It can guarantee the queue that has the lowest priority can obtain a certain bandwidth at least, avoid the message of low priority queue can not to get service in a long when using PQ scheduling.

queue0-weight/queue1-weight/queue2-weight/queue3-weight: Set the weight of each queue. Systems support four queue (queue 0 to queue 3), queue 0 is corresponding vlan priority 0 and 1, queue 1 is corresponding vlan priority queue 2 and 3, queue 2 is corresponding vlan priority queue 4 and 5, queue 3 is corresponding vlan priority queue 6 and 7.

【Description】

queue-scheduler queue scheduling mode, that needs to be from the same port to send out a message into multiple queue between the queue and queue scheduling and determines which starts to send message queue and which sends message queue later, needs Command to configure system. user uses this command when the user needs to choose according to the importance of the business of different queue scheduling model to ensure the network congestion when still can provide QoS guarantee for important business. System will be in accordance with the new scheduling model forwarding packets in the queue after configuring the queue scheduling mode successfully.

【Operating guide】

Systems support PQ, WRR, WRR + PQ scheduling model. When a queue is empty, system can switch immediately to the next queue scheduling, it make full use of bandwidth resource.

- When existing WRR queue scheduling, the sum of weights must be 100
- The WRR + PQ scheduling mode is a mixture of WRR and PQ two scheduling model. When there is a zero value in the weight of the queue, queue scheduling model is the PQ + WRR scheduling model. In this mode, the system schedule queue that weight is 0 in PQ model, then scheduling queue that weights isn't 0 in the WRR mode, and the priority of PQ queue is higher than the WRR queue.
- When Configure WRR + PQ way queue scheduling, the queue of PQ mode scheduling must be configured in the priority queue, do not allow the PQ queue alternating configure with WRR queue
- The default scheduling of system is PQ scheduling

【Example】

Example: configure the queue scheduling model is WRR, making all kinds of priority message can be scheduled. The weight of the queue 0-3 is 10,30,30,30 respectively

```
OLT(config)# qos queue-scheduler wrr 10 30 30 30
```

12.12 show queue-scheduler

【Command】

```
show queue-scheduler
```

【View】

```
Config view
```

【Parameter】

nothing

【Description】

This command is used to query system currently used queue scheduling mode.

【Example】

In the worktime period, viewing all the QOS strategy about port 1.

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

```
Queue scheduler mode : WRR
```

Queue	Scheduler Mode	WRR Weight
0	WRR	10
1	WRR	30
2	WRR	30
3	WRR	30

Queue map:

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

13. DHCP-snoop

13.1 dhcp-snooping enable

【Command】

dhcp-snooping enable

【View】

Config view

【Parameter】

Nothing

【Description】

dhcp-snooping enable: After DHCP snooping opening, Other functions are opening, for example, trust/untrusted port function, MAC address detection function, DHCP message rate limit in untrusted port, port recover function, option82 function, ARP dynamic monitoring function and ARP rapid response function.

【Example】

Open DHCP SNOOPING function
OLT(config)# dhcp-snooping enable

13.2 dhcp-snooping disable

【Command】

dhcp-snooping disable

【View】

Config view

【Parameter】

nothing

【Description】

Close dhcp-snooping function

After DHCP snooping closing, Other functions are closing, for example, trust/untrusted port function, MAC address detection function, DHCP message rate limit in untrusted port, port recover function, option82 function, ARP dynamic monitoring function and ARP rapid response function.

【Example】

Close dhcp-snooping function

```
OLT(config)# dhcp-snooping disable
```

13.3 show dhcp-snooping configuration

【Command】

show dhcp-snooping configuration

【View】

Config view

【Parameter】

nothing

【Description】

Close dhcp-snooping function

After DHCP snooping closing, Other functions are closing, for example, trust/untrusted port function, MAC address detection function, DHCP message rate limit in untrusted port, port recover function, option82 function, ARP dynamic monitoring function and ARP rapid response function.

【Example】

Closing the function of dhcp-snooping

```
OLT(config)# dhcp-snooping disable
```

13.4 dhcp-snooping vlan

【Command】

dhcp-snooping vlan*vlan-list*

no dhcp-snooping vlan*vlan-list*

【View】

Config view

【Parameter】

vlan-list:Add DHCP snooping vlan

【Description】

dhcp-snooping vlan: Add the specified monitoring vlan, it is monitoring DHCP messages within the scope of monitoring vlan ,other dhcp message without the scope of monitoring vlan is forwarded .

no dhcp-snooping vlan*vlan-list:* delete specified monitoring vlan

【Example】

Add monitoring vlan100,200,300
OLT(config)# dhcp-snooping vlan 100,200-300

13.5 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 the specified port list

【Description】

dhcp-snooping trust port : Set the trust GE port. Trust port can receive all of the DHCP message

no dhcp-snooping trust port: Set not trust port, not trust port does not allow to receive DHCP reply message.

【Example】

There are ge10,ge12,xge1,EPON3-5 in trust port list, there are ge1-ge5,xge2,EPON2,EPON5 in untrust port list.

```
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
```

13.6 dhcp-snooping chaddr-check

【Command】

dhcp-snooping chaddr-check enable
dhcp-snooping chaddr-check disable

【View】

Config view

【Parameter】

port-list: Add the specified port list

【Description】

dhcp-snooping chaddr-check enable: After opening, Detection the source MAC address of DHCP request message from untrust port , and compared with CHADDR fields, the same is listening, or it discards the packet.

dhcp-snooping chaddr-check disable: Close the untrusted port MAC address detection

【Example】

Close the untrusted port MAC address detection
OLT(config)# dhcp-snooping chaddr-check disable

13.7 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 the DHCP request packet

【Description】

Set the rate of receiving DHCP request packet in the untrust GE port, exceeding the rate, the untrust port discarding the message. Trust port rate limit can be configured, but is not effective, unless set to untrusted port.

【Example】

Limiting the receiving rate of the DHCP request packet is 20 bps in ge6 ge9 port, xge1 port is 100bps, EPON 2-8 port is 50 bps

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 50 port EPON 2-8

13.8 dhcp-snooping option82

【Command】

dhcp-snooping option82 enable

dhcp-snooping option82 disable

【View】

Config view

【Parameter】

Nothing

【Description】

After opening, Option82 information is inserted into the DHCP request message receiving from the untrust port; option82 information, receiving from trust port, is detached from the DHCP request message

【Example】

Opening the function of DHCP option82

OLT(config)# dhcp-snooping option82 enable

13.9 dhcp-snooping option82 circuitId-string

【Command】

dhcp-snooping option82 circuitId-string*string***port** (EPON | ge | lag | xge) *port-id*
no dhcp-snooping option82 circuitId-string*string*

【View】

Config view

【Parameter】

string: Custom circuit id sub-option information

port-id: Setting agent circuit id

【Description】

dhcp-snooping option82 circuitId-string: Setting custom circuit id sub-option information

no dhcp-snooping option82 circuitId-string*string*: To restore the default sub-option information of agent circuit id

【Example】

Setting the suboption information of circuit id is group1 on the ge10

OLT(config)# dhcp-snooping option82 circuitId-string group1 port ge 10.

