

# PICOTEL

## PT-E2500 Series EPON OLT

### WEB GUIDE



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## Chapter 1 System Description

### 1.1 OLT Introduction

EPON OLT provides various types of network interface, service interface and maintenance interface to adapt to different networking environments. All the interfaces could comply with the relevant telecommunications standards.

Table 1-1 lists all OLT interface types.

Type	Interface	Remarks
PON Interface	PON optical interface	The point-to-multipoint architecture and the passive fiber transmission mode are used. The downstream rate and upstream rate can reach up to 1.25Gbps.
Uplink port interface	Support GE copper interface and optical interface	RJ45 connect the uplink port To Ethernet, or add optical model connecting the optical uplink port to Ethernet.

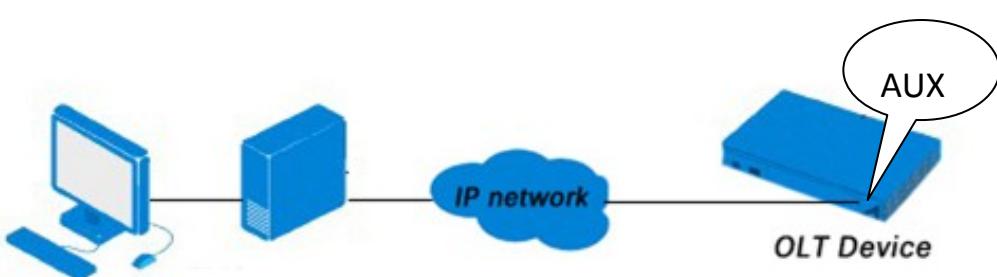
Maintenance interface	Console port AUX port	Console port is used for local maintenance.  AUX port is used for remote maintenance.
-----------------------	--------------------------	---

## 1.2 Connection

Manage the OLT via WEB by connecting the OLT AUX port to Ethernet.

The OLT default management IP is 192.168.8.100.

Please set your PC IP to 192.168.8.XXX (e.g.192.168.8.123)



## Chapter 2 OLT Application Status

### 2.1 Login

One of the ways to configure device is by the web interface. The following steps will enable you to login:

1. Conform “1.2 Connection” to connect;
2. The device default IP address is 192.168.8.100;
3. Open your web browser, type the device IP in address bar;
4. Entry of the username and password will be prompted. Enter the default login User Name and Password. Both the username and password are "**admin**" by default.

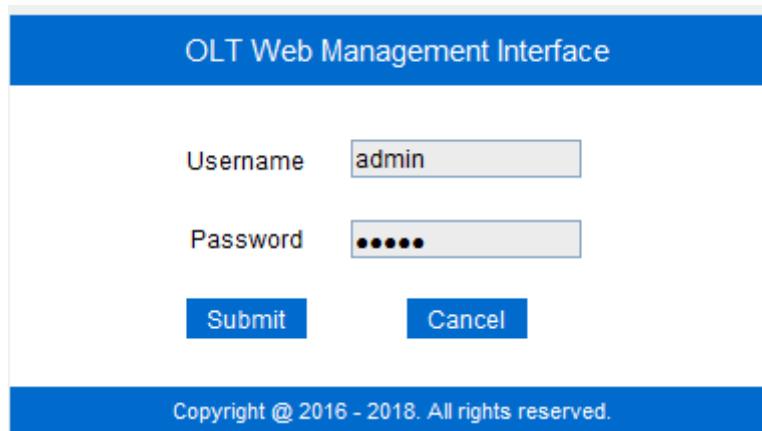


Figure 2-1: Login

### 2.2 Status

This part shows the main information and the service status of OLT.

## 2.2.1 Device

It's about the OLT basic information and the real-time information.

### 2.2.1.1 Basic Info

This part shows the OLT information such as system name, serial number, hardware version, firmware version, MAC address and system time.

The system name can be modified if need.

System Name	epon-olt
Serial Number	V1603120090
Hardware Version	eight epon olt platform
Firmware Version	V2.03.13
MAC Address	80:14:A8:23:D6:F9
System Time	2000 /1 /1 0:59:15

Figure 2-2: Device Information

### 2.2.1.2 Realtime Info

This part shows the real-time information, include the CUP load, Memory load, Temperature and running time. All the information is real-time.

**OLT Web Management Interface**

Status	Status	Basic Setting		Application		Maintenance		ONU Profile		ONU
	Device	Port	MAC	IGMP	RSTP	DHCP	ONU	Alarm		
Basic Info	Realtime Info									
Realtime Info	CPU Load	53%								
	Memory Load	14%								
	Temperature	53°C								
	Running Time	0 Days 1 Hours 2 Minutes 52 Seconds								

Figure 2-3: Device Real-time Information

## 2.2.2 Port

This part is about the OLT GE port and PON port information. It can show the GE port link status, speed and the packets statistics.

**OLT Web Management Interface**

Status	Status	Basic Setting		Application		Maintenance		ONU Profile		ONU	
	Device	Port	MAC	IGMP	RSTP	DHCP	ONU	Alarm			
GE Info	Traffic Statistics										
PON Info	Port ID	Link Status	Speed	Rx Packets	Rx Broadcast	Rx Multicast	Tx Packets	Tx Broadcast	Tx Multicast	Collisions	Errors
	GE1	Up	1000M Full	0	0	0	0	0	0	0	0
	GE2	Up	1000M Full	0	0	0	0	0	0	0	0
	GE3	Up	1000M Full	0	0	0	0	0	0	0	0
	GE4	Up	1000M Full	0	0	0	0	0	0	0	0
	GE5	Down	-	0	0	0	0	0	0	0	0
	GE6	Down	-	0	0	0	0	0	0	0	0
	GE7	Down	-	0	0	0	0	0	0	0	0
	GE8	Down	-	0	0	0	0	0	0	0	0
	GE9	Down	-	0	0	0	0	0	0	0	0
	GE10	Down	-	0	0	0	0	0	0	0	0
	GE11	Down	-	0	0	0	0	0	0	0	0
	GE12	Down	-	0	0	0	0	0	0	0	0
	GE13	Down	-	0	0	0	0	0	0	0	0

Figure 2-4: GE Port Information

The PON port will show the optical parameters exactly.

