GEPON 4/8 PON OLT

Web user manual

Version R1.0

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1 About the user manual

This user manual introduce WEB configuration based on 4/8 PON OLT

1.1 Manual conventions

Different striking signs are used in the user manual to indicate where special attention is required during operation. Below is the meaning of those signs.

signs	meaning
	Warning/attention
	Remind matters need pay attention to during operation.
	Instructions \ prompts
	Make necessary additions and instructions to the description of operations
	to avoid repeating common errors.

1-1 Symbol convention

format	meanings
Bold	Boldface represent the window name, menu name, button name and
	different variable input and Settings in graphical interface. Click "revise"
	access to "revise basic configuration" interface.
	Simple operation step concatenations. For example, open Start > control
-	panel > network connections successively.
Courier	Courier font text represents input result of the command and command
	line. for example:
	#Ping -t 192.168.0.1

<>	<> represents key press. For example, press <ctrl> + <alt> + <delete> simultaneous will access to task manager</delete></alt></ctrl>
	Window.

Table 1-2 graphic interface convention

The Illustration and relevant parameters in user manual is just a reference for guiding you how to config and use the device. There may some slightly difference, so please config the device according to actual situations.

2 Configuration and preparation

Before login config interface, please confirm the followings.

- The computer used for management have installed Ethernet card.
- To achieve the best display, suggest use Microsoft IE explore (9.0 or 9.0+ version) and make sure the resolution of the displayer is 1024 x 768.

2.1 config computer IP

When config device defaults, the steps are as follows (take windows 7 for example):

 click <start> button at lower left corner of the screen to enter start menu and choose <control panel>. Then click <network **status**> and<taste icon>, double click <**local connection** > icon at the same time. Local connection status window will come out as photo.

Connection	
IPv4 Connectivity:	No Internet access
IPv6 Connectivity:	No network access
Media State:	Enabled
Duration:	00:00:13
Speed:	1.0 Gbps
Activity —	
	– 💵 — Received
Sent —	655
Sent — Packets: 6	63 15

Figure 2-1 Local connection status

2. click the < property > button to enter the local connection

Intel(R) PRO/1	1000 MT Network Connection	n
		Configure
This connection uses	the following items:	
Client for Mi	crosoft Networks	
QoS Packet	Scheduler	2000
File and Prin	Iter Shanng for Microsoft Ne	tworks
	tocol Version & (TCP/IPv6)	
Link-Laver 1	Fopology Discovery Mapper	I/O Driver
🗹 🔺 Link-Layer 1	Topology Discovery Respon	der
	93 11 30 94 11 11 18 1 18 4	
	Uninstall	Properties
Install		
Install Description		
Install Description Transmission Cont	rol Protocol/Internet Protocol	ol. The default
Install Description Transmission Cont wide area network across diverse inte	rol Protocol/Internet Protocol protocol that provides com	ol. The default munication

properties window as below photo.

Figure 2-2 local connection properties

3. choose internet protocol version 4(TCP/IPv4), click <property> button

to enter internet protocol(TCP/IP property)window. Input IP address (choose any value in 192.168.1.1-192.168.1.99 and 192.168.1.101-192.168.1.254) and subnet mask (255.255.255.0),

click confirm button.

u can get IP settings assigned s capability. Otherwise, you r r the appropriate IP settings.	d automatically if your network supports need to ask your network administrator	
د. مار به ۲۵ ماراند ۲۵ مار		
Uptain an IP address auto	matically ss:	
IP address:	192.168.1.111	
- S <u>u</u> bnet mask:	255.255.255.0	
Default gateway:		
Obtain DNS server address	s automatically	
Use the following DNS service	ver addresses:	
Preferred DNS server:		
Alternate DNS server:		
Validate settings upon exi	t Ad <u>v</u> anced	

Figure 2-3 Internet protocol (TCP/IP property)

2.2 Check network

1.

Check network between computer and OLT as below tow steps:

click <start> button at lower left corner of the screen, choose

<run>,A dialog box appears as below:

🖅 Run			×
	Type the name of a prog resource, and Windows v	ram, folder, docun vill open it for you.	nent, or Internet
<u>O</u> pen:	cmd		
	ОК	Cancel	Browse

Figure 2-4 run window

Input ping 192.168.1.100 (use the IP address configured on OLT before), then click enter key. If dialog box appear below response, it means network is connected. Or please check network connection.

C:\Windows\system32\cmd.exe	
Microsoft Windows [Version 6.1.7600] Copyright (c) 2009 Microsoft Corporation. All rights reserved.	·
C:\Users\ssss>ping 192.168.1.100	
Pinging 192.168.1.100 with 32 bytes of data: Reply from 192.168.1.100: bytes=32 time=1ms TTL=64 Reply from 192.168.1.100: bytes=32 time<1ms TTL=64 Reply from 192.168.1.100: bytes=32 time<1ms TTL=64 Reply from 192.168.1.100: bytes=32 time<1ms TTL=64	
Ping statistics for 192.168.1.100: Packets: Sent = 4, Received = 4, Lost = 0 (0% loss), Approximate round trip times in milli-seconds: Minimum = Oms, Maximum = 1ms, Average = Oms	
C:\Users\ssss>_	
	-

Figure 2-5 Ping command

2.3 Login EPON OLT

1. input OLT management IP in address bar with IE explore (OLT IP address 192.168.1.100 by default)

2. input user name and password at login interface (OLT user name and password are both admin by default), click< login>, then you will enter OLT web management interface.

User Login		
UserName :		
Password :		
Login	Cancel	

Figure 2-6 OLT web login interface

3. WEB Configuration

3.1 Basic information

Web configuration of 4/8 PON OLT is divided into two parts: menu bar and configuration area. Click menu item in menu bar to enter corresponding configuration page, config what you need at configuration area and check device status or config information at the same time.

EPON-O		1 pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge1 ge3 ge5 ge ge2 ge4 ge6 ge	English丨中文 7 8 xge1 xge2 xge3 xge4
	System Info >> Basic Info				
- Basic Info	Basic Info				
- Running State	Product Name	EPON-OLT			
PON Port Info	Software Version	Version 1.1.2(18732:1	8699)		
Ports	SNMP OID	1.3.6.1.4.1.17409.2.3			
VI AN Config	Baud Rate	115200			
Trunk	RFC				
MSTP V	MAC Address	90c6.8215.000a			
EAPS L3 Interfaces L3 Forward SNMP System MGMT			Refresh Help		

Figure 3-1 Web configuration page

3.2 system information

Click system information at menu bar to check basic information

(item name, version etc) and run information (CPU and memory status).

EPON-O	LT 🛤	n1 pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge1 ge3 ge5 ge7 ge2 ge4 ge6 ge8	English 中文 或ei xge2 xge3 xge4
	System Info >> Running Si	tate			
- Basic Info	Running State				
- Running State	Running Time	DAY:0 HOUR:5 MIN:	8 SEC:34		
PON Port Info	CPU Usage	56.00%			
Ports	Memory Usage	19.72%			
VLAN Config			Refresh Help		
Trunk					
MSTP 🔍					
EAPS V					
L3 Interfaces					
L3 Forward					
SNMP V					
System MGMT					

Figure 3-2 run information

3.3 ONU MGMT

3.3.1 ONU Information

Click **ONU MGMT** >**PON5** (can only manage online PON port), you can check and configure ONU information, ONU registration information, ONU capability set.

					ge	1 ge3 ge5 ge7	English丨中文			
EPON-O	LT									
			point poinz poins point	pono pono p	oni pono ge.	2 ge4 ge6 ge6 xge1 x	gez xyes xye4			
	PON5 Inform	nation >> C	ONU information							
				PON5 's leg	gal list of ONU					
• pon1	PON PORT	ONU ID	ONU MAC	RunState	Config State	Description	Config			
• pon2	pon5	1	90:C6:82:15:0E:26	Online	Success	onu:1/5:1	Config			
 pon3 pon4 	pon5	2	54:93:59:00:D4:B3	Online	Success	onu:1/5:2	Config			
🤨 - pon5		F	irst Previus I	vext Last	Refresh H	lelp Current 0 Total 1				
 pon6 pon7 	ONU Inde	ex		1 🗸 (Ple	ase select a onu inde	ex to query capability of this onu)				
🕐 - pon8				Re	Refresh					
Ports	ONU-1 Ca	pability								
L2 Forward	ONU Id			1						
Trunk	ONU Type	9		SFU						
MSTP V	Number o	f uplink PON	I ports	1						
EAPS V	Number o	f POTS port	s	0						
L3 Interfaces	Number o	f CATV ports	5	0						
L3 Forward	Number o	f ETH GE DO	orts	1						
SNMP	Number o	f ETH FE po	irts	0						
System MGM1	Number o	f uplink quer	Jes	8						
	MAX num	ber of uplink	queues	8	8					
	Number o	f downlink a	ueues	4						
	MAX num	ber of down	link queues	4						
	Number o		and queues	4						
	Number o	ILLID		1						

Figure 3-3 ONU Management

3.3.2 ONU management and configuration

Click **config** under the ONU registration list, which can be used to config ONU description, VLAN etc.