To clear the custom agent circuit id information group1, restore the default value

OLT(config)# no dhcp-snooping option82 circuitId-string group1.

13.10 dhcp-snooping option82 remoteId-string

【Command】

dhcp-snooping option82 remoteId-string*string***port** (EPON | ge | lag | xge) *port-id*
no dhcp-snooping option82 remoteId-string*string*

【View】

Config view

【Parameter】

string: custom remote id sub-option information

port-id: Setting agent remote id

【Description】

dhcp-snooping option82 remoteId-string:. Set the information of custom agent remote id sub-option

no dhcp-snooping option82 remoteId-string: Restore the default custom agent remote id item information

【Example】

ge10 Agent Remote id sub-option information is device1

OLT(config)# dhcp-snooping option82 remoteId-string device1 port ge 10

To clear the custom agent remote id sub-option information, and restore the default value

OLT(config)# no dhcp-snooping option82 remoteId-string device1

13.11 dhcp-snooping option82 policy

【Command】

dhcp-snooping option82 policy (keep|drop|replace)

【View】

Config view

【Parameter】

keep: The same forwarding DHCP message with Option82 option

drop: Discarded directly DHCP message with option82

replace: Replace the Option82 options of the original DHCP message, and then forward

【Description】

dhcp-snooping option82 policy: It is used to config forward policy based on the request packet Option82

【Example】

Configure the forwarding strategy of DHCP is carried out in accordance with the original forward strategy

```
OLT(config)# dhcp-snooping option82 policy keep
```

13.12 dhcp-snooping binding

【Command】

dhcp-snooping binding mac ip vlan port (ge | EPON | xge | lag)port-id

【View】

Config view

【Parameter】

mac: Static binding MAC address table entries

ip: The IP address of the static binding table entries

vlan: The vlan of the static binding table entries

port-id: The port id of the static binding table entries

【Description】

dhcp-snooping binding: It is used to config forward policy based on the request packet Option82

【Example】

Add 00:0f:1f:c5:10:08 in static MAC address binding table entries, the IP address is 192.168.1.101, vlan is 100, port is ge10.

```
OLT(config)# dhcp-snooping binding mac 00:0f:1f:c5:10:08 ip 192.168.1.101 vlan100 port ge10
```

13.13 dhcp-snooping bind-table clear

【Command】

According to the type, delete an item from the monitor bind-table of DHCP

dhcp-snooping bind-table clear (all | static | dynamic | ip-address)

Depending on the type of vlan, delete an item from the monitor bind-table of DHCP

dhcp-snooping vlan vlan-id/bind-table clear (all | static | dynamic | ip-address)

【View】

Config view

【Parameter】

Vlan-id:Clear bind table by vlan

all: Clear all entries

static:Clear all static entries

dynamic: Clear all dynamic entries

ip-address: Clear all entries with the specified IP address

【Description】

Clear bind-table entries

【Example】

OLT(config)# dhcp-snooping bind-table clear all

13.14 dhcp-snooping bind-table write-delay

【Command】

dhcp-snooping bind-table write-delay *time*

【View】

Config view

【Parameter】

time:Delay time

【Description】

Delay time of writing bind table into flash, DHCP to monitor After the binding table of DHCP updated, waiting for a set time, and then written to flash.

【Example】

Delay 240 secondsto writte bind table into flash

OLT(config)# dhcp-snooping bind-table wтите-delay 240

13.15dhcp-snooping bind-table delete-time

【Command】

dhcp-snooping bind-table delete-time*time*

【View】

Config view

【Parameter】

time:Entry delete time

【Description】

Set the delete time of monitoring bind-table . When they arrive in the lease time, dynamic table will not be deleted immediately, but the delay to the set time.

【Example】

Until it reach the lease after 240 seconds, dynamic table will be deleted

OLT(config)# dhcp-snooping bind-table delete-time 240

13.16 dhcp-snooping bind-table write-to-flash

【Command】

dhcp-snooping bind-table write-to-flash

【View】

Config view

【Parameter】

nothing

【Description】

Write manually bind table into flash

【Example】

Write the bind table of dhcp into flash

OLT(config)# dhcp-snooping bind-table write-to-flash

13.17 dhcp-snooping bind-table save-to-tftp

【Command】

dhcp-snooping bind-table save-to-tftp ip

【View】

Config view

【Parameter】

ip: Upload the binding table entry to the ip address of the TFTP server

【Description】

Save manually the monitoring bind table of dhcp to tftp.

【Example】

Writing immediately the binding table of DHCP into flash and uploading to the TFTP server, that ip address is 192.168.1.1

OLT(config)# dhcp-snooping bind-table save-to-tftp 192.168.1.1

13.18 show dhcp-snooping bind-table

【Command】

show dhcp-snooping bind-table (all | static | dynamic | ip)

show dhcp-snooping vlan *vlan-id* bind-table (all | static | dynamic | ip)

【View】

Config view

【Parameter】

vlan-id: Show bind table by vlan

all: Show all entries

static: Show all static entries

dynamic: Show all dynamic entries

ip-address: Show all entries with the specified IP address

【Description】

Show DHCP snooping bind table

【Example】

Show the information of DHCP snooping bind table

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

13.19dhcp-snooping arp-reply-fast

【Command】

Opening the function of DHCP snooping ARP reply fast:

dhcp-snoopingarp-reply-fast enable

Closing the function of DHCP snooping ARP reply fast:

dhcp-snoopingt disable

【View】

Config view

【Parameter】

Nothing

【Description】

dhcp-snoopingarp-reply-fast enable: After the function opening, according to the DHCP Snooping entry, judging whether it is enable the function of**arp-reply-fas**, if the function opens, listen for ARP packet, if the DHCP Snooping table can find the corresponding record, ARP request packet is not forwarded to the uplink network, and according to the entry information rapid response ARP request, thus reducing the ARP broadcast message.

dhcp-snoopingarp-reply-fast disable: Disable ARP reply fast

【Example】

Enable ARP reply fast

OLT(config)# dhcp-snooping arp-reply-fast enable

13.20dhcp-snooping arp-detect

【Command】

Opening the function of DHCP snooping ARP detect

dhcp-snooping arp-detect enable

Closing the function of DHCP snooping ARP detect

dhcp-snooping arp-detect disable

【View】

Config view

【Parameter】

Nothing

【Description】

dhcp-snooping arp-detect enable: After function opening, according to the DHCP Snooping table item , judging whether ARP message users are legal, so as to prevent illegal users of ARP attack.

dhcp-snooping arp-detect disable: Closing the function of DHCP snooping ARP detect

【Example】

Enable the function of DHCP snooping ARP detect

OLT(config)# dhcp-snooping arp-detect t enable

14.link-aggregation

14.1 member add/delete

【Command】

Add member ports to link-aggregation group

member add (ge | xge) port-list link-aggregation group group-id

Delete member port in group aggregation port

member delete (ge | xge) port-list link-aggregation group group-id

【View】

Lag view

【Parameter】

port-list: port number

group-id: the value of link-aggregation group

【Description】

Support a total of eight aggregation groups about FD1216S equipment, Member add,this commandisthat add members in group aggregation port; member delete ,this command is that delete member port under the corresponding aggregation group.