Status	Status		Basic Setting		Application		Maintenance		ONU Profile		admin ONU																																																							
	Device	Port	MAC	IGMP	RSTP	DHCP	ONU	Alarm																																																										
<b>GE Info</b>																																																																		
<b>PON Info</b>																																																																		
<b>Optical Transceiver</b>																																																																		
<table border="1"> <thead> <tr> <th>Port ID</th> <th>Temperature</th> <th>Voltage</th> <th>Bias Current</th> <th>Transmit Power</th> </tr> </thead> <tbody> <tr> <td>PON1</td> <td>42.268 C</td> <td>3.3304 V</td> <td>12.96 mA</td> <td>4.825163 dbm</td> </tr> <tr> <td>PON2</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>PON3</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>PON4</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>PON5</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>PON6</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>PON7</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>PON8</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table>												Port ID	Temperature	Voltage	Bias Current	Transmit Power	PON1	42.268 C	3.3304 V	12.96 mA	4.825163 dbm	PON2	N/A	N/A	N/A	N/A	PON3	N/A	N/A	N/A	N/A	PON4	N/A	N/A	N/A	N/A	PON5	N/A	N/A	N/A	N/A	PON6	N/A	N/A	N/A	N/A	PON7	N/A	N/A	N/A	N/A	PON8	N/A	N/A	N/A	N/A										
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PON5	N/A	N/A	N/A	N/A																																																														
PON6	N/A	N/A	N/A	N/A																																																														
PON7	N/A	N/A	N/A	N/A																																																														
PON8	N/A	N/A	N/A	N/A																																																														
<b>Traffic Statistics</b>																																																																		
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Port ID	Link Status	Speed	Rx Packets	Rx Broadcast	Rx Multicast	Tx Packets	Tx Broadcast	Tx Multicast	Collisions	Errors																																																								
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PON3	Down	-	14	0	14	28	0	28	0	0																																																								
rxmulticast	rxerror	-	-	-	-	-	-	-	-	-																																																								

Figure 2-5: PON Port Information

## 2.2.3 MAC

MAC Info is to show the learning MAC address of OLT. All the MAC addresses of all the ports with VLAN can be shown.

Status	Status		Basic Setting		Application		Maintenance		ONU Profile		admin ONU																																																										
	Device	Port	MAC	IGMP	RSTP	DHCP	ONU	Alarm																																																													
<b>MAC Info</b>																																																																					
<b>MAC Address Table</b>																																																																					
<table border="1"> <thead> <tr> <th>Port ID</th> <th>ALL</th> </tr> </thead> <tbody> <tr> <td>VLAN ID</td> <td>MAC</td> <td>Type</td> <td>Physical Port</td> </tr> <tr> <td>960</td> <td>40:61:86:02:42:CA</td> <td>Dynamic</td> <td>GE10</td> </tr> <tr> <td>960</td> <td>7C:08:D9:03:13:5C</td> <td>Dynamic</td> <td>GE10</td> </tr> <tr> <td>960</td> <td>34:97:F6:85:50:9B</td> <td>Dynamic</td> <td>GE10</td> </tr> <tr> <td>960</td> <td>00:0A:C2:21:0B:BD</td> <td>Dynamic</td> <td>GE10</td> </tr> <tr> <td>960</td> <td>62:08:D9:D3:13:5C</td> <td>Dynamic</td> <td>GE10</td> </tr> <tr> <td>960</td> <td>3C:D1:6E:09:DE:57</td> <td>Dynamic</td> <td>GE10</td> </tr> <tr> <td>960</td> <td>00:05:A8:1E:5A:70</td> <td>Dynamic</td> <td>GE10</td> </tr> <tr> <td>960</td> <td>00:1F:16:2F:ED:35</td> <td>Dynamic</td> <td>GE10</td> </tr> <tr> <td>960</td> <td>E8:03:9A:DE:B1:E8</td> <td>Dynamic</td> <td>GE10</td> </tr> <tr> <td>960</td> <td>00:0C:29:36:4E:9D</td> <td>Dynamic</td> <td>GE10</td> </tr> <tr> <td>960</td> <td>00:1E:EC:11:7D:07</td> <td>Dynamic</td> <td>GE10</td> </tr> <tr> <td>960</td> <td>00:20:23:00:00:00</td> <td>Dynamic</td> <td>GE10</td> </tr> <tr> <td>960</td> <td>00:05:A8:0A:EF:C1</td> <td>Dynamic</td> <td>GE10</td> </tr> </tbody> </table>												Port ID	ALL	VLAN ID	MAC	Type	Physical Port	960	40:61:86:02:42:CA	Dynamic	GE10	960	7C:08:D9:03:13:5C	Dynamic	GE10	960	34:97:F6:85:50:9B	Dynamic	GE10	960	00:0A:C2:21:0B:BD	Dynamic	GE10	960	62:08:D9:D3:13:5C	Dynamic	GE10	960	3C:D1:6E:09:DE:57	Dynamic	GE10	960	00:05:A8:1E:5A:70	Dynamic	GE10	960	00:1F:16:2F:ED:35	Dynamic	GE10	960	E8:03:9A:DE:B1:E8	Dynamic	GE10	960	00:0C:29:36:4E:9D	Dynamic	GE10	960	00:1E:EC:11:7D:07	Dynamic	GE10	960	00:20:23:00:00:00	Dynamic	GE10	960	00:05:A8:0A:EF:C1	Dynamic	GE10
Port ID	ALL																																																																				
VLAN ID	MAC	Type	Physical Port																																																																		
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960	00:20:23:00:00:00	Dynamic	GE10																																																																		
960	00:05:A8:0A:EF:C1	Dynamic	GE10																																																																		

Figure 2-6: MAC Table

## 2.2.4 IGMP

Click **Status→IGMP→Group Member**, IGMP Group Member (both the dynamic and static IGMP Group) can be shown.

**OLT Web Management Interface**

Status	Status	Basic Setting		Application		Maintenance		ONU Profile		ONU										
	Device	Port	MAC	IGMP	RSTP	DHCP	ONU	Alarm												
Group Member	IGMP Group Member																			
	<table border="1"> <tr> <th>Group VLAN ID</th> <th>IP Address</th> <th>Port ID</th> <th>Type</th> <th>User VLAN ID</th> </tr> <tr> <td>960</td> <td>239.0.0.1</td> <td>PON1</td> <td>Static</td> <td>46</td> </tr> </table>					Group VLAN ID	IP Address	Port ID	Type	User VLAN ID	960	239.0.0.1	PON1	Static	46					
Group VLAN ID	IP Address	Port ID	Type	User VLAN ID																
960	239.0.0.1	PON1	Static	46																
	<input type="button" value="Refresh"/>																			

Figure 2-7: IGMP Group Member

## 2.2.5 RSTP

The OLT is disabling RSTP by default. When enable the RSTP, the RSTP global information and port information can be shown by click **Status→RSTP**. See figure 2-8 and figure 2-9.