EPON-0	pont pon2 pon3 p	D D on4 p	n5 pon6 pon7 pon8	ge1 g ge2 g	ge3 ge5 ge ge4 ge6 ge	Engl: 27 28 xge1 xge2 xg	ish丨甲文 mm mmm ge3 xge4
Suctom Info	PON5 Information >> ONU-1 Port-1 Inform	nation					
	ONU-1 Description Information						
 pon1 pon2 pon3 	Description Information	onu:1/4:0			(Less than	64 characters)	
 pon4 pon5 			Modify Refres	sh			
• pon6	ONU-1 Ethernet Port-1 Configuration						
• - pon8	ONU Ethernet Port	1 🗸					
Ports 🗸	VLAN MODE	tag	~				
L2 Forward	SVLAN ID		(1-40	094)			
VLAN Config	CVLAN ID		(1-40	094)			
MSTP			Modify Refres	sh			
EAPS	ONU-1 Ethernet Port-1 Information						
L3 Interfaces 🔍	VLAN Type		Transparent				
L3 Forward		O	NU:1 Port:1 VLAN Infor	rmation			
Sustem MCMT	Index		SVL	AN		CVLAN	
System MOMT						Help	Back

Figure 3-4 ONU information

3.4 L2 interface

3.4.1 Port management

Click Port>port setting, you can revise some properties. Such as

enable/disable port, port rate, enable/disable flow control, Jumbo frame,

port description etc. click <**Modify**>to save.

EPON-0	L	T		pon1 po	n2 pon3 po	1 [in4 p	on5 pon6	pon7 pon8	g I g	e1 ge3 g e2 ge4 g	ie5 ge ie6 ge8	7 3 Xç	English 中 pe1 xge2 xge3 xge4	文
Custom Info	Ports	>> Port	Setting											^
PON Port Info	Port	t Manag	ement Co	nfigurati	ion									
Ports	Port	t Range												
- Port Isolation	Por	t State		En	iable 💊	•								
- Storm Control	Spe	ed		10	g/full 💊									
L2 Forward	Flov	w Contro	1	ТХ	Enable 💊	RXE	nable 🗸							
VLAN Config	jum	bo-frame	9			(1500-1	3312)							
Trunk 🔍	Egr	ess ratel	s ratelimit (Unit.k, m, g,range:64-10485760 kbps)											
MSTP	Egr	ess burs	ess burst (Unit:k, m,range:32 kbit - 128 Mbit)											
CO EAPS	Ingr	ess rate	limit			(Unit:k、	m, g,ran	ge:64-10485	760 kbp	IS)				
L3 Interfaces	Ingr	ess burs	st		(Unit:k, m,range:32 kbit - 128 Mbit)									
SNMP V														
System MGMT	Des	cription							(Less th	an 256 chara	acters)			
								Modify						
		Dort	Port	Curr	Crossed	Traffic	Control	Egress ra	telimit	Ingress ra	telimit	jumbo-	Description	
		Port	State	State	speed	тх	RX	Ratelimit	burst	Ratelimit	burst	frame	Description	
		ge1	Enable	down	Auto	Disable	Disable	- 1	- 1	-	-	1500	-	
		ge2	Enable	down	Auto	Disable	Disable	-	-	-	-	1500	-	
		ge3	Enable	down	Auto	Disable	Disable	-	-	-	-	1500	-	
		ge4	Enable	down	Auto	Disable	Disable	-	-	-	-	1500		~
			Enable	down	Auto	Disable	Disable					4500		

Figure 3-5 port management

interface	Description							
Port range	choose L2 port which need modify property							
Port enable	open/close port state							
Port rate	Set port duplex state and port rate							
Flow control	enable/disable port flow congestion control							
Jumbo frame	set L2 port jumbo-frame value (1550 by default)							
egress	maximum actual forwarding speed of egress port							
rate-limiting								
egress burst	The maximum number of frames for egress port in a							
	burst transmission							

ingress	maximum actual forwarding speed of ingress port						
rate-limiting							
ingress burst	The maximum number of frames for ingress port in a						
	burst transmission						
Port	set L2 Port description						
description							

Table 3-1 port management



Note:

Please do not input port name manually in textbox. Revise port rate, egress rate-limiting, egress burst, ingress rate-limiting, ingress burst at aggregation port is invalid.

3.4.2 Port isolation

Click **Ports>port isolation**, check the ports in below lists to config port isolation. After configuration ports are isolated, the ports under VLAN cannot communicate. Click **<Modify>**to save.

EPON-O		pon2 pon3 pon4 pon5 pon6 pon7 pon8	English I 中义 gei ge3 ge5 ge7 ge2 ge4 ge6 ge8 xgei xge2 xge3 xge4
	Ports >> Port Isolation		~
System Into	Port Isolation Settings		
Ports	Port Range	ge1 pon1	
- Port Isolation	Enable Port Isolation	Disable V	
- Storm Control - Port Mirroring L2 Forward		Modify	
VLAN Config 🔍		Port	Enable Port Isolation
Trunk 🔍	V	ge1	Disable
MSTP V		ge2	Disable
EAPS V		ge3	Disable
L3 Interfaces		ge4	Disable
L3 Forward		ge5	Disable
System MGMT		ge6	Disable
		ge7	Disable
		ge8	Disable
		pon1	Disable
		pon2	Disable
		pon3	Disable
		pon4	Disable
		pon5	Disable
		DODE	Disable

Figure 3-6 port isolation

interface	Description
port range	choose L2 port need modify
Enable port	Open/close port isolation. Port isolation is closed by
isolation	default.

Sheet 3-2 port isolation

Example: as below figure , if config Ge1 and Ge2 under the same VLAN, user1 and user2 can communicate. But if Ge1 and Ge2 are added to port isolation, user1 and user2 can not communicate.



3.4.3 Broadcast storm restriction

A broadcast storm occurs when the host system responds to a packet that is constantly circulating on the Internet or trying to respond to an unresponsive system. Normally in order to change the situation, Requests or response groups are continuously generated, this will make situation worse. As the number of network groups increases, the congestion appears which will reduce the network performance even make it paralyzed.

Click **Ports> storm control**; check port to config relevant port restriction. Click **<Modify>** to save; click **<delete>** to restore the number of storm restriction by default.

EPON-OL	T	pon1 pon2	pon3 pon4 pon5 pon	ge1 ge3 ge5	English 中文 ge7 ge8 xge1 xge2 xge3 xge4
Por	ts >> Storm C	Control			
System Info	form Control	ond of			
PON Port Info		pon1			
- Port Setting	ort Range	Frable	٦		
- Port Isolation Br	roadcast	Disable		(0-100000 PPS)	
- Storm Control - Port Mirroring	ulticast	Disable		(0-100000 PPS)	
L2 Forward D	LF	Disable	•	(0-100000 PPS)	
VLAN Config			Modif	y Delete	
Trunk		Port	Broadcast(PPS)	Multicast(PPS)	DLF(PPS)
EADS		pon1	Disable	Disable	Disable
L3 Interfaces		pon2	Disable	Disable	Disable
L3 Forward		pon3	Disable	Disable	Disable
SNMP		pon4	Disable	Disable	Disable
System MGMT		pon5	Disable	Disable	Disable
		pon6	Disable	Disable	Disable
		pon7	Disable	Disable	Disable
		pon8	Disable	Disable	Disable
		ge1	Disable	Disable	Disable
		ge2	Disable	Disable	Disable
		ge3	Disable	Disable	Disable
		ge4	Disable	Disable	Disable

Figure 3-7 storm restriction

Interface	Description
port range	choose L2 port need modify
Broadcasting	Set broadcasting restriction PPS, range from 0 to
data packet	100000, disable by default
multicast data	Set multicast packet restriction PPS, range from 0 to
packet	100000, disable by default
unknown	Set unicast packet restriction PPS, range from 0 to
unicast packet	100000, disable by default

Sheet 3-3 storm restriction

case:



test device

- 1. Close OLT broadcasting restriction and send speed limit broadcast packet from testing equipment to the port 1, you will find if not control the broadcast packets received by other ports of DUT, the communication between DUT and PC will be influenced.
- 2. Only open broadcast control of port 1 and set value as 500, then send rate-limiting packet to the device connect to DUT port1, you will find the broadcasting packet received by other ports DUT is in the scope of storm control, but no impact on DUT.

3.4.4 Port mirror

Port mirror means copy the specific port message to mirror destination port. Mirror destination port will access flow analysis equipments. Users can use those equipments to analyze the flow received from destination port and to do network monitoring and trouble removal.