【Example】

Add ge1 port to link-aggregation group 1

OLT(config-interface-aggregation)# member add ge 1 link-aggregation group 1

Delete ge1port from link-aggregation group 1

OLT(config-interface-aggregation)# member delete ge 1 link-aggregation group 1

14.2 link-aggregation group *group-id*unicast balance

【Command】

link-aggregation group *group-id*unicast balance (dest-ip |dest-mac |source-dest-ip | source-dest-mac | source-ip | source-mac)

【View】

Lag view

【Parameter】

group-id: the value of link-aggregation group

【Description】

Set the sharing mode of known unicast in aggregation group

【Example】

The load sharing model that Configurate equipment is in accordance with the destination IP load sharing.

```
OLT(config-interface-aggregation)# link-aggregation group 1 unicast balance dest-ip
```

14.3 link-aggregation group non-unicast balance

【Command】

link-aggregation group non-unicast balance (dest-mac | source-dest-mac | source-mac| source-port)

【View】

Lag view

【Parameter】

nothing

【Description】

Configuring the load sharing way of broadcast multicast

【Example】

Config the load sharing way of broadcast multicast is dest-mac

```
OLT(config-interface-aggregation)# link-aggregation group non-unicast alance dest-mac
```

14.4 link-aggregation port-priority

【Command】

link-aggregation port-priority(*ge | xge*) *port-id* *value*

【View】

lag view

【Parameter】

port-id: the port number

value: Set the port priority of aggregation, when the main port is in the election, its priority is higher, the aggregation port of the higher priority

【Description】

Set the port priority of aggregation

【Example】

Setting the priority of interface 1 is 6000

OLT(config-interface-aggregation)# link-aggregation port-priority ge 1 6000

14.5 show link-aggregation group summary

【Command】

show link-aggregation group summary

【View】

lag view

【Parameter】

Nothing

【Description】

To view information about each interface configuration

【Example】

To view information about each interface configuration

OLT(config-interface-aggregation)# show link-aggregation group summary

14.6 show link-aggregation group statistics

【Command】

show link-aggregation group statistics *group-id*

【View】

lag view

【Parameter】

group-id: the value of link-aggregation group

【Example】

View the traffic statistics of link-aggregation and member port

【Example】

View the traffic statistics of link-aggregation and member port

OLT(config-interface-aggregation)# show link-aggregation group statistics 1
member xge1 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. The configuration of DBA-profile

15.1 dba-profile

【Command】

dba-profile (*profile-id profile-id* | *profile-name profile-name*)

no dba-profile (*profile-id profile-id* | *profile-name profile-name*)

【View】

config view

【Parameter】

profile-id *profile-id*: If not specified, the system automatically assigns the smallest free template

profile-name *profile-name*: DBA template name. If not specified, the system automatically use the default named "dba - profile_x", the "x" is the serial number of the dba template.

【Description】

This command is used to add DBA (Dynamic Bandwidth Assignment) template, The DBA template defines the ONU uplink access bandwidth, equipment according to the ONU uplink sudden traffic demand, dynamically adjust the uplink access bandwidth assigned to them, lift the PON system as the utilization efficiency of uplink bandwidths.

【Example】

Create a new dba templates ,its id is 10, template name is using the default naming
OLT(config)# dba-profile profile-id 10

15.2 type

【Command】

type1 *fix fix*

type2 *assure assure*

type3 *assure assure max max*

type4 *max max*

type5 *fix fix assure assure max max*

【View】 dba-profile view

【Parameter】

type1 Configuration type is the DBA template of the fixed bandwidth. Fixed bandwidth is reserved completely for specific ONU or specific business of ONU, even without the ascending business flow in the ONU, this part of the bandwidth is also cannot be used for other ONU. Fixed bandwidth is mainly used for business that the quality of business very sensitive, such as: TDM, VoIP and so on.

type2 The configuration type is bandwidth. Guaranteed bandwidth is to ensure that the ONU need to use the available bandwidth. When the actual business flow of ONU do not reach guaranteed bandwidth, the DBA mechanism of equipment should be able to assign the remaining bandwidth to other ONU's business.

type3 The configuration type is the guaranteed bandwidth and maximum bandwidth. Type3 is a combination type. when user have certain bandwidth, at the same time, it also allows other user to have certain bandwidth, but the sum is no more than the biggest bandwidth user configuration. This bandwidth type is mainly used in VoIP, IPTV business.

type4 The configuration type is the maximum bandwidth. Maximum bandwidth is bandwidth limit on the ONU using bandwidth available, maximum satisfy the ONU use bandwidth resources. The maximum bandwidth types are commonly used in ordinary business such as online.

type5 Configuration type is a combination type of fixed bandwidth, guarantee bandwidth and maximum bandwidth. it allows the user to have certain bandwidth, at the same time, the sum is no more than the biggest bandwidth user configuration.

fix fix Fixed bandwidth. This part of the fixed bandwidth is allocated to the user, even if the user does not use, the bandwidth also can not take up other users.

assure assure Guaranteed bandwidth. This part of the bandwidth allocation is allocated to the user, if the user is not used, other users can occupy this.

max max The maximum bandwidth. The bandwidth refers to a user can use the maximum value of the bandwidth.

In the type3 DBA template, the maximum bandwidth must be greater than or equal to that of bandwidth.

In the type3 DBA template, the maximum bandwidth must be greater than or equal to the sum of the fixed bandwidth and ensure bandwidth.

【Description】

This command is used to increase the DBA (Dynamic Bandwidth the Assignment) template. It is achieved conflict and control of the ONU uplink Bandwidth by the DBA (Dynamic Bandwidth Allocation) technology. The DBA template defines the access bandwidth of the ONU uplink, according to the ONU uplink sudden traffic demand, equipment adjust dynamically the uplink access bandwidth assigned to them, improving the utilization efficiency of uplink bandwidths in PON system. When the default DBA template will not be able to meet the needs of the business, you can add a DBA template by this command.

【Example】

The dba template 10 is type5, fixed bandwidth is 5 mbit/s, guarantee the bandwidth is 10 mbit/s, maximum bandwidth is 30 mbit/s

OLT(dba-profile-10)# type5 fix 5120 assure 10240 max 30720

15.3 show dba-profile

【Command】

show dba-profile (all | **profile-id** *profile-id* | **profile-name** *profile-name*)

【View】 config view

【Parameter】

all: Query all of the dba-template information in system

profile-id *profile-id*: Query the dba-template information of specified ID

profile-name *profile-name*: Query the dba-template information of specified name

【Description】

This command is used to query the DBA template information in system, DBA template describes line's traffic parameter, ONT allocated dynamic bandwidth by binding the DBA template, improving the utilization efficiency of uplink bandwidths.