**OLT Web Management Interface**

Status	Status	Basic Setting		Application		Maintenance		ONU Profile		ONU																								
	Device	Port	MAC	IGMP	RSTP	DHCP	ONU	Alarm																										
Global Info	RSTP Information																																	
Port Info	<table border="1"> <tr> <td></td> <td>Root</td> <td>Bridge</td> </tr> <tr> <td>Cost</td> <td>0</td> <td></td> </tr> <tr> <td>Port</td> <td>GE0</td> <td></td> </tr> <tr> <td>Priority</td> <td>32768</td> <td>32768</td> </tr> <tr> <td>MAC Address</td> <td>80:14:A8:23:D6:F9</td> <td>80:14:A8:23:D6:F9</td> </tr> <tr> <td>Hello Time</td> <td>2s</td> <td>2s</td> </tr> <tr> <td>Max Age</td> <td>20s</td> <td>20s</td> </tr> <tr> <td>Forward Delay</td> <td>15s</td> <td>15s</td> </tr> </table>											Root	Bridge	Cost	0		Port	GE0		Priority	32768	32768	MAC Address	80:14:A8:23:D6:F9	80:14:A8:23:D6:F9	Hello Time	2s	2s	Max Age	20s	20s	Forward Delay	15s	15s
	Root	Bridge																																
Cost	0																																	
Port	GE0																																	
Priority	32768	32768																																
MAC Address	80:14:A8:23:D6:F9	80:14:A8:23:D6:F9																																
Hello Time	2s	2s																																
Max Age	20s	20s																																
Forward Delay	15s	15s																																

Figure 2-8: RSTP Global Information

**OLT Web Management Interface**

Status	Status	Basic Setting		Application		Maintenance		ONU Profile		ONU																														
	Device	Port	MAC	IGMP	RSTP	DHCP	ONU	Alarm																																
Global Info	<b>RSTP Port Status</b>																																							
Port Info	<table border="1"> <thead> <tr> <th>Port ID</th> <th>Role</th> <th>State</th> <th>Cost</th> <th>Priority</th> <th>Point To Point</th> </tr> </thead> <tbody> <tr> <td>GE1</td> <td>Design</td> <td>Forwarding</td> <td>200000</td> <td>128</td> <td>Enable</td> </tr> <tr> <td>GE2</td> <td>Design</td> <td>Forwarding</td> <td>200000</td> <td>128</td> <td>Enable</td> </tr> <tr> <td>GE3</td> <td>Design</td> <td>Forwarding</td> <td>200000</td> <td>128</td> <td>Enable</td> </tr> <tr> <td>GE4</td> <td>Design</td> <td>Forwarding</td> <td>200000</td> <td>128</td> <td>Enable</td> </tr> </tbody> </table>										Port ID	Role	State	Cost	Priority	Point To Point	GE1	Design	Forwarding	200000	128	Enable	GE2	Design	Forwarding	200000	128	Enable	GE3	Design	Forwarding	200000	128	Enable	GE4	Design	Forwarding	200000	128	Enable
Port ID	Role	State	Cost	Priority	Point To Point																																			
GE1	Design	Forwarding	200000	128	Enable																																			
GE2	Design	Forwarding	200000	128	Enable																																			
GE3	Design	Forwarding	200000	128	Enable																																			
GE4	Design	Forwarding	200000	128	Enable																																			
	<input type="button" value="Refresh"/>																																							

Figure 2-9: RSTP Port Information

## 2.2.6 DHCP

Click **Status→DHCP**, the DHCP Server Lease and DHCP Snooping Bind List will be shown as figure 2-10 and figure 2-11.

**OLT Web Management Interface**

Status	Status	Basic Setting		Application		Maintenance		ONU Profile		ONU						
	Device	Port	MAC	IGMP	RSTP	DHCP	ONU	Alarm								
Server Lease	<b>DHCP Server Lease</b>															
Snooping Bind List	<table border="1"> <thead> <tr> <th>IP Address</th> <th>MAC address</th> <th>Expires Time</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>										IP Address	MAC address	Expires Time			
IP Address	MAC address	Expires Time														
	<input type="button" value="Refresh"/>															

Figure 2-10: DHCP Server list

**OLT Web Management Interface**

Status	Status	Basic Setting		Application		Maintenance		ONU Profile		ONU												
	Device	Port	MAC	IGMP	RSTP	DHCP	ONU	Alarm														
Server Lease	<b>DHCP Snooping Bind List</b>																					
Snooping Bind List	<table border="1"> <thead> <tr> <th>MAC Address</th> <th>VLAN ID</th> <th>IP Address</th> <th>Port ID</th> <th>Lease</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>01:00:00:02:01:00</td> <td>1</td> <td>192.168.1.222</td> <td>GE2</td> <td>55</td> <td>Static</td> </tr> </tbody> </table>										MAC Address	VLAN ID	IP Address	Port ID	Lease	Type	01:00:00:02:01:00	1	192.168.1.222	GE2	55	Static
MAC Address	VLAN ID	IP Address	Port ID	Lease	Type																	
01:00:00:02:01:00	1	192.168.1.222	GE2	55	Static																	
	<input type="button" value="FlushAll"/> <input type="button" value="FlushStatic"/> <input type="button" value="FlushDynamic"/> <input type="button" value="Refresh"/>																					

Figure 2-11: DHCP Snooping list

## 2.2.7 ONU

When ONU had connected to OLT, it should be authenticated first. This page shows about the ONU authentication list. It will be bound a profile ID 0 when ONU is authenticated successfully.