Click **ports>port mirror**; set monitoring port and mirror port

Shenzhen Baitong Putian Technology Co., LTD

EPON-O		pon1 pon2 pon3 g	bon4 pon	5 pon6 pon7 pon8	ge1 ge2	ge3 I ge4	ge5 de6	ge7	English丨中文 xge1 xge2 xge3 xge4		
	Ports >> Port Mirrorin	g									
PON Port Info	Port Mirroring	Port Mirroring									
Ports V	Mirroring Port										
- Port Setting	⊻ge1 √ge2 _ge3 _ge4 _ge5 _ge6 _ge7 _ge8 _pon1 _pon2										
- Port Isolation - Storm Control	pon3pon5pon6pon7pon8xge1xge2xge3xge4										
- Port Mirroring	Monitor Port		ge1 🗸								
L2 Forward	Direction		Both O R	eceive 🔿 Transmit							
VLAN Config			Ado	Modify	Delete						
MSTR	M	onitor Port		Mirroring	Port				Direction		
EAPS			1	Refresh Help	p						
L3 Interfaces											
L3 Forward											
SNMP V											
System MGMT											

Figure 3- 8 port mirror

Interface	Description
mirror port	Set port to be monitored, that is source port of flow
Monitoring	Set monitoring port, that is destination port of flow, to
port	connect flow monitoring and analysis equipment
Direction	Set the data acquisition direction of the monitored port



Note:

Modification can only change the data acquisition direction value,

which is called direction.



Configure port 3 to monitor port 2 receive packets; PC2 sends packets to PC1, then PC3 on port3 can receive packets sent by PC2.

3.5 L2 forward

3.5.1 Forward table

OLT need maintain the MAC address forward table to make sure forwarding message quickly. MAC address forwarding table is a port-based L2 forwarding table. It is the foundation of OLT to realize L2 message to be forwarded quickly. MAC address forwarding table includes destination MAC address, VLAN ID of the port and forwarding port no. etc

Click **L2 forward>MAC Address table**; modify configuration of L2 forward table.

EPON-O	pon1 pon2	pon3 pon4 pon5 pon6 pc	ge1 ge3 ge5 g n7 pon8 ge2 ge4 ge6 g	English 中文 ge7 ge8 xge1 xge2 xge3 xge4
	Layer 2 Forward >> MAC Address	Table		^
System Info	MAC Address Table			
PON Port Into	Aging Time	(0.10-1)	000000)s	
Ports		(0,10		
L2 Forward		Мо	any	
- MAC Address Table	Current Aging Time 300s			
- MAC Banding	Remove			
- MAC Auto Banding	VLAN		Delete	
- MAC Learning Limit	Port		Delete	
Trunk	MAC Address		Delete	
MSTP	VLAN	MAC Address	Types	Port
EAPS	1	000c.29ce.c3bf	dynamic	ge8
L3 Forward	1	000d.bd5d.7fcc	dynamic	ge8
SNMP	1	000e.c6fa.da62	dynamic	ge8
System MGMT	1	0014.2adc.a22f	dynamic	ge8
	1	0016.176d.044a	dynamic	ge8
	1	0017.0886.f95a	dynamic	ge8
	1	0018.fe9c.cec9	dynamic	ge8
	1	0019.2145.8b3e	dynamic	ge8
	1	001a.6408.26d1	dynamic	ge8
	1	001d.7d1c.a02f	dynamic	ge8
	1	001f.c6e2.a999	dynamic	ge8

Figure 3-9 forward table

Interface	Description
Aging time	Modify aging time of forward table, 300s by default. It
	can be set as "0", "0" mean no aging.
Delete L2 table	L2 table item can be deleted as per conditions of VLAN,
item	port ID, MAC address etc. or you can delete all with
	<clear> button.</clear>

Table 3- 4 forward table



Attention:

Delete and clear operations can only remove MAC address

table items of dynamic type

Config instance:



1. If PC1 can ping PC2 successfully, MAC address L2 forwarding table of PC1 and PC2 will show on DUT.

2. Shut down automatic learning function of OLT MAC table and modify aging time, you will find L2 forwarding table will be deleted.

 You can also delete L2 forwarding table by pressing VLAN, port or MAC address manually.

3.5.2 Static MAC and filtration

Click L2 forward>static MAC&Filter to set static MAC filtration.

EPON-O		pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge1 ge3 ge5 ge7 ge2 ge4 ge6 ge8	English 中文 xge1 xge2 xge3 xge4
	Layer 2 Forward >> Static MA	AC& Filter			
PON Port Info	Static MAC& Filter				
Ports V	VLAN		(1-4094)		
L2 Forward	MAC Address		Format(Ox):HHHH.HHH	н.нннн	
- MAC Address Table	Functions	• Static MAC Forw	arding Port ge1 🗸 🔿 MAC	Filter	
- Static MAC&Filter - MAC Banding		7	Add Delete	1	
- MAC Auto Banding		VLAN	MAC Address	Types	Port
- MAC Learning Limit	First	Previus Ne	xt Last Refresh	Help Current 1	Total 1
Trunk 🔍					
MSTP V					
EAPS V					
L3 Interfaces					
L3 Forward					
SNMP					

Figure 3- 10 Static MAC and filter

System MGMT

interface	description						
VLAN	Set VLAN of the static MAC address						
MAC address	Set MAC address of corresponding destination						
Functions	Static MAC refers to adding a MAC address static						
	table item, which need specific forwarding port.						
	While MAC address filtration will filter corresponding						
	MAC address, no need specific forwarding port.						

Table 3-5 Static MAC and filtration



Note:

MAC address filtration includes the filtration of both source

MAC and destination MAC

Config instance:



1. If DUT turn off MAC learning function of OLT, we can add static MAC address manually to realize L2 forward table. Fill in the VLAN, GE4 Ports and MAC address of PC1.

2.Connect PC1 to GE2 port, you will find PC1 and PC2 cannot ping.

3. Connect PC1 to GE4 port, config MAC address binding of PC1 which

belongs to VLAN2. You will find PC1 and PC2 cannot Ping too.

4. To filter out some MAC address, you can use MAC address filtration. If filter MAC address of PC1, you will find PC1 and PC2 cannot Ping.

3.5.3 MAC binding

Click L2 forward>MAC binding to bind MAC address

EPON-O	LT _	pon1	pon2 pon3 pon	l 🗖 4 pon) (11) 5 pon6 po	n7 pon8	ge1 ge2	ge3 ge4	ge5 ge6	ge7 I ge8	Englis xge1 xge2 xge	h丨甲文 3 xge4
	Layer 2 Forward >>	MAC Ba	nding									
System Info	MAC Banding											
Ports	Port		ge1 🗸									
L2 Forward	MAC Address				Format(Ox	:):НННН.НННЬ	I.HHHI	H				
- MAC Address Table	VLAN				(1-4094)							
- Static MAC&Filter					Add	Delete	1					
- MAC Banding - MAC Auto Banding - MAC Learning Limit				Port		MAC	Addr	ess			VLAN	
VLAN Config		First	Previus	Next	Last	Refresh	Н	elp	Curr	rent 1	Total 1	
Trunk												
MSTP V												
EAPS												
L3 Interfaces												
L3 Forward												
SNMP V												
System MGMT												

Figure 3- 11 MAC binding

interface	description
port	Set physical port of MAC address binding
MAC address	Set destination MAC address
VLAN	Set corresponding VLAN ID

Table 3- 6 MAC binding



MAC binding will close port MAC learning function. Only binding MAC

address can forward.

Config instance:



1. If DUT close MAC address automatic learning function, you can bind MAC address, VLAN with egress port. Config MAC address bindings (not PC1 MAC address) to see binding entries, PC1 and PC2 can't ping each other.

2. Config MAC address bindings of PC1, PC1, PC2 and DUT can be interconnected.

3. Connect PC1 to GE2 port, PC1、PC2、DUT can't ping each other

4. Connect PC1 to GE4 port, config MAC address bindings of PC1, which belongs to VLAN2, PC1、 PC2、 DUT can't ping each other.

3.5.4 MAC automatic binding

Click L2 forward>MAC auto binding to bind MAC automatically.

EPON-0	JL.	pon1 pon:	English 中文 ge1 ge3 ge5 ge7 ge1 ge3 ge5 ge7 ge2 ge4 ge6 ge8 xge1 xge2 xge3 xge4	
	Layer 2	Forward >> MAC Address	Automatic Banding	~
BON Port Info	Port	ge8	✓	I
Ports	(Expla	anation: each port that me	ost 64 dynamic MAC address)	
L2 Forward		VLAN ID	MAC Address	
- MAC Address Table		1	000d.bd5d.7fcc	
- Static MAC&Filter		1	000e.c6fa.da62	
- MAC Auto Banding			0014 2016 2005	
- MAC Learning Limit		,	0014.200.0221	
VLAN Config 🔽		1	0016.176d.044a	
Trunk 💎		1	0017.0886.f95a	
MSTP V		1	0018.fe9c.cec9	
EAPS		1	001a.6408.26d1	
L3 Interfaces		1	001d.7d1c.a02f	
L3 Forward		1	0026.7313.f72e	
System MGMT		1	0086.318a.0056	
		1	00e0.4c36.0890	
		1	00e0.4c36.0b79	

Figure 3-12 MAC automatic binding

interface	Description
port	Set physical port of MAC address automatic binding
MAC address	set destination MAC address of binding
VLAN	Set corresponding VLAN ID

Table 3-7 MAC automatic binding



Attention

MAC binding will close port MAC learning function. Only

binding MAC address can forward. Each port max binds 64 dynamic MAC

address.