【Example】

View all of DBA template under olt

OLT(config)# show dba-profile all

```

-----
Profile ID      Profile Name      Type  Fix      Assure      Max      Bind
(kbps)         (kbps)           (kbps)      (kbps)    times
-----
10             dba-profile_10    5      2048     2048        10240    0
20             dba-profile_20    2       0        128          0         0
-----
Total: 2

```

【Example】

View DBA template, its profile-id is 10

OLT(config)# show dba-profile profile-id 10

```

-----
Profile ID      : 10
Profile Name    : dba-profile_10
Type           : 5
Fix(kbps)      : 2048
Assure(kbps)   : 2048
Max(kbps)      : 10240
Bind Times     : 0
-----

```

15.4 commit

【Command】

commit

【View】 dba-profile view

【Parameter】

【Description】

This command is used to submit the current dba-template configuration, only submit successfully, all of the dba template parameters configuration will only take effect.

【Example】

Submit the current dba template configuration

```
OLT(dba-profile-10)# commit
```

16.ONT configuration of the line template

16.1 ont-lineprofile

【Command】

ont-lineprofile (profile-id profile-id | profile-name profile-name)

no ont-lineprofile (profile-id profile-id | profile-name profile-name)

【View】 config view

【Parameter】

profile-id : Line template number of EPON ONT, it is used to identify uniquely a line template

profile-name : Line template name of EPON ONT, The default template name is " line - profile_x", "x" is the actual template number.

【Description】

ont-lineprofile :Command is used to create and enter the ONT-line template pattern, or enter the created the ONT line template pattern. the ONT line template describes the binding relations of T - CONT and DBA template, the QoS model of business flow, the mapping relationship of the GEM Port and ONT business, it is mainly used to configure information about the DBA, T - CONT and GEM Port, After the command executed successfully, you can enter into the corresponding EPON ONT line template configuration mode, and set the related properties in the ONT line template.

【Example】

Create the EPON ONT line template whose id is 10, it can be referenced when adding ONT.

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

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

16.2 llid

【Command】

lclid *lclid-list* ([[**dba-profile-id** *profile-id* | **dba-profile-name** *profile-name*]) | [**encrypt** (**off** | **triple-churning**)] | [**ont-car** *Profile-id*])

no lclid *lclid-list* ([**dba-profile**] | [**ont-car**])

【View】 config view

【Parameter】

profile-id: Line template number of EPON ONT, it is used to identify uniquely a line template

profile-name: Line template name of EPON ONT, The default template name is " line - profile_x", "x" is the actual template number.

lclid-list: Logic Link ID

【Description】

lclid : This command is used to set up DBA model, flow control template and encryption switch of epon lclid in the line template, when you need to config uplink bandwidth, flow control, the encryption parameters for a batch of ont by the ont-line-template, you can use this command. After the command executes successfully, through the [commit](#) command to submit ONT business templates, configuration parameters can be issued to the ONT in batch.

【Example】

The downward flow is encrypted about dba-profile-1 in ont-lineprofile-10

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

```
OLT(config-ont-lineprofile-10)# lclid 1 dba-profile-id 1 encrypt triple-churning
```

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

Delete DBA template and flow control template of ont-lineprofile-10

```
OLT(config-ont-lineprofile-10)# no lclid 1 dba-profile
```

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

16.3 fec

【Command】

fec(**enable** | **disable**)

【View】 config view

【Parameter】

enable: enable FEC

disable: disable FEC

【Description】

This command is used to set the switch state of the line template ONT FEC (Forward Error Correction), when you need to increase the reliability of data transmission that is between OLT and ONT, you can use this command to modify the template parameters of FEC. after ONT FEC function enable, the system inserted into the redundant data in the normal message, it make the line has the function of the fault tolerance, but it will waste bandwidth resources.

【Example】

Open the function of the FEC in 10 line template

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

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

OLT(config-ont-lineprofile-10)#

16.4 show ont-lineprofile

【Command】

show ont-lineprofile (all | **profile-id** *profile-id* | **profile-name** *profile-name*)

【View】 config view

【Parameter】

all: Query all of the line template information

profile-id : Query the line template of the specified number

profile-name : Query the line template of the specifiedname

【Description】

This command is used to query the line template information which has been created.

【Example】

Query all of line profile configuration

OLT(config)# show ont-lineprofile all

```

-----
Profile-ID  Profile-name                                     Binding times
-----
1           lineprofile_1                                   66
2           lineprofile_2                                   0
3           lineprofile_3                                   0
10          lineprofile_10                                  0
512        lineprofile_512                                0
-----

```

16.5 show ont-lineprofile current

【Command】

show ont-lineprofilecurrent

【View】 lineprofile view

【Parameter】

【Description】

Show the current line profile information

【Example】

Show the current line-profile-10 information

OLT(config-ont-lineprofile-10)# show ont-lineprofile current

```

-----
Profile-ID   : 10
Profile-name : lineprofile_10
Binding times : 0
-----

```

FEC switch : Enable

LLID Encrypt type DBA Profile-ID Traffic-CAR-ID

17.ONT business template configuration

17.1 ont-srvprofile

【Command】

ont-srvprofile (profile-id *profile-id* | profile-name *profile-name*)

no ont-srvprofile (profile-id *profile-id* | profile-name *profile-name*)

【View】 config view

【Parameter】

profile-id : The serial number of EPON ONT business template .If you do not specify a template ID, then the system will assign automatically a template ID and enter the corresponding mode.

profile-name : The name of EPON ONT businesstemplate. The default template name is the SRV - profile_x, "x" is a template number.

【Description】

Command is used to create and enter the EPON ONT business template pattern or enter a created EPON ONT business template pattern. Template for EPON ONT business OMCI (ONT Management and Control Interface) way to manage the ONT provide business channels configuration. ONT relevant properties are configured centrally on business templates, when processing the same business configuration of ONT, it only once and saves the configuration work. When the ONT management mode is the OMCI, when adding ONT ,you need bind the business templates of EPON ONT; if not specified, the system will automatically bind ONT to the default business template 0. After the command executed successfully, you can set the relevant properties of business template in the corresponding EPON ONT business template.

【Example】

To create the EPON ONT business template with ID10, you can be referenced when adding ONT.

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

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

【Example】

Delete the EPON ONT business template with ID 10

```
OLT(config)# no ont-srvprofile profile-id 10
```

17.2 ont-port

【Command】

ont-port (eth *eth* | pots *pots*)

【View】 srvprofile view

【Parameter】

eth eth: The number of Ethernet ports on the ONT

pots pots: The number of voice ports on the ONT.