Status	OLT Web Management Interface									admin
	Status		Basic Setting		Application		Maintenance		ONU Profile	
	Device	Port	MAC	IGMP	RSTP	DHCP	ONU	Alarm		
Authentication Info										
Automatic Discovery										
Bind Profile Info										
	ONU ID	LLID	Status	MAC Address	RTT	Type	Auth Flag	Exchange	Auth Mode	Loid/pwd
	1	-1	Offline	80:14:A8:20:BA:10	0	Unknown	Unauth	Idle	None	NULL
	2	-1	Offline	80:14:A8:20:BA:58	0	Unknown	Unauth	Idle	None	NULL
	3	-1	Offline	80:14:A8:20:B6:E0	0	Unknown	Unauth	Idle	None	NULL
	4	-1	Offline	80:14:A8:0D:CE:30	0	Unknown	Unauth	Idle	None	NULL
	5	-1	Offline	80:14:A8:20:BA:20	0	Unknown	Unauth	Idle	None	NULL
	6	-1	Offline	80:14:A8:1A:E0:58	0	Unknown	Unauth	Idle	None	NULL
	7	-1	Offline	80:14:A8:1A:E0:78	0	Unknown	Unauth	Idle	None	NULL
	8	-1	Offline	80:14:A8:1A:E2:08	0	Unknown	Unauth	Idle	None	NULL
	9	-1	Offline	80:14:A8:20:B9:80	0	Unknown	Unauth	Idle	None	NULL
	10	-1	Offline	80:14:A8:20:BA:40	0	Unknown	Unauth	Idle	None	NULL
	11	-1	Offline	80:14:A8:1A:E1:E8	0	Unknown	Unauth	Idle	None	NULL
	12	-1	Offline	80:14:A8:1A:E2:C8	0	Unknown	Unauth	Idle	None	NULL
	13	-1	Offline	80:14:A8:1A:E2:48	0	Unknown	Unauth	Idle	None	NULL
	14	-1	Offline	80:14:A8:1A:E1:68	0	Unknown	Unauth	Idle	None	NULL
	15	-1	Offline	80:14:A8:1A:E0:C8	0	Unknown	Unauth	Idle	None	NULL

Figure 2-12: ONU Authentication List

Status	OLT Web Management Interface									admin
	Status		Basic Setting		Application		Maintenance		ONU Profile	
	Device	Port	MAC	IGMP	RSTP	DHCP	ONU	Alarm		
Authentication Info										
Automatic Discovery		PON1								
Bind Profile Info										
	ONU ID	MAC Address	DBA Profile	Server Profile	VoIP Profile	Alarm Profile	Default Server Profile			
	1	80:14:A8:20:BA:10	0	0	0	0	0x0			
	2	80:14:A8:20:BA:58	0	0	0	0	0x0			
	3	80:14:A8:20:B6:E0	0	0	0	0	0x0			
	4	80:14:A8:0D:CE:30	0	0	0	0	0x0			
	5	80:14:A8:20:BA:20	0	0	0	0	0x0			
	6	80:14:A8:1A:E0:58	0	0	0	0	0x0			
	7	80:14:A8:1A:E0:78	0	0	0	0	0x0			
	8	80:14:A8:1A:E2:08	0	0	0	0	0x0			
	9	80:14:A8:20:B9:80	0	0	0	0	0x0			
	10	80:14:A8:20:BA:40	0	0	0	0	0x0			
	11	80:14:A8:1A:E1:E8	0	0	0	0	0x0			
	12	80:14:A8:1A:E2:C8	0	0	0	0	0x0			
	13	80:14:A8:1A:E2:48	0	0	0	0	0x0			
	14	80:14:A8:1A:E1:68	0	0	0	0	0x0			

Figure 2-13: ONU Profile Bind List

## 2.2.8 Alarm

Any operation will lead to OLT alarm, such as ONU lost link, ONU Auth...

No.	Time	Level	Message
1	1999/12/31 00:01:21	major	PON Enable PON 5-8 Enable!
2	1999/12/31 00:01:21	major	PON Enable PON 1-4 Enable!
3	1999/12/31 00:00:55	critical	PON Deregister DEVICE 7 by IROS_MSG_TYPE_APPS_OLT_REG.
4	1999/12/31 00:00:13	critical	PON Deregister DEVICE 0 by IROS_MSG_TYPE_APPS_OLT_REG.
5	1999/12/31 00:00:13	critical	PON Deregister DEVICE 7 by IROS_MSG_TYPE_APPS_OLT_REG.
6	1999/12/31 00:00:13	critical	PON Deregister DEVICE 0 by IROS_MSG_TYPE_APPS_OLT_REG.
7	1999/12/31 00:00:09	warning	OLT Port Updown Uplink-port 0/3 Up
8	1999/12/31 00:00:09	warning	OLT Port Updown Uplink-port 0/4 Up
9	1999/12/31 00:00:09	warning	OLT Port Updown Uplink-port 0/2 Up
10	1999/12/31 00:00:09	warning	OLT Port Updown Uplink-port 0/1 Up

Figure 2-14: Alarm Events

## Chapter 3 OLT Basic Setting

This section is about the basic service of OLT configuration.

### 3.1 VLAN

#### 3.1.1 New VLAN

OLT network service is based on VLAN, create a new VLAN is necessary.

The screenshot shows the 'Basic Setting' tab selected in the navigation bar. Under the 'VLAN' sub-tab, there is a 'New VLAN' configuration section. It includes fields for 'VLAN ID' (set to 255) and 'Description' (set to 'vlan255'), and a 'Add' button. Below this is a 'VLAN Table' containing the following data:

VLAN ID	Description	Edit	Delete
1	default	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
960	vlan960	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
2000	vlan2000	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
4000	vlan4000	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>

Figure 3-1: Create New VLAN

#### 3.1.2 Port VLAN

Add the new VLAN in the port you want to connect. You can choose the VLAN mode tag or untag in this page.

**OLT Web Management Interface**

Basic Setting	Status	Basic Setting	Application		Maintenance	ONU Profile	ONU
	VLAN	Port	QoS	MAC	Security		
New VLAN	Port VLAN Configuration						
Port VLAN	VLAN ID	2000					
QinQ	GE1	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
VLAN IP	GE2	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE3	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE4	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE5	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE6	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE7	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE8	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE9	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE10	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE11	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE12	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE13	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE14	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE15	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	GE16	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	PON1	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					
	PON2	<input type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag					

Figure 3-2: Add Port VLAN

### 3.1.3 QinQ

Configure the port mode VLAN translation or QinQ.

**OLT Web Management Interface**

Basic Setting	Status	Basic Setting	Application		Maintenance	ONU Profile	ONU
	VLAN	Port	QoS	MAC	Security		
New VLAN	QinQ Configuration						
Port VLAN	Port ID	GE1					
QinQ	Customer VLAN	1					
VLAN IP	Customer Cos	any					
	Service VLAN	1					
	Service Cos	any					
	Mode	VLAN Translation					
	Add						
	VLAN QinQ Mapping Table						
	Port ID	Customer VLAN	Customer Cos	Service VLAN	Service Cos	Mode	Delete
	GE1	2000	1	4000	2	VLAN Translation	<button>Delete</button>
	GE1	960	0	960	0	QinQ	<button>Delete</button>

Figure 3-3: QinQ Configuration

### 3.1.4 VLAN IP

Select the existing VLAN and put an IP address in this VLAN.