3.5.5 MAC learning Limit



Click L2 forward>MAC learning limit to set MAC learning restriction

Figure 3-13 MAC learning restriction

Interface	Description
port	Set physical port of MAC address learning
	restriction
MAC Secure Address	Set learning limit of network ports

Table 3-8 MAC Learning settings

Config instance:



1. If DUT learn too much L2 forwarding might affect its performance, so we need set MAC learning restriction. Config MAC address learning restriction number; PC1 sends the source jump MAC address (not PC1 address) which is more than the number of limitation to DUT, you will find the Maximum number of binding tables.

- 2. PC1 and PC2 send Ping package to each other, but can't ping each other.
- 3. Modify the number of MAC address learning restrictions; PC1 sends the source jump MAC address (not PC1 address) which is less than the number of limitation to DUT. In this situation, DUT can learn new MAC table, that is MAC address of PC1. PC1 and PC2 can ping each other.

3.6 VLAN

VLAN divides a physical LAN into multiple logical LAN. Each VLAN is a broadcast domain. Hosts in VLAN can interact message by traditional Ethernet communication. But hosts in different VLAN have to realize communication via router or L3 switch.

3.6.1 VLAN Config

Click VLAN config>VLAN Config to modify or config 802.IQ VLAN. Click

<add> to finish setting.

							English 甲文
COON O	•	-					ge1 ge3 ge5 ge7
EPUN-U							
	_		pont po	on2 pon3 pon4	pons poi	16 pon7 pon8	gez ge4 ge6 ge8 xge1 xge2 xge3 xge4
	VLAN	Config >	> 802.1Q VLAN	Configuration			
System Info	802.1	QVLAN	Configuration				
PON Port Info				-	1	F 2 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7	
Ports	VLAN	NID				(2-4094)	
L2 Forward	Nam	е					
VLAN Config 🔍	State	e		Active 🗸			
- VLAN Config	2				Add	Modify Do	lote
- Port-Based VLAN					Add	Modily De	
- IP Subnet VLAN	Note: `	You can	create or delete n	nultiple continuou	s Vlans by usi	ng a hyphen (-) to se	parate the Vlan IDs, eg 3-10
- MAC-Based VLAN		VID	Name	State	Instance	L3 Interfaces	Port Range
- Protocol-based VLAN							pon1(u) pon2(u) pon3(u) pon4(u) pon5(u) pon6(u)
- VLAN Rules	0	1	default	Active	0	vlan1.1	pon7(u) pon8(u) ge1(u) ge2(u) ge3(u) ge4(u) ge5(u) ae6(u) ge7(u) ae8(u) xae1(u) xae2(u) xae3(u) xae4
- Private VLAN Contiguration							(U)
Trunk	0	1000	VLAN1000	Active	0	-	
MSTP			First	Previus N	lext La	st Refresh	Help Current 1 Total 1
EAPS V							
🚷 L3 Interfaces 🤍							
L3 Forward							
SNIMD							
Shim-							
System MGM							

Figure 3-14 802.1Q VLAN setting

Interface	Description
VLAN ID	Set VLAN ID. Batch create or delete multiple
	continuous VLAN need connect each VLAN
	with strigular. For example, 3-10
Name	Set VLAN name. VLANxxxx by default
status	Enable/disable VLAN status. Enable by default

Table 3-9 802.1Q VLAN setting



Note:

100 continuous VLAN can be created or deleted

at a time

3.6.2 Port VLAN

Click VLAN Config>Port-based VLAN to modify or config Port VLAN. Click

<add> to finish setting.

EPON-O	Ľ	T	por	n1 pon2	pon3 pon4 p	n5 pon6 pon	7 pon8	ge1 ge3 ge2 ge4	ge5 g ge6 g	English	中文 11 14
	VLAN	Config >	> Port-Base	d VLAN	Configuration						~
System Info	Port-	Based \	LAN								
PON Port Info				de1							
Ports	Port	Range		90.							
L2 Forward	Link	Туре		Acce	ss 🗸						
- VLAN Config	Acce	ntable F	rame Type								
- Port-Based VLAN	ALLE	plable i	rame rype	All							
- IP Subnet VLAN	Ingre	ss Filter		Disal	ble 🗸 (This op	tion open or cl	ose port Ingr	ess Filter)			
- MAC-Based VLAN	Modify										
- Protocol-based VLAN	Allow	ed VLA	N ID			(1-4094)	Egress-tagge	ed: • Enabl	e Dis	able	
- VLAN Rules Private VI AN Configuration					18		0 00				
Trunk						Add	Delete				
MSTP	Defa	ult VLAN	I ID	1		(1-4094)					
EAPS						Add	Delete				
L3 Interfaces		Port	Link T	ype	Ingress Filter	Acceptab Typ	le Frame De	Default ID	VLAN	Configured VLANs	
L3 Forward		ge1	acces	s	disable	al	I	1		-	
System MGMT		ge2	acces	is	disable	al	1	1		2	
Chy System MONT		ge3	acces	s	disable	al	I	1		-	
		ge4	acces	s	disable	al	I	1		2	
		ge5	access		disable	al	I	1		.=	
		ge6	access		disable	all		1		2	
		ge7	acces	s	disable	al	I	1			
		ge8	acces	s	disable all		I	1		4	Ň



Interface	Description
-----------	-------------

Port Range	Choose L2 port of VLAN properties need to
	modify in page check box.
Link type	Set link type of port. All ports are "access" by
	default
Acceptable frame	Set acceptable frame type. For example, set
type	VLAN-untagged as untagged, set VLAN-tagged
	as tagged. "All" by default.
ingress filter	Set if open ingress filtration. Close by default.
Allowed VLAN ID	Set allowed VLAN ID in trunk mode
Default VLAN ID	Set default VLAN ID, default ID is "1" in trunk
	mode

Table 3- 10 Port VLAN



Attention:

Before setting Allowed VLAN and Default VLAN, you

need modify link type of ports.

Config instance:



Create VLAN 10 and VLAN of ge4 and ge2 port as access port at the same time. PC1 and PC2 can ping each other.

3.6.3 Ip Subnet VLAN

Click VLAN config>IP subnet VLAN to modify and config subnet VLAN. Click <add> to finish setting.

Then OLT will check IP package source address at ingress port. Data package is processed at which VLAN depends on this source address and config rules.

							a 01	702	ao5 ao7		English 中
FPNN_C	ПТ			1 🖛			gel	ges			
		pon1	oon2 pon3 pon	4 por	15 pon6 pon	7 pon8	ge2	ge4	ge6 ge8	xge1	xge2 xge3 xge4
	VLAN Config >> IF	Subnet VL	AN Configuratio	n							
System Info	IP Subnet VLAN										
Ports	Rule ID		(1000-1	999)							
L2 Forward	IP Address				(Format:	A.B.C.D/M)					
VLAN Config	VID		(2-4094)							
LAN Config					Add	Delete	1				
P Subnet VLAN			Pulo	ID			IP				VID
AC-Based VLAN			Ture								
rotocol-based VLAN		First	Previus	Next	Last	Refresh	H	elp	Current	Total 1	
LAN Rules											
ivate VLAN Configuration											
Trunk 🔍											
MSTP											
FAPS											
A latarfasas											
Lo intenaces											
() L3 Forward											
SNMP											
System MGMT											

Figure 3-16 subnet VLAN

interface	description			
Rule ID	IP subnet VLAN corresponding rule ID. Range is			
	1000-1999			
IP address	Set subnet segment which need allocate			
	specified VLAN ID			
VID	Set VLAN ID for dynamic allocation			

Table 3- 11 subnet VLAN

3.6.4 MAC-Based VLAN

Click VLAN config>MAC-based VLAN to modify and config MAC

VLAN. Click **<add>** to finish setting.

MAC VLAN configuration make MAC address correspond with VLAN ID. And OLT determine the device belongs to which VLAN by checking MAC address connecting to the device.

EPON-O		pon1	pon2 pon3 pon	1 🚺 4 pon5	pon6 pon7	pon8	ge1 ge ge2 ge	3 ge5 g 4 ge6 g	је7 9е8	Engl	ishⅠ中文
Custom late	VLAN Config >> MA	C-Based \	LAN Configura	tion							
PON Port Info	MAC VLAN										
Ports	Rule ID		(1-999)								
L2 Forward	MAC Address				Format(Ox):НННН.ННН	н.нннн				
VLAN Config	VID		(2-4094	4)							
- VLAN Config					Add	Delete					
- IP Subnet VLAN	6		Rule	e Id		MAC	Address			VII	b
- MAC-Based VLAN	e 	First	Previus	Next	Last	Refresh	Help	Curre	ent 1	Total 1	
- VLAN Rules											
- Private VLAN Configuration											
Trunk											
FAPS											
L3 Interfaces											
L3 Forward											
SNMP											
System MGMT											

Figure 3- 17 MAC-Based VLAN

interface	description
Rule ID	Subnet VLAN corresponding rule ID. Range is
	1000-1999
MAC address	Set MAC address which need allocate specified
	MAC address
VID	Set VLAN ID for dynamic allocation



3.6.5 Protocol-based VLAN

Click VLAN config> Protocol-based VLAN to modify or config protocol VLAN. Click <add> to finish setting.