【Description】

This command is used to set the port capacity of business template on the ONT, namely that is port number of each type port . port capacity of ONT must be consistent with actual ability. The port number is 0 by default

【Example】

The port number of ETH is 4,and the port number of POTS is 1 in ont-srvprofile-10
OLT(ont-srvprofile-10)# ont-port eth 4 pots 1

17.3 port vlan

【Command】

port vlan eth port-list translationvlan-iduser-vlanvlan-id

port vlan eth port-list transparent

port vlan eth port-list vlan-id

no port vlan eth port-list vlan-id

【View】 srvprofile view

【Parameter】

eth port-list: It is port list of the ONT, When you need to batch configuration VLAN of the ONT port, use this parameter.

translationvlan-iduser-vlanvlan-id: it is the user side vlan

vlan vlan-id: add ONT port into the specified vlan

【Description】

port vlan : Command is used to configure the port vlan of the ONT user side on the EPON ONT business templates, ONT port will be divided into the specified VLAN, in order to process the vlan tag of data packets form in and out of the port

no port vlan : This command is used to delete port VLAN of the ONT user side on the business templates.

【Example】

Add ETH port 1 into vlan 10 on the ont-srvprofile-10,
OLT(ont-srvprofile-10)# port vlan eth 1 10

On the ont-srvprofile-10, The vlan mode of ETH port 2 is Set to transparent
OLT(ont-srvprofile-10)# port vlan eth 2 transparent

On the ont-srvprofile-10, the vlan mode of ETH port 2 is set to translation, vlan 100 translate to vlan 200.

OLT(ont-srvprofile-10)# port vlan eth 1 translation 100 user-vlan 200

17.4 port eth

【Command】

```
port eth ont-portid ( [ds-policing (traffic-table-index| unconcern)] | [group-num-maxnum]
|[ multicast-tagstrip ( tag | untag )] | [up-policing (traffic-table-index| unconcern)] |
[max-mac-count ( num |unlimited)])
```

no

【View】 srvprofile view

【Parameter】

ont-portid: the port ID of ont

up-policing*traffic-table-index*: Traffic profile for downstream The table of upward flow on the ETH port

ds-policing*traffic-table-index*: Traffic profile for upstream

Unconcern: Don't focus on flow control of ETH port

multicast-tagstrip: Configure the VLAN tag processing mode for,there are two processing modes:

- untag: strip off VLAN Tag of multicast downstream data packets
- tag: To passthrough multicast downstream data packets

max-mac-count*num*: Set the maximum number of MAC addresses learned , When value reaches ceiling, port is no longer to learn the new MAC address.

Unlimited: Unlimiting the maximum number of MAC addresses learned

Group-num-max *num*:Set the maximum number of multicast group allowed.

【Description】

This command is used to set ONT business of the Ethernet ports in the template parameters, including the flow control of the TDD Ethernet port, the learning maximum number of MAC addresses, the processing methods of multicast message TAG data, the VLAN mode on ports, the maximum number of multicast you allow properties, etc. When you need to modify the Ethernet port parameters of the ONT business template, use this command.

【Example】

The index of downward flow is 1 on the ETH 1, the VLAN Tag way of the multicast data packets is the Tag, the largest learning number of MAC address is 64, the maximum number of multicast program allows is 100.

```
OLT(config-ont-srvprofile-10)# port eth 1 ds-policing 1 multicast-tagstrip tag max-mac-count 64
group-num-max 100
```

17.5 show ont-srvprofile

【Command】

```
show ont-srvprofile (all | profile-id profile-id | profile-name profile-name)
```

【View】 config view

【Parameter】

all: Show all ONT service profiles, including profile ID ,name,number of bound and so on.

profile-id *profile-id*: Show detailed information of specific Service profile ID 查询指定 ID EPON ONT 业务模板的详细信息。

profile-name profile-name: Show detailed information of specific Service profile name

【Description】

Show information of epon ONT service profiles

【Example】

Show information of epon ONT service profile 1

OLT(config)# show ont-srvprofile profile-id 1

```
-----
Profile-ID      : 1
Profile-name    : srvprofile_1
Binding times  : 66
-----
```

```
-----
Port-type      Port-number
-----
```

```
ETH           4
POTS          0
-----
```

```
-----
Multicast fast leave switch      : Disable
Ring check switch                : Disable
-----
```

```
-----
Port  Port Up-traffic Down-traffic MAC-learn
type  ID   CAR-ID   CAR-ID   count
-----
```

```
ETH  1  0     0     Unlimited
ETH  2  0     0     Unlimited
ETH  3  0     0     Unlimited
ETH  4  0     0     Unlimited
-----
```

```
-----
Port  Port Multicast  Multicast  Multicast  Multicast
type  ID   S-VLAN    C-VLAN    tag-strip  group-num
-----
```

```
ETH  1  -     -     Tag     64
ETH  2  -     -     Tag     64
ETH  3  -     -     Tag     64
ETH  4  -     -     Tag     64
-----
```

```
-----
Port  Port Service-type Index S-VLAN C-VLAN
type  ID
-----
```

```
ETH  1  Transparent -     -     -
ETH  2  Translation 1     1     1
ETH  3  Translation 1     1     1
ETH  4  Translation 1     1     1
-----
```

17.6show ont-srvprofile current

【Command】

show ont-srvprofile current

【View】 srvprofile view

【Parameter】

【Description】

Show the current information of service profile

【Example】

Show the current information of service profile 1

OLT(config-ont-srvprofile-1)# show ont-srvprofile current

```

-----
Profile-ID      : 1
Profile-name    : srvprofile_1
Binding times   : 66
-----

```

```

-----
Port-type      Port-number
-----

```

```

ETH            4
POTS           0
-----

```

```

-----
Multicast fast leave switch      : Disable
Ring check switch                 : Disable
-----

```

```

-----
Port  Port Up-traffic Down-traffic MAC-learn
type  ID   CAR-ID   CAR-ID   count
-----

```

```

ETH  1  0     0     Unlimited
ETH  2  0     0     Unlimited
ETH  3  0     0     Unlimited
ETH  4  0     0     Unlimited
-----

```

```

-----
Port  Port Multicast  Multicast  Multicast  Multicast
type  ID   S-VLAN   C-VLAN   tag-strip  group-num
-----

```

```

ETH  1  -     -     Tag     64
ETH  2  -     -     Tag     64
ETH  3  -     -     Tag     64
ETH  4  -     -     Tag     64
-----

```

```

-----
Port  Port Service-type Index S-VLAN C-VLAN
type  ID
-----

```

```

ETH  1  Transparent - - -
ETH  2  Translation 1  1  1
ETH  3  Translation 1  1  1
-----

```

ETH 4 Translation 1 1 1

17.7 commit

【Command】

commit

【View】 `srvprofile view`

【Parameter】

【Description】

This command is used to submit the current configuration of business template , it is not until this command submit that parameter configuration will take effect to all the business templates, line template and the alarm strategy template.