**OLT Web Management Interface**

Basic Setting	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU								
	VLAN	Port	QOS	MAC	Security									
New VLAN														
Port VLAN														
QinQ														
<b>VLAN IP</b>	<b>VLAN IP Config</b> VLAN ID: 960 IP Address: 192.168.1.120 Subnet Mask: 255.255.255.0 <input type="button" value="Submit"/> <input type="button" value="Reset"/> <b>VLAN IP Table</b> <table border="1"> <thead> <tr> <th>VLAN ID</th> <th>IP Address</th> <th>Subnet Mask</th> <th>Delete</th> </tr> </thead> <tbody> <tr> <td>960</td> <td>192.168.1.120</td> <td>255.255.255.0</td> <td><input type="button" value="Delete"/></td> </tr> </tbody> </table>						VLAN ID	IP Address	Subnet Mask	Delete	960	192.168.1.120	255.255.255.0	<input type="button" value="Delete"/>
VLAN ID	IP Address	Subnet Mask	Delete											
960	192.168.1.120	255.255.255.0	<input type="button" value="Delete"/>											

Figure 3-4: VLAN IP

## 3.2 Port

GE ports and PON ports basic service can be configured here.

### 3.2.1 GE/PON Setup

Configure the GE/PON ports basic service, including admin status, flow control switch, isolate switch, PVID...

**OLT Web Management Interface**

Basic Setting	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	VLAN	Port	QOS	MAC	Security	
GE Setup						
PON Setup						
Channel Group						
Mirroring						
	<b>GE Configuration</b> Port ID: GE1 Description: Admin Status: <input checked="" type="radio"/> Enable <input type="radio"/> Disable Flow Control: <input type="radio"/> On <input checked="" type="radio"/> Off Isolate: <input checked="" type="radio"/> Enable <input type="radio"/> Disable Broadcast Storm Protection: 512 (0 64-1000000kbps) Multicast Storm Protection: 0 (0 64-1000000kbps) Unicast Storm Protection: 512 (0 64-1000000kbps) Ingress Rate: 0 (0 32-1000000kbps) Egress Rate: 0 (0 32-1000000kbps) MAC Limit: 0 (0-16384) Default VLAN ID: 1 <input type="button" value="Submit"/> <input type="button" value="Reset"/>					

Figure 3-5: GE/PON Setup

### 3.2.2 Channel Group

It can be created 4 groups at most. Each group can add 4 ports at most.

Only GE ports can be added in the channel groups.

Group ID	Load Balance	Ports	Delete
1	dmac	GE2 GE5 GE9 GE12	<input type="button" value="Delete"/>

Figure 3-6: Create Channel Groups

### 3.2.3 Mirroring

It can be created 4 groups at most. One destination port can support 8 source ports at most.

Session ID	Destination Port
1	GE1

Source Port1		Source Port2		Source Port3		Source Port4		Source Port5		Source Port6		Source Port7		Source Port8	
GE3	Both	PON6	Both	GE11	Both		Both		Both			Both			Both

Figure 3-7: Mirroring Groups

### 3.3 QOS

The QOS types can be divided into 802.1P and DSCP. It can support 3 modes: strict, WRR and strict-WRR.

OLT Web Management Interface						
Basic Setting	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	VLAN	Port	QoS	MAC	Security	
QoS	QoS Type QoS Type: 802.1P <input type="button" value="Submit"/>  QoS Configuration QoS Mode: WRR Queue0 Weight: 1 (1-127) Queue1 Weight: 1 (1-127) Queue2 Weight: 1 (1-127) Queue3 Weight: 2 (1-127) Queue4 Weight: 2 (1-127) Queue5 Weight: 2 (1-127) Queue6 Weight: 1 (1-127) Queue7 Weight: 1 (1-127) <input type="button" value="Submit"/>					

Figure 3-8: QOS Configuration

### 3.4 MAC

The MAC aging time is 300s by default. You can add a static MAC manually with VLAN and port.

OLT Web Management Interface						
Basic Setting	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	VLAN	Port	QoS	MAC	Security	
MAC	MAC Aging Configuration Automated Aging: Enable Aging Time: 300 (10-1000000s) <input type="button" value="Submit"/>  Add MAC Address VLAN ID: 960 MAC Address: (HH:HH:HH:HH:HH:HH) Type: Dynamic Port ID: GE1 <input type="button" value="Add"/> <input type="button" value="Delete"/>					

Figure 3-9: MAC Configuration

## 3.5 Security (ACL)

### 3.5.1 Security Filter

This part is about the security of OLT. It can permit or deny the clients access. Each access list can support 3 rules at most.

The screenshot shows the 'Access List Configuration' page of the OLT Web Management Interface. The top navigation bar includes tabs for Basic Setting, Application, Maintenance, ONU Profile, and ONU, with 'admin' and a gear icon on the far right. On the left, there are two buttons: 'Security Filter' and 'Effect Filter'. The main area is titled 'Access List Configuration' and contains several input fields and dropdown menus for defining an access list rule. The fields include:

- Access List ID: 5000 (5000-5999)
- Select Filter Type: S-MAC, D-MAC, VLAN, COS, Type, S-IP, S-Port, D-IP, D-Port, Protocol, DSCL (checkboxes)
- Source MAC: Mask (HH:HH:HH:HH:HH:HH)
- Destination MAC: Mask (HH:HH:HH:HH:HH:HH)
- VLAN ID: 2000
- VLAN Cos: (0-7)
- Ethernet Type: (HHHH)
- Source IP: 192.168.21.44 Mask 255.255.255.0
- Source Port: (0-65535)
- Destination IP: Mask (0-65535)
- Destination Port: (0-65535)
- Protocol: TCP
- DSCL: (0-255)
- Filter Action: Deny

At the bottom right of the configuration area is a blue 'Add' button.

Figure 3-10: Security Filter

### 3.5.2 Effect Filter

Bind the access list to the ports then it can take effect. Each access list can be bound several ports.