This OLT will checked the encapsulation protocol at the ingress port and according to the encapsulation protocol rules, which VLAN is handled in the packet.

EPON-O) EN EN EN 11 pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge1 ge3 ge5 ge7 ge2 ge4 ge6 ge8	English 中文 xge1 xge2 xge3 xge4
System Info	VLAN Config >> Protocol-B	ased VLAN Configuratio	n		
PON Port Info	Protocol-based VLAN				
Ports	Rule ID	(2000-209	99)		
L2 Forward	Protocol Type		(e.g. 0-65535,arp,i	p,ipv6.)	
VLAN Config 🔍	ENCAP	ethv2 🗸			
- VLAN Config - Port-Based VLAN	VID	(2-4094)			
- IP Subnet VLAN			Add Delete		
- MAC-Based VLAN - Protocol-based VLAN		Rule ID	Protocol Type	ENCAP	VID
- VLAN Rules	Firs	st Previus N	ext Last Refresh	Help Current 1	Total 1
- Private VLAN Configuration Trunk MSTP EAPS L3 Interfaces SNMP System MGMT					

Figure 3-18 Protocol VLAN

Interface	Description					
Rule ID	Subnet VLAN corresponding rule ID. Range is					
	2000-2099					
Protocol type	subnet protocol type which need allocate					
	specified VLAN ID. Protocol number is					
	0-65535					

ENCAP	Set ENCAP type. There are three types at the
	moment, ethv2,nosnaplic and snaplic
VID	Set VLAN ID for dynamic allocation

Table 3-13 Protocol VLAN

3.6.6 VLAN rule

Click VLAN config>VLAN rule to config VLAN rule. Click <add> to finish

setting.

EPON-O		pon1 pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge1 ge3 ge2 ge4	ge5 ge7 ge6 ge8	English 中文 xge1 xge2 xge3 xge4
	VLAN Config >> VLAN	Rules Configuration				
System Info	VLAN Rules					
PON Port Info	Port	e.g.: FE1.GE1.XE1.)				
Ports		Based VI AN				
L2 Forward	Type IP Su	bnet VLAN				
VLAN Config	Proto	col-based VLAN	(Format:2000,200	01,2002)F	Rule ID	
- VLAN Config			Add Delete			
- Port-Based VLAN			Port		Type	
- IP Subliet VLAN				1		
- Protocol-based VLAN			Refresh Help			
- VLAN Rules						
- Private VLAN Configuration						
💮 Trunk 💎						
MSTP						
EAPS						
L3 Interfaces						
L3 Forward						
SNMP V						
System MCMT						
System Moint						

Figure 3- 19 VLAN rule

Interface	Description				
Port	choose the port need config				
MAC-Based VLAN	enable MAC-based VLAN at corresponding				

	port
Subnet VLAN	Enable IP-based subnet VLAN at corresponding
	port
Protocol VLAN	Enable Ethernet-based VLAN (with Rule ID) at
	corresponding port





- As above Figure , user1 and user4 can communicate with each other. But user 1 and user4 can't communicate with uer2 and user3. OLT need create VLAN2, VLAN3; config port VLAN which connect to users as access port; config the port connect to OLT as Trunk port, and Trunk port allow all VLAN pass.
- If want to set a user of 192.168.10.0/24 network segment as VLAN2, you can use subnet VLAN to config.
- 3. If want to set a user of fixed MAC as VLAN 3 , you can use MAC-Based VLAN $_{\circ}$

- 4. If want to set package of the fixed protocol as VLAN 3,you can user protocol-based VLAN.
- 5. Finally, add VLAN rule id to port .

3.6.7 Private VLAN configuration

Click VLAN config>private VLAN configuration to config VLAN rule.

Click **<add>** to finish setting.

FPON_O			ge1 ge3 ge5 ge7	English 中文
	VI AN Config >> Private Vian	pon4 pon5 pon6 pon7 pon8	ge2 ge4 ge6 ge8	xge1 xge2 xge3 xge4
System Info				
PON Port Info	vian type settings			
Ports 💎	VLAN ID	(2-405	94)	
L2 Forward	Vlan type	primary 🗸		
VLAN Config		Add Delete		
- VLAN Config	Drimon Man	(2.40)	24)	
- Port-Based VLAN	Primary vian	(2-40)	94)	
- IP Subnet VLAN	Secondary Vlan	(2-409	94)	
- MAC-Based VLAN		Add Delete		
- VI AN Rules	Port type settings			
- Private VLAN Configuration	, and the second			
Trunk	GE Port List: All			
MSTP V	□ge1 □ge2 □ge3 □ge4 □ge5 □	ge6 ge7 ge8 pon1 pon2		
EAPS	pon3 pon4 pon5 pon6 pon7	pon8 xge1 xge2 xge3 xge4	4	
L3 Interfaces	Port type	promiscuou: 🗸		
L3 Forward	Primary Vlan	(2-409	94)	
SNMP	Secondary Vian	(2-409	94)	
System MGMT	Note: Delete all configuration of the in	terface when delete, ignore the value	of Primary Vlan and Secon	dary Vlan
		Add Delete		
	Primary Vian Secondary V	Vian Secondary VLAN	Port List	Port type
		Refresh Help		

Figure 3- 20 private VLAN configuration

3.7 Trunk

3.7.1 static Aggregation

Static aggregation manual binding multiple physical ports to a logical accordingly increasing the bandwidth between OLT and network node. Static aggregation does not allow the system to auto add or delete port in the trunk group. The trunk group contain at least one port.

Click **Trunk > Static aggregation** to config static aggregation. Click **<add>** to finish setting.

EPON-O	LT	pon1 pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge1 ge3 ge5 ge7 ge2 ge4 ge6 ge8	English 中文 xge1 xge2 xge3 xge4
System Info PON Port Info Ports Ports L2 Forward VLAN Config Trunk Static Aggregation Dynamic Aggregation Port Information MSTP EAPS L3 Interfaces L3 Forward System MGMT	LACP >> Static Aggreg; Trunk Configuration Port Vge1 Vge2 ge3 Lxge3 kge4 Aggregation Group ID (1-32) Trunk Group List Aggregation Group ID	ation	/ ge8 xge1 xge2		Cperation

Figure 3-21 static aggregation

interface	Description
port	Select the ports that need static aggregation,
	which can be multiple selected.
Aggregation	Add to setting aggregation group ID
group ID	

table 3-15 static aggregation

3.7.2 Dynamic aggregation

LACP binding physical port to a logical port, The physical port negotiated through the LACP protocol can be binded into a logical port and other ports will not be binded into the logical port, the layer 2 attribute of these physical ports must be the same, such as: speed,duplex ,VLAN and so on.

Click **Trunk > Dynamic aggregation** to config LACP. Click **<add>** to finish setting.

EPON-O	LT	pon1 pon2	pon3 pon4	pon5 po	n6 pon7 pon	ge1	ge3 ge5	ge7	Engli kge1 xge2 xg	sh丨中文 ■ ■ e3 xge4
	LACP >> Dynamic Eth	nerChannel gro	up							
System Info	LACP Configuration	1	- -							
PON Port Info	Port: as2 M	Group	ID:	(1.22)	Mode:	. A stillers (Deseive			Create
Ports		Gloup		(1-32)	Mode.	Active	Passive			Cleate
L2 Forward	LACP Group ID:	[p01 \	Port:	_	ge1 🗸			_		Delete
VLAN Config	LACP Group List									
Trunk V	Aggregation Group	Member							0	peration
- Static Aggregation	po1	ge1								Delete
- Port Information	Aggregation Group	Information								
MSTP V	Aggregation oroup	Information								_
EAPS	LACP Group ID:	po	1 🗸	Load Bala	incing:	Src	-dst-mac 🗸		Mod	lify
L3 Interfaces				Re	fresh F	lelp				
L3 Forward										
SNMP										
System MGMT										

Figure 3-22 Dynamic aggregation

interface	Description
LACP configuration	Set port, LACP aggregation ID and LACP mode
LACP group list	Show and delete related dynamic aggregation
	group
Aggregation group	Show the dynamic aggregation group and
information	set load balancing.

table 3-16 dynamic aggregation

Note:

Dynamic aggregation list can show and delete related

dynamic group.

3.7.3 Port information

Click Trunk> Port information, show detailed information of the

related aggregation members.