【Example】

Submit the current business template configuration

OLT(ont-srvprofile-10)# commit

18.ONT management

18.1 ont add

【Command】

ont add *port-id***ont-id****mac-authaddress** **ont-lineprofile-id** *ont-lineprofile-id***ont-srvprofile-id**
ont-srvprofile-id

【View】 `epon view`

【Parameter】

port-id: Specify the EPON port number of the new ONT

ont-id: The specified ONT number.

mac-authaddress: ONT authentication is Specified as MAC address authentication, OLT will judge whether the MAC address of the ONT is consistent with the configuration, if yes, certification through and ONT normal online.

ont-lineprofile-id *ont-lineprofile-id*: The specified ONT binding line template ID

ont-srvprofile-id *ont-srvprofile-id*: The specified ONT binding business template ID

【Description】

This command is used to add the ONT and specify the configuration data for ONT. It is mainly used to increase the off-line ONT, and configure their business in the case of ONT do not online. When ONT is not online, configuration are saving temporarily in the business veneer;once ont online, the configuration are issued to ONT by ONT management protocol, completed the configuration process.

【Example】

In EPON OLT PON port 1, add a ONT, the specified number of the ont is 2, use the MAC authentication, its certification serial number is the 22:22:22:22:22:22, and the binding line

template 10, the binding business template10.

```
OLT(interface-epon)# ont add 1 2 mac-auth 22:22:22:22:22:22 ont-lineprofile-id 10 ont-  
srvprofile-id 10
```

18.2 ont confirm

【Command】

```
ont confirm port-id mac-auth mac ont-lineprofile-id ont-lineprofile-id ont-srvprofile-id  
ont-srvprofile-id
```

```
ont confirm port-id all mac-auth ont-lineprofile-id ont-lineprofile-id ont-srvprofile-id  
ont-srvprofile-id
```

【View】 epon view

【Parameter】

port-id: The EPON port number of the confirmed ONT.

all: Batch to confirm all automatically discover ONT under the EPON port

sn-auth sn-value: Specifies the MAC of the ONT authentication.

ont-lineprofile-id ont-lineprofile-id: The specified number of the ONT binding line template

ont-srvprofile-id ont-srvprofile-id: The specified number of the ONT binding business template

【Description】

This command is used to confirm ONT under automatic found condition. If OLT enable find automatically, OLT will get ONT the registration information after add the ONT, and ONT is in a state of discovery automatically. The command Can be used to batch certified ONT.

【Example】

Confirm all of automatically found ONT under EPON OLT PON port 1, and bind the ONT line template10,.

```
OLT(interface-EPON)# ont confirm 1 all sn-auth ont-lineprofile-id 10 ont-srvprofile-id 10
```

Number of ONTs that can be added: 2, success: 2

18.3 ont cancel

【Command】

```
ont cancel port-id(all | mac)
```

【View】 epon view

【Parameter】

port-id: The port number of EPON needed to delete

all: Cancel all of ont found under EPON port

mac: The MAC address needed to cancel

【Description】

This command is used to cancel ont under found automatically status

【Example】

Cancel all of ont found automatically under PON1 port
OLT(interface-EPON)# ont cancel 1 all

18.4 ont delete

【Command】

ont delete *port-id*(all | *ont-id*)

【View】 epon view

【Parameter】

port-id: The port number of EPON needed to delete

all: Delete all configure business of ONT under EPON port

ont-id: The number of ONT needed to delete

【Description】

This command is used to delete the ONT. Deleted ONT will be deleted the configuration information of the ont, and online ONT will be forced to offline.

【Example】

Delete ONT whose number is 2 under the PON1 port

```
OLT(interface-EPON)# ont delete 1 2
```

Delete all not configure business ONT under EPON port

```
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

18.5 ont description

【Command】

ont description *port-id**ont-id* *describe-value*

【View】 epon view

【Parameter】

port-id: The EPON port number of ONT that need to add description

ont-id: The number of ONT that need to add description

describe-value: the description information of ont

【Description】

This command is used to add description information about ont , in order to manage

【Example】

Add description to ont1 on the pon1, the description is C-DATA

```
OLT(interface-EPON)# ont description 1 1 C-DATA
```

18.6 ont autofind

【Command】

ont autofind *port-id*switch

【View】 epon view

【Parameter】

port-id: The PON port number that need to open the function of ONT automatically find

switch: the switch of ONT automatically find ,value : enable, disable

【Description】

This command is used to open or close automatic found ONT under the PON port of EPON OLT

【Example】

Open the function of automatic found ONT under the PON port 1

```
OLT(interface-EPON)# ont autofind 1 enable
```

18.7 ont active

【Command】

ont active *port-id*(all | *ont-id*)

【View】 epon view

【Parameter】

port-id: The PON port number of the ONT needed to activate

all: Used to volume active ONT

ont-id: Used to active specified ONT on the PON port

【Description】

This command is used to activate the unactivatedONT. ONT can work normally only in the activated state. By default, ONT is activated.

【Example】

Active ont 1 on the PON 1

```
OLT(interface-EPON)# ont activate 1 1
```

Activateall of unactiveted ONT on the PON1

```
OLT(interface-EPON)# ont activate 1 all
```

Number of ONTs that can be activated: 1, success: 1

18.8 ont deactivate

【Command】

ont deactivate *port-id*(all | *ont-id*)

【View】 epon view

【Parameter】

port-id: The PON port number of the ONT needed to deactivate

all: Used to volume deactivate ONT

ont-id: Used to deactivate specified ONT on the PON port

【Description】

This command is used to deactivate the ONT. ONT can work normally only in the activated state. Don't need ONT normal work, you can use this command to deactivate ONT. By default, ONT is activated.

【Example】

Deactive ont 1 on the PON 1

```
OLT(interface-EPON)# ont deactivate 1 1
```

Deactivateall of activated ONT on the PON1

```
OLT(interface-EPON)# ont deactivate 1 all
```

Number of ONTs that can be deactivated: 1, success: 1

18.9 ont modify

【Command】

ont modify *port-idont-id ont-lineprofile-id ont-lineprofile-id ont-srvprofile-id ont-srvprofile-id*

【View】 epon view

【Parameter】

port-id: The PON port number of ONT that need to change template

ont-id: The ONT number that need to change template

ont-lineprofile-id: The number of line template that need to rebinding

ont-srvprofile-id: the number of business template that need to rebinding

【Description】

This command is used to change the ONT binding line template and business template.

【Example】

Change the binding business template of the ont 1 on the PON2

```
OLT(interface-EPON)# ont modify 2 1 ont-srvprofile-id 200
```

18.10 ont reboot

【Command】

ont reboot *port-id (all | ont-id)*

【View】 epon view

【Parameter】

port-id: The PON port number of ONT that need to restrat

all: Restrat all of ONU on the PON port

ont-id: The number of ONT that need to restart

【Description】

This command is used to restart ONU

【Example】

Restart ONU 1 on the PON2

OLT(interface-EPON)# ont reboot 2 1

18.11 ont ipconfig

【Command】

ont ipconfig *port-id* **ont-id** **ip-address** *ip* **mask** *mask* **gateway**
gateway **manage-vlan** *manage-vlan* **Service-VLAN ID**.

【View】 epon view

【Parameter】

port-id: The PON port number of ONT that need to restrat

ont-id: The number of the ont that need to restart

Ip: the ip address of the ont

Mask: ip address mask

Gateway: the gateway address of device

Manage-vlan: manage-vlan

Service-vlanid service-vlanid

【Description】

This command is used to config the ip address gateway of ont

【Example】

Config the ip address of PON13 interface is 192.168.2.12/24,gateway is 192.168.2.254,manage-vlan is 10,server-vlan is 10.