**OLT Web Management Interface**

Basic Setting	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU				
	VLAN	Port	QoS	MAC	Security					
Security Filter <b>Effect Filter</b>	<b>Access List Port Configuration</b> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;">           Access List ID: <input type="text" value="5000"/> GE1 GE2 GE3 GE4 GE5 GE6 GE7 GE8 GE9 GE10 GE11 GE12 GE13 GE14 GE15 GE16         </div> <div style="display: flex; justify-content: space-between;">           Select GE Port: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>             PON1 PON2 PON3 PON4 PON5 PON6 PON7 PON8         </div> <div style="display: flex; justify-content: space-between;">           Select PON Port: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>   <input type="button" value="Apply Access List to Port(s)"/> </div> <b>Active Access Lists</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Access List ID</th> <th>Ports</th> </tr> </thead> <tbody> <tr> <td>5000</td> <td>GE3 GE5 PON5 PON6</td> </tr> </tbody> </table>						Access List ID	Ports	5000	GE3 GE5 PON5 PON6
Access List ID	Ports									
5000	GE3 GE5 PON5 PON6									

Figure 3-11: Bind Security Filter

## Chapter 4 Application

This chapter is about the protocol service configuration.

### 4.1 IGMP

#### 4.1.1 Global Setup

Enable the IGMP snooping mode.

The screenshot shows the 'IGMP Configuration' section of the 'Global Setup' page. The 'IGMP Status' dropdown is set to 'Enable'. Other fields include 'Last Member Query Interval' (1), 'Last Member Query Count' (2), 'Last Member Query Response' (1), 'General Query Packet' (radio button selected for 'Enable'), 'General Query Interval' (125), and 'Query Source IP' (1.1.1.1). There are 'Submit' and 'Reset' buttons at the bottom.

Figure 4-1: IGMP Snooping Status

#### 4.1.2 Port Setup

IGMP port configuration is about the max groups number, port fast leave status and filter status.

**OLT Web Management Interface**

Application	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	IGMP	RSTP	ARP Proxy	DHCP	Static Route	
Global Setup	IGMP Port Configuration					
Port Setup	Port ID	GE1				
Port User VLAN	Fast Leave	<input checked="" type="radio"/> Disable <input type="radio"/> Enable				
Port Mrouter	Filter	<input checked="" type="radio"/> Disable <input type="radio"/> Enable				
Static Group	Group Limit	1024 (0-1024)				
		<input type="button" value="Submit"/> <input type="button" value="Reset"/>				
	IGMP Port Table					
	Port ID	Fast Leave	Filter	Group Limit		
	GE1	disable	disable	1024		
	GE2	disable	disable	1024		
	GE3	disable	disable	1024		
	GE4	disable	disable	1024		
	GE5	disable	disable	1024		
	GE6	disable	disable	1024		

Figure 4-2: IGMP Port Setting

#### 4.1.3 Port User VLAN

IGMP VLAN configure the user VLAN and group VLAN.

**OLT Web Management Interface**

Application	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	IGMP	RSTP	ARP Proxy	DHCP	Static Route	
Global Setup	User VLAN Configuration					
Port Setup	Port ID	GE1				
Port User VLAN	User VLAN ID	46				
Port Mrouter	Group VLAN ID	46				
Static Group		<input type="button" value="Add"/>				
	User VLAN Table					
	Port ID	User VLAN ID	Group VLAN ID	Delete		
	PON1	46	960	<input type="button" value="Delete"/>		

Figure 4-3: IGMP User VLAN

#### 4.1.4 Port Mrouter

Add a port as the IGMP mrouter port.

OLT Web Management Interface

Application	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	IGMP	RSTP	ARP Proxy	DHCP	Static Route	
Global Setup	Add Multicast Router					
Port Setup						
Port User VLAN						
<b>Port Mrouter</b>	Port ID	GE1				
	Group VLAN ID	960				
	<b>Add</b>					
	Multicast Router Table					
	Port ID	Group VLAN ID	Delete			
	GE1	46	<b>Delete</b>			

Figure 4-4: IGMP Port Mrouter

#### 4.1.5 Static Group

Add an IGMP group manually. We always choose the PON port as the group port.

OLT Web Management Interface

Application	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	IGMP	RSTP	ARP Proxy	DHCP	Static Route	
Global Setup	Add Static Group					
Port Setup						
Port User VLAN						
Port Mrouter	Port ID	PON1				
<b>Static Group</b>	IP Address	239.0.0.2				
	User VLAN ID	46				
	<b>Add</b>					
	Static Group Table					
	Port ID	IP Address	User VLAN ID	Delete		
	PON1	239.0.0.1	46	<b>Delete</b>		

Figure 4-5: IGMP Static Group

### 4.2 RSTP

#### 4.2.1 Global Setup

The switch of RSTP is disable by default.

OLT Web Management Interface

Application	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	IGMP	RSTP	ARP Proxy	DHCP	Static Route	
Global Setup	RSTP Configuration					
Port Setup	RSTP Status: <input type="button" value="Enable"/> (0-61440) Global Priority: <input type="text" value="32768"/> Hello Time: <input type="text" value="2"/> (1-10s) Max Age: <input type="text" value="20"/> (6-40s) Forward Delay: <input type="text" value="15"/> (4-30s) <input type="button" value="Submit"/> <input type="button" value="Reset"/>					

Figure 4-6: RSTP Global Setup

#### 4.2.2 Port Setup

The RSTP ports parameter can be set.