		English】中了 ae1 ae3 ae5 ae7	ε
EPON-O	pon1 pon2 pon3 pon4	pon5 pon6 pon7 pon8 ge2 ge4 ge6 ge8 xge1 xge2 xge3 xge4	
	LACP >> Port Information		~
System Info	Aggregation Ports Information		
Ports	LACP Port's Information:	ge1 V	
L2 Forward	Details For Lacp-ports:		
VLAN Config	LACP link info:	ge1 - 5011	
Trunk 🔍	LAG ID:	0x8000,90-c6-82-15-00-0a	
- Static Aggregation - Dynamic Aggregation	Partner oper LAG ID:	0x0000,00-00-00-00-00	
- Port Information	Actor priority:	0x8000 (32768)	
	Admin key:	0x0001 (1) Oper key	
EAPS	Physical admin key:	(4)	
L3 Interfaces	Receive machine state :	Invalid	
SNMP	Periodic Transmission machine state :	Invalid	
System MGMT	Mux machine state :	Detached	
	Oper state:	ACT(1) TIM(0) AGG(1) SYN(0) COL(0) DIS(0) DEF(1) EXP(0)	
	Partner oper state:	ACT(0) TIM(0) AGG(1) SYN(0) COL(0) DIS(0) DEF(1) EXP(0)	
	Partner link info:	admin port 0	
	Partner oper port:	0	
	Partner admin LAG ID:	(0x0000)00-00-00-00000	
	Admin state:	ACT(1) TIM(0) AGG(1) SYN(0) COL(0) DIS(0) DEF(1) EXP(0)	
	Partner admin state:	ACT(0) TIM(0) AGG(1) SYN(0) COL(0) DIS(0) DEF(1) EXP(0)	
	Partner system priority - admin:	0x8000	~

Figure 3-23 Port information



3.7.4 Port trunk config instance

Networking requirement:

OLT 1 user two port (Ge1~2) trunk OLT 2 to achieve the maximum 2G flow of PC1 and PC2, achieve Load Balancing of traffic in each member port.

Static aggregation config steps:

at Figure 3.7.1, check out ge1,ge2, filled in "aggregation group ID", click "add" button.

Dynamic aggregation config steps:

At Figure 3.7.2, "LACP config" choice ge1, filled in "group ID", then click "Create" button; And then choice ge2, filled in the same as ge1

"group ID", then click"Create". LACP needs to be added individually to each port.

3.8 MSTP

MSTP (Multi Spanning Tree MST) protocol is a two layer management protocol which selectively blocking redundant links in the network to eliminate of two layers loop, it also has function of link backup. MSTP can fetch up the defect of STP and RSTP, it can converge quickly, but it also enable different VLAN traffic to be forwarded along their respective path, thus providing a better load sharing mechanism for redundant link.

3.8.1 Basic information

Click **MSTP > Basic info** to show configuration information at the MSTP domain.

COON 0	-							ge1 ge	3 ge	5 ge7		Eng	lish 中
EPUN-I	JLI		pon1 pon2	pon3 pon4	pon5 po	n6 pon7	pon8	ge2 ge	4 ge	6 ge8	I xge	e1 xge2	xge3 xge4
	MSTP >> B	asic Informa	ition										
System Info	Region Inf	ormation											
Ports	Bridge		Format id		Region		Version		Sur	nmary info			
L2 Forward	1		0				0		AC	36177F5028	3CD4	B83821	D8AB26DE6
VLAN Config	Basic Brid	ge Informat	tion										
Trunk 🔍	Bridge	Bridge	Protocol	Bridge	Bridge ID		Root Bridge	e ID	Reg	jion Root Br	idge	Root	Root
MSTP V	1	up	Disabled	32768	800090c6821	15000a	800090c68	215000a	800	090c682150	000a	0	0
- Basic Info - Port Information	Advanced	Bridge Info	rmation										
- STP Configuration - Port Configuration	Bridge	Forward Timer	Hello Timer	Ma	x Age Period	Max H	lops	BPDU Filter		BPDU Guard	Err	or- able	Errdisable Timeout
EAPS	1	15	2	20		20		disable	đ	disabled	dis	abled	1
🚯 L3 Interfaces 🤍					Ref	resh	Help						
L3 Forward													
SNMP V													
System MGMT													

Figure 3-24 Basic information

3.8.2 Port information

Click **MSTP > Port information**, show the basic information of STP

bridge and the attribute information related to STP of the port.

System Info	MSTP >> Port Inform	nation					
PON Port Info	Port Information						
Ports 🔻	VLAN			1,1000			
L2 Forward	Root Bridge ID			32768-90c6.82	15.000a		
VLAN Config 🔍	Region Root ID			32768-90c6.82	15.000a		
Trunk	Designated Bridge	D		32768-90c6.82	15.000a		
MSTP V	Port	Rolo	State	Cost	Priority	Index	Link
Basic Info	, int	Role	State	oust	ritority	Index	Туре
- Port Information			Refres	h Help			
- Port Configuration							
EAPS							
A L3 Interfaces							
L3 Forward							
L3 Forward SNMP							
L3 Forward SNMP System MGMT							
SIMP System MGMT							
SIMP System MGMT							
Source States S							
Contractor							
Cla Forward Cla Forward SNMP System MGMT							
Cla Forward Cla Forward SNMP System MGMT							

3.8.3 STP configuration

Click **MSTP > STP configuration** to STP attribute configuration.

EPON-O		1 pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge1 ge3 ge5 ge3 ge2 ge4 ge6 ge4	English 中文 , , xge1 xge2 xge3 xge4
	MSTP >> Spanning Tree (Configuration			
System Info	MSTP State:				
PON Polt Inio	MSTP State:	OEnable			
L2 Forward	Priority :	32768			
VLAN Config	20		Modify Help Re	fresh	
Trunk 🔍					
MSTP V					
- Basic Info					
- Port Information					
- STP Configuration					
EAPS					
L3 Interfaces					
L3 Forward					
SNMP V					
System MGMT					

Figure 3-26 STP configuration

interface	Description
MSTP state	Shut down or turn on MSTP protocol state,
	shut down by default .
priority	MSTP priority

table 3-17 MSTP configuration

3.8.4 Port configuration

Click **MSTP > Port configuration** to configure port MSTP related attributes which including path cost, priority, portfast , root protection and so on. Click **<Modify>** to save port configuration.

EPON-O	English 中文 ge1 ge3 ge5 ge7 pont pon2 pon3 pon4 pon5 pon6 pon7 pon8 ge2 ge4 ge6 ge8 xge1 xge2 xge3 xge4	
	MSTP >> Port Configuration	
PON Port Info	Port Configuration	
Ports	GEPort: All	
L2 Forward	ge2 ge3 ge4 ge5 ge6 ge7 ge8 xge1 xge2 ge3	
VLAN Config 🔍	xge4 po1	
Trunk 🔍	Port Fast : Default 🗸	
MSTP 🔍	Modify Defresh Help	
- Basic Info	mouny remoin help	
- Port Information		
- STP Configuration		
EAPS V		
L3 Interfaces		
L3 Forward		
SNMP		
System MGMT		

Figure 3-27 Port configuration

3.9 EAPS

3.9.1 EAPS Management

EAPS is link layer protocol for Ethernet loop protection. It can prevent a broadcast storm from the data loop when it's all over the Ethernet ring, and when a link on the Ethernet loop is broken, it quickly restores the traffic pathways between each of the nodes on the Internet. Configure EAPS protocol parameters which including ring ID, mode, extreme compatibility, primary port, second port, control VLAN, protection VLAN, failure time and hello time.



Note:

It is must to correctly configure all the properties of EAPS to enable the ring. All properties of the modified ring must be closed to the ring.

Click EAPS > EAPS Management to configure EAPS.

	і т			ge1 ge3 ge5 ge7	English 中文
CFUN-U	pon1	pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge2 ge4 ge6 ge8	xge1 xge2 xge3 xge4
	EAPS >> EAPS Manageme	nt			
PON Port Info	EAPS Management				
Ports	Ring Enable	Disable V			
L2 Forward	Mode	Transit 🗸			
VLAN Config	Primary-Port		Secondary-F	Port	~
Trunk			Modify Delete		
EAPS	Ring Ring Enable State	Mode Prim	ary Port Secondary Port	Control Protect	N Fail Time Hello
- EAPS Management			Refresh Help		
L3 Interfaces					
SNMP					
System MGMT					

Figure 3-28 EAPS management

Configuration instance:

The OLT1,OLT2 and OLT3 which is not possible to form a loop when VLAN 1 is protect by EAPS protocol, and it is guaranteed to enable that standby link with a link open between OLT 1, OLT 2 and OLT 3. According to the above requirements, OLT 1 can be configured as master node, OLT 2 and OLT 3 as transit nodes. Finally add a control VLAN(i.e VLAN 2) for packet transmission.



• Configuration OLT 1:

OLT 1 is configured as the master of EAPS Domain ring 1, the control VLAN is VLAN2, the protected VLAN is VLAN 1, the primary-port is ge1 and secondary-port is ge2. Finally other values is defaulted.

Configuration OLT 2 :

OLT 2 is configured as the transit of EAPS Domain ring 1, the control VLAN is VLAN2, the protected VLAN is VLAN1, the primary-port is ge1 and secondary-port is ge2. Finally other values is defaulted.

• Configuration OLT 3:

OLT3 is configured as the transit of EAPS Domain ring 1,the control VLAN is VLAN 2,the protected VLAN is VLAN1, the primary-port is ge1 and secondary-port is ge2. Finally other values is defaulted.

3.10 Layer 3 interface

3.10.1 Layer 3 Management

Clink L3 interfaces> L3 Management to configuration L3 interface.