```
OLT(config-interface-epon)# ont ipconfig131 ip-address 192.168.2.12 mask 255.255.255.0
gateway 192.168.2.254 manage-vlan 10 10
```

18.12 ont port attribute

【Command】

ont port attribute *portid* *ontid* **ethont-portid** ([**up-policing**(*traffic-table-index* | **unconcern**)] | [**ds-policing**(*traffic-table-index* | **unconcern**)])

ont port attribute *portid* *ontid* **ethont-portid** **flow-control** (**on** | **off**)

ont port attribute *portid* *ontid* **ethont-portid** **operational-state** (**on** | **off**)

【View】 epon view

【Parameter】

port-id: The PON port number of ONT that need to restrat

ont-id: The number of the ont that need to restart

Ont-portid:the Ethernet portof the ONT

flow-control (**on** | **off**): Closing and opening the function offlow control.

operational-state (**on** | **off**): Opening and closingthe operation state of the ONT port

up-policing *traffic-table-index*: The traffic-table-index of up-policing on the ETH port .you can

use this command ,when you need to set up-policing.

ds-policing traffic-table-index: The traffic-table-index of down-policing on the ETH port .you can use this command ,when you need to set down-policing.

Unconcern: Unconcern the flow control of the ETH port

【Description】

This command is used to control the port state ,flow control ,traffic rate-limiting of the ont.

【Example】

Closing the state of ont with ontid 1 and eth 1 on the PON13

```
OLT(config-interface-epon)# ont port attribute 13 1 eth 1 operational-state off
```

Closing the flow –control of ont with ontid 1 and eth 1 on the PON13

```
OLT(config-interface-epon)# ont port attribute 13 1 eth 1 operational-state off
```

18.13 ont port native-vlan

【Command】

ont port native-vlan portid ontid eth ont-portid vlan vlan-id

【View】 epon view

【Parameter】

port-id: The PON port number of ONT that need to restrat

ont-id: The number of the ont that need to restart

Ont-portid:the Ethernet portof the ONT

Vlan-id: the native-vlanid of port

【Description】

This command is used to control the pvid of the ONT port

【Example】

Set the ONTID of pon13 interface is 1 , eth is 1 ,and pvid is 10

```
OLT(config-interface-epon)# ont port native-vlan 13 1 eth 1 vlan 10
```

18.14 show ont info

【Command】

show ont info port-id(ont-id| all)

【View】 config view、 epon view

【Parameter】

port-id: The PON port number of the ont that need to query

ont-id: The number of ont that need to query

all: you can use this command to query all of ONT relevant information under a port, the list displays the current state of all ONT.

【Description】

This command is used to query the ont’s information (including the current

status ,the configuration and t-conut about ont)

Port: The PON port number of ONT on the OLT

ONT ID: The specified serial number of ONU.

MAC: The MAC address of the ONU

Control flag:

active: ONT is activated , ONT can work normally only in the activated state.

deactive: ONT is unactivated

Run state: It is running-remark , including “online” and “offline”,normal online is “online”.

Config state: After ONT online normally, It is remark whether ont issued and restore configuration .there are three states: “initial”, “failed”and “Success”

initial: ONT is in configuration-issuancing or the configuration-recovering.

failed: . it is fail that configuration issued or recovery

Success: . it is successful that configuration issued or recovery

【Example】

Query all of the ONT relevant information on the PON1

OLT(config)# show ont info 13 1

```

-----
PORT-ID          : 13
ONT-ID           : 1
Control flag     : Active
Run state        : Online
Config state     : Success
Match state      : Mismatch
ONT distance(m) : 6
MAC              : E0:67:B3:AA:BB:0C
Description      :
-----

Profile-ID       : 1
Profile-name     : lineprofile_1
Binding times    : 66
-----

FEC switch       : Enable
-----

LLID  Encrypt type  DBA Profile-ID  Traffic-CAR-ID
1     Off           1                -
-----

Profile-ID       : 1
Profile-name     : srvprofile_1
Binding times    : 66
-----

Port-type       Port-number
-----
ETH             4

```

POTS 0

Multicast fast leave switch : Disable
Ring check switch : Disable

Port type	Port ID	Up-traffic CAR-ID	Down-traffic CAR-ID	MAC-learn count
-----------	---------	-------------------	---------------------	-----------------

ETH	1	0	0	Unlimited
ETH	2	0	0	Unlimited
ETH	3	0	0	Unlimited
ETH	4	0	0	Unlimited

Port type	Port ID	Multicast S-VLAN	Multicast C-VLAN	Multicast tag-strip	Multicast group-num
-----------	---------	------------------	------------------	---------------------	---------------------

ETH	1	-	-	Tag	64
ETH	2	-	-	Tag	64
ETH	3	-	-	Tag	64
ETH	4	-	-	Tag	64

Port type	Port ID	Service-type	Index	S-VLAN	C-VLAN
-----------	---------	--------------	-------	--------	--------

ETH	1	Translation	1	1	1
ETH	1	Translation	2	10	10
ETH	2	Translation	1	1	1
ETH	3	Translation	1	1	1
ETH	4	Translation	1	1	1

18.15 show ont autofind

【Command】

show ont autofind *port-id*(all | *macmac-value*)

【View】 epon view

【Parameter】

port-id: The PON port number of ONT that need to query

macmac-value: To query the system automatically found ONT by assign a MAC address

all: Query all of ONTs that are found automatically under the PON port

【Description】

This command is used to query the basic information of the system, which is currently in the automatic found ONT. After add ont , you can use this command to see the information of MAC

and the discover automatically time.

【Example】

Query all of ONTs that are found automatically under the PON 1

```
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

18.16 show ont capability

【Command】

show ont capability port-idont-id

【View】 epon view

【Parameter】

port-id: The PON port number of ONT that need to query capability.

ont-id: The number of ONT that need to query capability

【Description】

This command is used to query the hardware-capacitioninformation of online ONT on the PON port, includingthe type and number of the ONT port, etc.