OLT Web Management Interface

Application	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU																																																																														
	IGMP	RSTP	ARP Proxy	DHCP	Static Route																																																																															
Global Setup	RSTP Port Configuration																																																																																			
Port Setup	<table border="1"> <thead> <tr> <th>Port ID</th> <th>Status</th> <th>Priority (0-255)</th> <th>Cost (1-200000000)</th> <th>OperEdge</th> <th>Point To Point</th> </tr> </thead> <tbody> <tr><td>GE1</td><td>Enable</td><td>128</td><td>200000</td><td>Enable</td><td>Enable</td></tr> <tr><td>GE2</td><td>Enable</td><td>128</td><td>200000</td><td>Enable</td><td>Enable</td></tr> <tr><td>GE3</td><td>Enable</td><td>128</td><td>200000</td><td>Enable</td><td>Enable</td></tr> <tr><td>GE4</td><td>Enable</td><td>128</td><td>200000</td><td>Enable</td><td>Enable</td></tr> <tr><td>GE5</td><td>Enable</td><td>128</td><td>200000</td><td>Enable</td><td>Enable</td></tr> <tr><td>GE6</td><td>Enable</td><td>128</td><td>200000</td><td>Enable</td><td>Enable</td></tr> <tr><td>GE7</td><td>Enable</td><td>128</td><td>200000</td><td>Enable</td><td>Enable</td></tr> <tr><td>GE8</td><td>Enable</td><td>128</td><td>200000</td><td>Enable</td><td>Enable</td></tr> <tr><td>GE9</td><td>Enable</td><td>128</td><td>200000</td><td>Enable</td><td>Enable</td></tr> <tr><td>GE10</td><td>Enable</td><td>128</td><td>200000</td><td>Enable</td><td>Enable</td></tr> <tr><td>GE11</td><td>Enable</td><td>128</td><td>200000</td><td>Enable</td><td>Enable</td></tr> <tr><td>GE12</td><td>Enable</td><td>128</td><td>200000</td><td>Enable</td><td>Enable</td></tr> </tbody> </table>						Port ID	Status	Priority (0-255)	Cost (1-200000000)	OperEdge	Point To Point	GE1	Enable	128	200000	Enable	Enable	GE2	Enable	128	200000	Enable	Enable	GE3	Enable	128	200000	Enable	Enable	GE4	Enable	128	200000	Enable	Enable	GE5	Enable	128	200000	Enable	Enable	GE6	Enable	128	200000	Enable	Enable	GE7	Enable	128	200000	Enable	Enable	GE8	Enable	128	200000	Enable	Enable	GE9	Enable	128	200000	Enable	Enable	GE10	Enable	128	200000	Enable	Enable	GE11	Enable	128	200000	Enable	Enable	GE12	Enable	128	200000	Enable	Enable
Port ID	Status	Priority (0-255)	Cost (1-200000000)	OperEdge	Point To Point																																																																															
GE1	Enable	128	200000	Enable	Enable																																																																															
GE2	Enable	128	200000	Enable	Enable																																																																															
GE3	Enable	128	200000	Enable	Enable																																																																															
GE4	Enable	128	200000	Enable	Enable																																																																															
GE5	Enable	128	200000	Enable	Enable																																																																															
GE6	Enable	128	200000	Enable	Enable																																																																															
GE7	Enable	128	200000	Enable	Enable																																																																															
GE8	Enable	128	200000	Enable	Enable																																																																															
GE9	Enable	128	200000	Enable	Enable																																																																															
GE10	Enable	128	200000	Enable	Enable																																																																															
GE11	Enable	128	200000	Enable	Enable																																																																															
GE12	Enable	128	200000	Enable	Enable																																																																															

Figure 4-7: RSTP Port Setting

#### 4.3 ARP Proxy

As OLT supports L3 Function, it can help the different subnet ARP access.

OLT Web Management Interface

Application	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU												
	IGMP	RSTP	ARP Proxy	DHCP	Static Route													
ARP Proxy	<p>ARP Proxy VLAN has not config ip address, please config it first!</p> <p><b>ARP Proxy Configuration</b></p> <p>VLAN ID: 960  <input checked="" type="radio"/> Disable <input type="radio"/> Enable  <input type="button" value="Submit"/></p> <p><b>ARP Proxy Table</b></p> <table border="1"> <thead> <tr> <th>VLAN ID</th> <th>ARP Proxy Status</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>disable</td> </tr> <tr> <td>46</td> <td>disable</td> </tr> <tr> <td>960</td> <td>disable</td> </tr> <tr> <td>2000</td> <td>disable</td> </tr> <tr> <td>4000</td> <td>disable</td> </tr> </tbody> </table>						VLAN ID	ARP Proxy Status	1	disable	46	disable	960	disable	2000	disable	4000	disable
VLAN ID	ARP Proxy Status																	
1	disable																	
46	disable																	
960	disable																	
2000	disable																	
4000	disable																	

Figure4-8: ARP proxy configuration

## 4.4 DHCP

OLT supports 3 services of DHCP: DHCP server, DHCP relay, DHCP Snooping.

### 4.4.1 DHCP Server

If the OLT enable DHCP server, the connecting devices will obtain an IP address.

OLT Web Management Interface

Application	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	IGMP	RSTP	ARP Proxy	DHCP	Static Route	
Server Relay Snooping Global Snooping Port Snooping Bind	<p><b>DHCP Server Status</b></p> <p>DHCP Server Status: <input checked="" type="radio"/> Enable  VLAN ID: 46  <input type="button" value="Submit"/> <input type="button" value="Reset"/></p> <p><b>DHCP Server Settings</b></p> <p>Start IP Address: 192.168.12.124  End IP Address: 192.168.12.254  Subnet Mask: 255.255.255.0  Gateway: 0.0.0.0  Static DNS 1: 0.0.0.0  Static DNS 2: 0.0.0.0  Static DNS 3: 0.0.0.0  WINS: 0.0.0.0  Client Lease Time: 864000 (60-864000s)  <input type="button" value="Submit"/> <input type="button" value="Reset"/></p>					

Figure4-9: DHCP Server

#### 4.4.2 DHCP Relay

When the DHCP server and the clients are not in the same subnet, DHCP relay can help the clients get the IP address from the server.

Relay Server	
Server IP	VLAN ID
192.168.12.125	960
<input type="button" value="Add"/>	

Server IP	VLAN ID	Delete

Figure4-10: DHCP Relay

#### 4.4.3 DHCP Snooping Global

To prevent the DHCP message attacking and protect your network to get a useful IP address, it can deny the DHCP offers packets.

DHCP Snooping Status	
DHCP Snooping Status	<input checked="" type="radio"/> Enable
<input type="button" value="Submit"/> <input type="button" value="Reset"/>	

DHCP Snooping Settings	
Option82 Control	<input checked="" type="radio"/> Disable <input type="radio"/> Enable
Option82 Strategy	<input type="radio"/> Drop <input checked="" type="radio"/> Keep <input type="radio"/> Replace
Overspeed Recovery	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
Overspeed Recovery Interval	30 <input type="text"/> (3-3600s)
Binding Delete Time	300 <input type="text"/> (1-3600s)
<input type="button" value="Submit"/> <input type="button" value="Reset"/>	

VLAN ID List	
VLAN ID	46
<input type="button" value="Add"/> <input type="button" value="Delete"/>	

Figure4-11: DHCP Snooping Global

#### 4.4.4 DHCP Snooping Port

The DHCP snooping ports are untrust by default.

Application	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	IGMP	RSTP	ARP Proxy	DHCP	Static Route	
	admin					
Server						
Relay						
Snooping Global						
<b>Snooping Port</b>						
Snooping Bind						
DHCP Snooping Port Configuration						
Port ID	Type	Option82 Circuit ID	Option82 Remote ID	Limit Rate(0-4096)		
GE1	Untrust	123	123	1024		
GE2	Untrust			0		
GE3	Untrust			0		
GE4	Untrust			0		
GE5	Untrust			0		
GE6	Untrust			0		
GE7	Untrust			0		
GE8	Untrust			0		
GE9	Untrust			0		

Figure4-12: DHCP Snooping Port

#### 4.4.5 DHCP Snooping Bind

Fill in the MAC address, choose the VLAN ID, port ID and the lease time.