EPON-O	LT _	pon1 pon2 p	on3 pon4	pon5 pon6 por	17 pon8	ge1 ge3 ge2 ge4	ge5 ge ge6 ge	Eng 7 8 xge1 xge2	Alish 中义 xge3 xge4
	L3 Interface Manage	ement >> L3 Inte	rface Configura	ation					
BON Port Info	L3 Interface Conf	iguration							
Ports	VLAN ID			(1-4	4094)				
L2 Forward	State		Up	~					
VLAN Config	ARP Age Time		3000	(10	0-3000)				
Trunk V	IP Address			For	rmat: A.B.C.E	D/M			
MSTP V				Add Me	odify [Delete			
EAPS	Interface								
- L3 Management	Sub IP Address			Fo	ormat: A.B.C.	.D/M			
L3 Forward				Add	Delete				
SNMP V	VL	AN ID In	terface	IP Addr	ess	Sub IP Ad	dress	Age	State
System MGMT	0	1	vlan1.1	192.168.1.1	100/24	-		3000	Up
	Attention:Only show	the first of sub IP	Address!						
		First Pre	evious Ne	ext Last	Refresh	Help	Current	t 1 Total 1	

Figure 3-29 L3 interface Management

Interface	Description
VLAN ID	Set L3 interface VLAN
IP address	Set L3 interface ip address
ARP AGE time	Set L3 interface ARP age time, 3000 seconds is
	defaulted.

State	Set L3 interface management statue(UP/DOWN).
Secondary IP	Set L3 interface secondary ip address.
address	

Note:

You must create a L3 interface and configure the primary IP

address before configuring the secondary IP address.

Table 3-18 L3 interface management

3.11 Layer 3 forwading

3.11.1 Static ARP

The static ARP refers to the mapping between IP and MAC

address which will not be aged and deleted dynamically.

Click L3 **forward > static ARP** for static ARP configuration.

EPON-C	ILT	pon1 p	n2 pon3 pon4 pon5 pon6 pon7 pon8	ge1 ge3 ge2 ge4	English 中文 3 ge5 ge7
System Info	L3 Forward M	anagement >> S	tatic ARP Settings		
PON Port Info	Static ARP S	Settings			
Ports	IP Address		Format: A.B.C.D		
L2 Forward	MAC Addres	s	Format(0x):HHHH.H	ннн.нннн	
VLAN Config			Add Dele		
Trunk		IP Address	MAC Address	Interface	State
MSTP V	0	192.168.1.80	d4c9.ef07.1086	vlan1.1	dynamic
L3 Interfaces	0	192.168.1.167	c85b.7647.935f	vlan1.1	dynamic
L3 Forward		First Pre	evious Next Last Refresh	Clear	Help Current 1 Total 1
- Static ARP					
- Route Management					
System MGMT					
(i) Ojsteni monini					

Figure 3- 30 Static ARP

Interface	Description
IP address	The corresponding IP address in the ARP table
	item.
MAC address	The corresponding MAC address in the ARP
	table item.

Table 3- 19 Static ARP



Note:

If you want to clear ARP table items, you can only delete

dynamic ARP table items.

3.11.2 Route Management

Click L3 forward > Route Management for static routing Settings.

EPON-O	LT	pon1 pon2 p	on3 pon4 pon5 p	n6 pon7 por	ge1	ge3 ge5 ge7 ge4 ge6 ge8	English 中文 xge1 xge2 xge3 xge4
System Info	L3 Forwa	rd Management >> Route I	Management				
PON Port Info	Static R	oute Configuration					
Ports	Destinat	tion IP		Format: A.	B.C.D/M		
L2 Forward	Next Ho	p		Format: A.	B.C.D		
VLAN Config				vdd D	elete		
Trunk		Destination IP	Next Hop	In	terface	State	Flag
MSTP	0	127.0.0.0/8	connected		lo	connected	active
EAPS	0	192.168.1.0/24	connected		/lan1.1	connected	active
13 Forward		First Pr	evious Next	Last R	efresh H	elp Current 1	Total 1
- Static ARP		And a second					
- Route Management							
SNMP V							
System MGMT							

Figure 3- 31 Static route management

Interface	Description
Destination IP	This is the destination IP address segment of
	static routing.
Next Hop	This is the next hop IP address for static routing.

Table 3-20 Static route management



Note:

You can only add and remove static routing in the routing

management, but you can show all routing information of the device.

3.11.3 Static router config examples

Network requirement:

- There are VLAN2 and VLAN4 in OLT1 and VLAN3 and VLAN4 in OLT2. This two OLT devices are connected through the ge2 port which belonging to VLAN4, user A belong to VLAN2 and user B belong to VLAN3. The following figure topology configure the relevant parameters of each VLAN and the L3 interface of VLAN.
- You can configure static routing on OLT1 and OLT2 so that user A and user B can communicate.
- You can configure user A static ARP table entry on OLT1 and user A MAC address is 0000.0000.



Figure 3.11.3.1

Configuration Steps:

- 1. Refer to **3.6.1** to create VLAN2 and VLAN4 on OLT1 and VLAN3 and VLAN4 on OLT2.
- Refer to 3.6.2 to add VLAN2 on the port of ge1 and VLAN4 on the port of ge2 on OLT1. You can add VLAN3 on the port of ge1 and add VLAN4 on the port of ge2 on OLT2.
- 3. Refer to **3.10.1** to configure the L3 interface IP address on OLT1 and OLT2. The address information is as shown in the figure above.
- 4. Configure static routing on OLT1:

In the figure **3.11.3.1**, you can set the destination IP address is **192.168.2.2/24** and set the next hop IP address is **192.168.3.2**, then please click **<add >** button.

5. Configure static routing on OLT2:

In the figure **3.11.3.1**, you can set the destination IP address is **192.168.1.2/24** and set the next hop IP address is **192.168.3.1**,then please click **<add>** button.

6. Configure static ARP on OLT1:

As shown in figure **3.11.3.1**, you can set IP address is

192.168.1.2 and set MAC address is **0000.0000.AAAA** (this

is user A network MAC address.).Then please click <add> button.

3.12 SNMP

SNMP (Simple Network Management Protocol) is used for transferring management information between arbitrary two points, providing convenience for network manger to retrieve and modify information, locate fault, diagnose fault, do Capacity planning and report generation at any node.

3.12.1 SNMP Configuration

Click **SNMP > SNMP Management** to config SNMP parameters.

EPON-O		pon1 pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge1 ge3 ge ge2 ge4 ge	5 ge7	English 中文
	SNMP >> SNMP Cor	nfiguration				
System Info	SNMP Configuration	1				
PON Port Info	Administrator:					Modify
L2 Forward	Device Location:					Modify Delete
Trunk			Refresh Help			
EAPS						
L3 Interfaces						
- Group Management						
- Traps Management						
System MGMT						

Figure 3-32 SNMP configuration

Interface	Description
Administrator	System management maintenance contact information.

Device Location	Physical location information of the device.
Device Location	Physical location information of the device

Table 3-21 SNMP configuration

3.12.2 Community configuration

Click SNMP > Group Management to set the community name

and read&write permission of SNMP.

				NGET NGEZ NGES NGE
System Info	SNMP >> Group Management			
PON Port Info	Group Management			
Ports	Group Name:	Access: Orw	Oro	Add
L2 Forward		Refresh Help		
VLAN Config	Group Profile			
Trunk	Group Name	Access	Operation	
MSTP	public	го	Delete	
13 Interfaces	private	rw	Delete	
SNMP SNMP SNMP SNMP Management Group Management Traps Management System MGMT				

Figure 3-33 Group configuration



Note:

The list of community name allows you to show and delete

information.

3.12.3 Traps Configuration

EPON-D	LT			ge1 ge3 ge5 ge7	English 中文
System Info	SNMP >> Traps Management	pon1 pon2 pon3 pon4 anagement	pon5 pon6 pon7 pon8	ge2 ge4 ge6 ge8	xge1 xge2 xge3 xge4
Ports	SNMP Traps Traps Host:	Enable Obisable	Group Name:		Modify Add
MSTP	Traps Profile Traps Host		Refresh Help	Operation	
L3 Interfaces	192.168.1.167	First Previous	public Next Last Refresh	Help Current 1	Total 1
- SNMP					
- Traps Management System MGMT					

Click **SNMP> Traps Management** to configure trap parameters.

Figure 3-34 Traps Configuration

Interface	Description
SNMP Traps	Set the community name and read&write permission of
	SNMP.
Traps host	Trap host IP address configuration and corresponding
	group name Settings

Table 3-22 Traps configuration



Note:

The Trap list allow you to show and delete information.

3.12.4 SNMP configuration instance

Network requirement:

Allow client PC1 to read the MIB node information of OLT1 through the read-write test of community with the SNMP browser.

■ Allowed OLT1 send trap to the server PC2:192.168.65.199 with format of the SNMPv2 at the same time. The community with name as test.



Configuration Steps:

1. In the figure 3- 33 group configuration, config group name as test, Permissions as rw permission .Then click **<add>** button to

complete.

2. In the figure 3- 34 Traps configuration, set SNMP trap as enable and click **<Modify>** to complete. Then set traps host as 192.168.65.199(it's PC2's IP address) and the group name as test. Finally please click **<add>** button to complete.

3.13 System Management

3.13.1 User Management

Click **System MGMT> User Management** to modify the current user password.