【Example】

Query the capability of ont1 on the 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

```
-----
```

18.17 show ont config-capability

【Command】

show ont config-capability port-idont-id

【View】 epon view

【Parameter】

port-id: The PON port number of ONT that need to query capability.

ont-id: The number of ONT that need to query capability

【Description】

This command is used to query the user configuration capabilities of ONT. Check whether ability match by comparing the user configuration capabilities with real ability

【Example】

Query the user configuration capabilities of the ONT 1 on the PON13

of ont 1 on the 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  
-----
```

18.18 show ont optical-info

【Command】

show ont optical-info *port-id**ont-id*

【View】 epon view

【Parameter】

port-id: the PON port number of ONT that need to query the light-module information

ont-id: the number of ONT that need to query light module

【Description】

This command is used to query the relevant information of the ONT light-module on the PON port. Usually during the routine maintenance and troubleshooting of ONT, you can use this command to query ONT light module information, in order to determine whether the ONT light module is normal.

【Example】

Query the light-module information of ont1 on the 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  
-----
```

18.19 show ont version

【Command】

show ont version *port-idont-id*

【View】 epon view

【Parameter】

port-id: The PON port number of the ont that need to query

ont-id: The number of ont that need to query

【Description】

This command is used to query the relevant information of ONT version, you can query the software and hardware versions of ONT, manufacturers and so on.

【Example】

Query the version information of ont1 on the PON 13

```
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  
-----
```

19 log management

19.1 loghost add

【Command】

loghost add *ip-addrhost-name*

【View】 config view

【Parameter】

ip-addr: The IP address of syslog server

host-name: The name of syslog server.it is different from other server,and used to uniquely identify a syslog server

【Description】

This command is used to add syslog server, Equipment operation will produce large amounts of log information, and the device storage space is relatively limited,so some important information

of equipment can record on host by syslog mechanism.

【Example】

Add syslog server named log,and its ip address is 192.168.1.223.

```
OLT(config)# loghost add 192.168.1.223 log
```

Successfully add syslog host!

19.2 loghost delete

【Command】

loghost delete (ip-addr ip-addr host-name host-name)

【View】 config view

【Parameter】

ip-addr: The ip address of syslog server

host-name: The name of syslog server, it is different from other server, and used to uniquely identify a syslog server

【Description】

This command is used to delete log host, When a log host IP address change or no longer use, you can use this command. Deleted successfully, you can set other hosts to log or resetting the IP address of the original log host.

【Example】

Delete log host whose ip address is 192.168.1.223

```
OLT(config)# loghost delete ip-addr 192.168.1.223
```

Successfully delete syslog host!

19.3 loghost activate

【Command】

loghost activate (ip-addr ip-addr host-name host-name)

【View】 config view

【Parameter】

ip-addr: The ip address of syslog server

host-name: The name of syslog server, it is different from other server, and used to uniquely identify a syslog server

【Description】

This command is used to activate the log host. When you need setting the log host information output control level or the output switch state,you can use this command to activate log host. Untill log host is activated successfully, the system didn't report log information to the corresponding log host.

【Example】

Active log host whose ip address is 192.168.1.223

```
OLT(config)# loghost activate ip-addr 192.168.1.223
```

Successfully activate syslog host!

19.4 loghost deactivate

【Command】

loghost deactivate (ip-addr ip-addr host-name host-name)

【View】 config view

【Parameter】

ip-addr: The ip address of syslog server

host-name: The name of syslog server, it is **different from other server**, and used to uniquely identify a syslog server

【Description】

This command is used to deactivate log host, When an active log host don't need temporarily, or need to modify activated state of this log host, you can use this command. After successful to activate a log host, the system is no longer report log information to the log host.

【Example】

Deactive log host whose ip address is 192.168.1.223

```
OLT(config)# loghost deactivate ip-addr 192.168.1.223
```

Successfully deactivate syslog host!

19.5 show loghost list

【Command】

show loghost list

【View】 config view

【Parameter】

【Description】

This command is used to query configuration information of syslog server, including ip address, host name, status of syslog server.

【Example】

Query all of information about syslog server

```
OLT(config)# show loghost list
```

```
-----  
IP address      Host name      Terminal state  
192.168.1.223  log            inactive  
-----
```

19.6 syslog priority

【Command】

syslog priority *severity*

【View】 config view

【Parameter】

severity: level

the fifth: critical

the forth: error

the third: arning

the second: notice

the first: debug

【Description】

This command is used to set the level of olt log,OLT will only output logging information whose level is equal to or greater than the current system log level . If the log level is set to the highest levels, the OLT will only output log information of the critical level,if the log level is set to notice, OLT can output logging information of critical, error, warning, notice level. notice isrecommended

【Example】

Setting the severity of syslog priority is notice

OLT(config)# syslog priority notice

19.7 show syslog priority severity

【Command】

show syslog priority severity

【View】 config view

【Parameter】

【Description】

This command is used to query the log level of current configuration

【Example】

Query the log level of current configuration

OLT(config)# show syslog priority severity

Syslog priority severity: notice

19.8 backup log

【Command】

backup log ftp *server-ip-address user-name user-password filename*

【View】 config view

【Parameter】

server-ip-address : The ip address of ftp server

user-name : The username of ftp server

user-password : The password of ftp server

filename : the file name of saved log

【Description】

This command is used to manually save log to the FTP server

【Example】

Save log to ftp server,the ip address of ftp server is 192.168.1.223,username is admin,password is admin.

```
OLT(config)# backup log ftp 192.168.1.223 admin admin logback
```

Start backup log files

The backup is successful

19.9 terminal debugging

【Command】

terminal debugging

no terminal debugging

【View】 config view

【Parameter】

【Description】

This command is used to enable debug output to the current terminal line, when the user need monitor debugging information,you can use this command. After this command is executed successfully, debugging information can be output in terminal command line interface.

【Example】

Enble debug output to the current terminal line

```
OLT(config)# terminal debugging
```

Current terminal debugging is on

19.10 show terminal debugging

【Command】

show terminal debugging

【View】 config view

【Parameter】

【Description】

show terminal debuggingthis command is used to view weather enable terminal output debugging

【Example】

view weather enable terminal output debugging

```
OLT(config)# show terminal debugging
```

Current terminal debugging is ON.

19.11 erase log

【Command】

erase log

【View】 config view

【Parameter】

【Description】

Erase log information of the olt

【Example】

view device information

OLT(config)# erase log

19.12 show alarmhistory

【Command】

show alarmhistory

【View】 enable view、 config view

【Parameter】

【Description】

This command is used to query the alarm history information

【Example】

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!

19.13 show alarmpriority

【Command】

show alarmpriority

【View】 config view

【Parameter】

【Description】

This command is used to query the alarm priority

【Example】

OLT(config)# show alarm priority

Alarm priority severity: error

19.14 alarm priority

【Command】

alarm priority (critical | error| notice | warning)

【View】 config view

【Parameter】

critical: Set the alarm level to dangerous levels

error: Set the alarm level to error level

notice: Set the alarm level to notice level

warning: Set the alarm level to warn level

【Description】

This command is used to alarm priority, OLT will only output logging information whose level is equal to or greater than the current system log level . If the log level is set to the highest levels, the OLT will only output log information of the critical level,if the log level is set to notice, OLT can output logging information of critical, error, warning, notice level. notice is recommended

【Example】

OLT(config)# alarm priority critical

Conclusion

Thanks to the use of the C-Data Technology Co. Ltd. Products!

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