EPON-O		pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge1 ge3 ge5 ge7 ge2 ge4 ge6 ge8	English 中文 xge1 xge2 xge3 xge4
Custom Info	System Management >> Us	er Management			
PON Port Info	Advanced User Manageme	ent			
Ports	Username	admin			
L2 Forward	Password				
VLAN Config	New Password		(New password should	d not contain spaces)	
Trunk	Check Password	•••••			
MSTP EAPS EAPS L3 Interfaces SNMP System MGMT System MGMT System Time Log Information L0g Information Ping Diagnostics Traceroute File Management Destrose the footnone actives			Modify Help	I	
- Logout					

Figure 3-35 user management



3.13.2 Restart OLT

Click System MGMT> Device Restart to restart the current device

System Management >> Device	Reboot				
Device Reboot					
Save current changes before r	reboot		V		
Reboot system			Reboot	lelp	
-					
	Device Reboot Save current changes before n Reboot system	Device Reboot Save current changes before reboot Reboot system	Device Reboot Save current changes before reboot Reboot system	Device Reboot Image: Constant of the second of the sec	Device Reboot Image: before reboot Reboot system Reboot

3.13.3 System Time

Click **System MGMT> System time** to set device system time.

EPON-O		Den Carlona pon4	pon5 pon6 pon7 pon8	ge1 ge3 ge5 ge7 ge2 ge4 ge6 ge8	English 中文 xge1 xge2 xge3 xge4
	System Management >> Syst	em Time			
System Info	System Time Management				
Ports	System Time	2000-01-01	08:58:59		Modify
L2 Forward			Refresh		
VLAN Config			22		
Trunk 🔍					
MSTP V					
EAPS V					
L3 Interfaces					
L3 Forward					
SNMP					
System MGMT					
- Oser Management - Device Restart					
- System Time					
- Log Infomation					
- Ping Diagnostics					
- File Management					
- Restore to factory settings					
- Logout					

Figure 3- 37 System time



Note:

System time cannot be saved if RTC is not supported.

3.13.4 Log Output

Click System MGMT> Log information to show current device log

output information.

EPON-O	LT _	pon1 pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge1 ge ge2 ge	e3 ge5 ge7 e4 ge6 ge8	English丨中文 xge1 xge2 xge3 xge4
System Info	System Management	>> Log				
BON Bort Info	Log					
	04 : <30>Jan 01 0	0:00:45 EPON-OLT IMI: % En	ror opening DNS configuration	file		
Poits	05 :		lient login from 400 400 400 4			
L2 Forward	05.<30>Jan 01.0	1.11.23 EPON-OLT IMI. Web (neni login irom 192.166.100.1	107		
VLAN Config	06 : <30>Jan 01 0	1:30:04 EPON-OLT IMI: web (client login from 192.168.100.1	67		
Trunk	07 : <30>Jan 01 0	1:37:48 EPON-OLT IMI: web (client login from 192.168.100.1	67		
MSTP	08 : <30>Jan 01 0	6:56:20 EPON-OLT IMI: web (client login from 192.168.100.1	67		
EAPS	09 : <30>Jan 01 0	8:50:58 EPON-OLT IMI: web (lient login from 192,168,100,1	67		
L3 Interfaces	10:0/ (00) 100 01	00-20-47 EDON OLT MOTO:	Ded down notification reasives	for part ga	0	
L3 Forward	10. %<20>Jan 01	00.20.17 EPON-OLT MSTP.	Port down nouncation received	for port ge	0	
SNMP V	11 : %<28>Jan 01	01:11:28 EPON-OLT MSTP:	Port up notification received for	r port ge8		
System MGMT	First	Previous Next	Last Refresh	Clear	Help	Current 1 Total 1
- User Management						
- Device Restart						
- Ping Diagnostics						
- Traceroute						
- File Management						
- Restore to factory settings						
- Logout						

Figure 3-38 Log output

3.13.5 Ping Diagnostics

Click System MGMT> Ping Diagnostics to diagnose the accessibility

of the destination IP address.

EPON-O		pon1 pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge1 ge3 ge5 ge7 ge2 ge4 ge6 ge8	English 中文 xge1 xge2 xge3 xge4
	System Management	>> Ping Diagnostics			
System Info	Ping Diagnostics				
PON Port Info	IP Address			Start	
Ports				Cluit	
L2 Forward					
VLAN Config					
Trunk					
MSTP					
EAPS					
L3 Interfaces					
CAN L3 Forward					
Custom MCMT					
- User Management					
- Device Restart					
- System Time			Holp		
- Log Infomation			нер		
- Ping Diagnostics					
- Traceroute					
- Restore to factory settings					
- Logout					

Figure 3- 39 Ping diagnostics

3.13.6 Traceroute

Click System MGMT> Trace route to detect the path information

of destination IP address.

				ne1 ne3 ne5 ne7	English 中文
FPON_O	I T				
		pon1 pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge2 ge4 ge6 ge8	xge1 xge2 xge3 xge4
	System Management	>> Link Detect			
System Info	Tracert				
PON Port Info	inacen				
Ports	IP Address			Start	
L2 Forward					
VLAN Config					
Trunk 💎					
MSTP 💎					
EAPS					
L3 Interfaces					
L3 Forward					
SNMP V					
System MGMT					
- User Management					
- Device Restart					
- System Time			Help		
- Log Infomation					
- Ping Diagnostics					
- File Management					
- Restore to factory settings					
- Logout					

Figure 3- 40 Trace route detect

3.13.7 File Management

Click **System MGMT> File management** to show, upload/download configuration files or restore factory Settings.

System Info File Management Ports Current Version Version 1.1.2(18732.18699) L2 Forward Software 浏览… VLAN Config UpLoad configuration 浏览… Download configuration File Download Download configure Oownload Save all configure Save
Ports Current Version Version 1.1.2(18732:18699) D 2 Forward Software 浏览 VLAN Config UpLoad configuration 浏览 Download configuration File Download Download configuration File Download Save all configure Save
L2 Forward Software 浏览 Upgrade VLAN Config UpLoad configuration 浏览 Upload Trunk Download configuration File Download EAPS Save all configure Save
VLAN Config UpLoad configuration 回 回 回 MSTP Download configuration File Download Download running configuration File Download Save all configure Save
Trunk Download configuration File Download MSTP Download configuration File Download EAPS Download running configuration File Download Save all configure Save
MSTP Download running configuration File Download L3 Interfaces Save all configure Save
EAPS Commodal forming computation rise Commodal forming computation rise L3 Interfaces Save all configure Save
Save all configure Save Save all configure Help
L3 Forward Help
SNMP
SNMP
System MGMT
ser Management
evice Restart
rstem Time
ng Infomation
ng Diagnostics
acefoute
e Management
store to factory settings
gout

Figure 3-41 file management

Interface	Description
Current Version	Display current version information and the
	download of the current version image
Software upgrade	Update image file (fs3526_4.img.gz) through
	WEB.
Upload configuration	Upload backup OLT profile through WEB.
Download	Download the configuration file saved by the
configuration File	current device.
Download running	Download the current running status file
status File	
Save all configuration	Save all the page configuration information

Table 3-23 File management

3.13.8 Restore to factory settings

Click System MGMT> Restore to factory settings to restore to factory

settings.

EPON-O	LT _	pon1 pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge1 ge3 ge5 ge7 ge2 ge4 ge6 ge8	English 中文 xge1 xge2 xge3 xge4
	System Management	Restore to factory setting	s		
System Info	Restore to factory se	ettings			
PON Port Info	Restore to factory set	tings		Recover	
Ports	restore to ractory set			Ketorel	
L2 Forward					
VLAN Config					
Trunk					
MSTP					
CO La Interference					
Lo Internaces					
Children Contract					
System MGMT					
- User Management					
- Device Restart					
- System Time					
- Log Infomation					
- Traceroute					
- File Management					
- Restore to factory settings					
- Logout					

3.13.9 Log out

Click **System MGMT> Log out** to log out the Web management system.

EPON-0	JLT	pon1 pon2 pon3 pon4	pon5 pon6 pon7 pon8	ge1 ge3 ge5 ge7 ge2 ge4 ge6 ge8	English 中文 xge1 xge2 xge3 xge4
	System Managemen	t >> Logout			
System Info	Logout				
PON Port Info	Logout		Logout		
Ports	Logoui		Logout		
L2 Forward					
VLAN Config 🔍					
Trunk 🔍					
MSTP V					
EAPS V					
L3 Interfaces 🔍					
L3 Forward					
SNMP					
System MGMT					
- User Management					
- Device Restart					
- System Time					
- Log Infomation					
- Fing Diagnosics					
- File Management					
- Restore to factory settings					
- Logout					

Abbreviation list:

- BPDU Bridge Protocol Data Unit
- **EAPS** Ethernet Automatic Protection Switching
- LACP Link Aggregation Control Protocol
- MSTP Multiple Spanning Tree Protocol
- **RSTP** Rapid spanning Tree Protocol
- **RTP** Real-time Transport Protocol
- **SNMP** Simple Network Management Protocol
- **STP** Spanning Tree Protocol
- VLAN Virtual Local Area Network