Click "Add", it will create a DHCP snooping bind list.

Application	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	IGMP	RSTP	ARP Proxy	DHCP	Static Route	
	admin					
Server						
Relay						
Snooping Global						
Snooping Port						
<b>Snooping Bind</b>						
Add DHCP Snooping Bind						
MAC Address	00:02:12:00:a1:11	(HH:HH:HH:HH:HH:HH)				
VLAN ID	960					
IP Address	192.168.10.14					
Port ID	GE2					
Lease	5000	(60-1000000s)				
	Add					
Static DHCP Snooping Bind Table						
MAC Address	VLAN ID	IP Address	Port ID	Lease	Delete	

Figure4-13: DHCP Snooping Bind

## 4.5 Static Route

OLT support L3 function by static route.

The screenshot shows the 'Static Route' section of the OLT Web Management Interface. At the top, there is a navigation bar with tabs: Status, Basic Setting, Application, Maintenance, ONU Profile, and ONU. The 'Application' tab is selected, and within it, the 'Static Route' sub-tab is also selected. On the left, a sidebar lists 'Static Route'. The main content area has two sections: 'Add Static Route' and 'Static Route Table'. In 'Add Static Route', fields for Destination IP (192.169.3.123), Destination Mask (255.255.255.0), and Gateway (192.168.6.1) are filled, and an 'Add' button is present. Below this is a table titled 'Static Route Table' with one row:

Destination IP	Destination Mask	Gateway	Delete
192.168.6.0	255.255.255.0	192.168.3.1	<input type="button" value="Delete"/>

Figure4-14: Static Route

## Chapter 5 Maintenance

This chapter is about the global management of OLT.

### 5.1 User Manage

The user can be divided into 2 levels: Normal and Admin. The different of them is the contents. The admin account number content will be more abundant. The default account number is **Admin** level.

User Name	User Role	Edit	Delete
admin	Admin		
user	Normal		

Figure5-1: User Manage

### 5.2 Device Manage

#### 5.2.1 Firmware Upgrade

Upgrade the OLT by WEB, do not need TFTP server. After finish upgrading, it will reboot automatically.

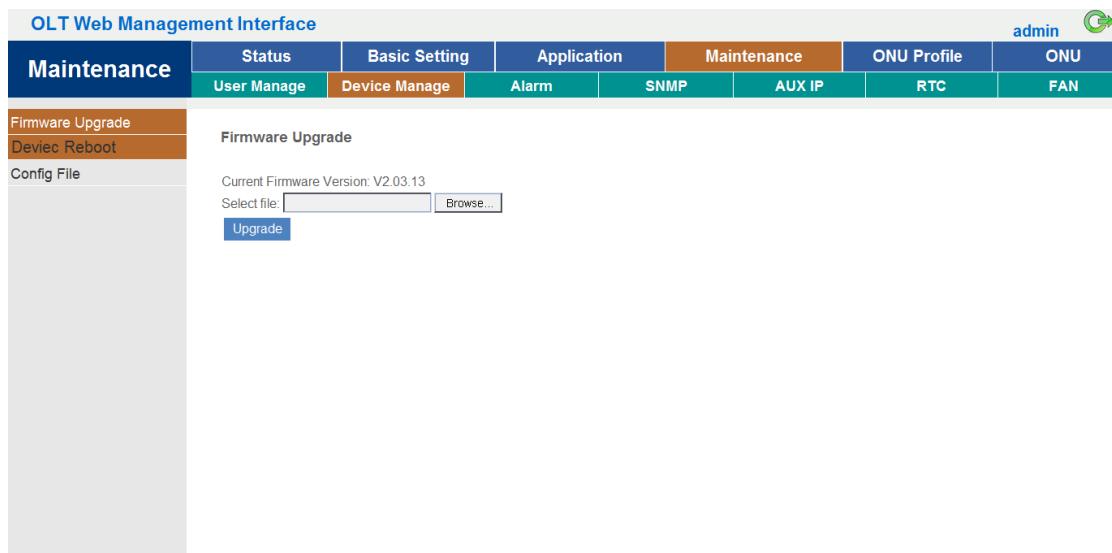


Figure5-2: Firmware Upgrade

### 5.2.2 Device Reboot

It will reboot the entire system.(Please save the configuration first)

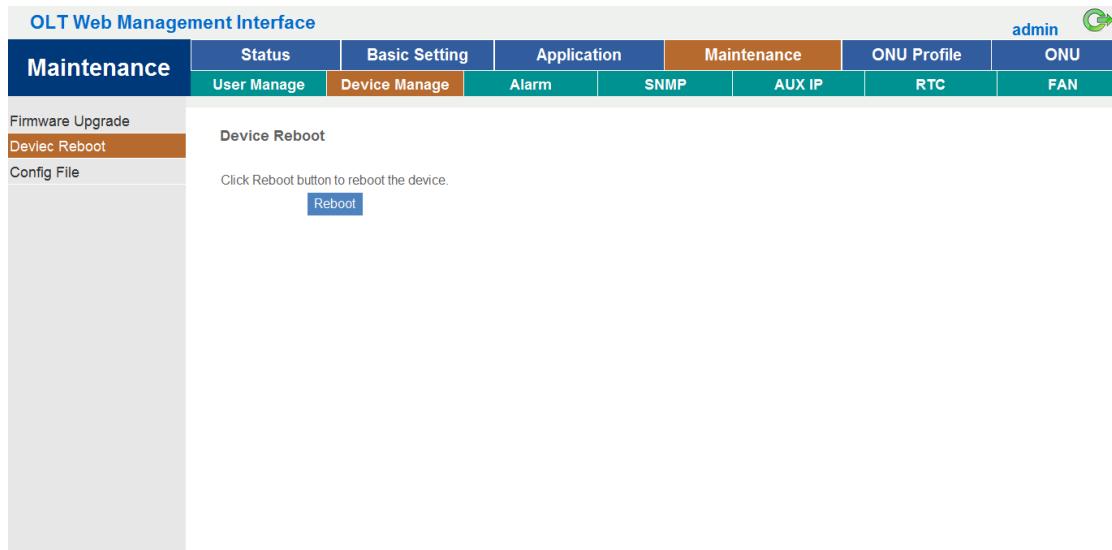


Figure5-3: Device Reboot

### 5.2.3 Config File

It includes backup configuration, restore configuration, factory default

and save configuration.

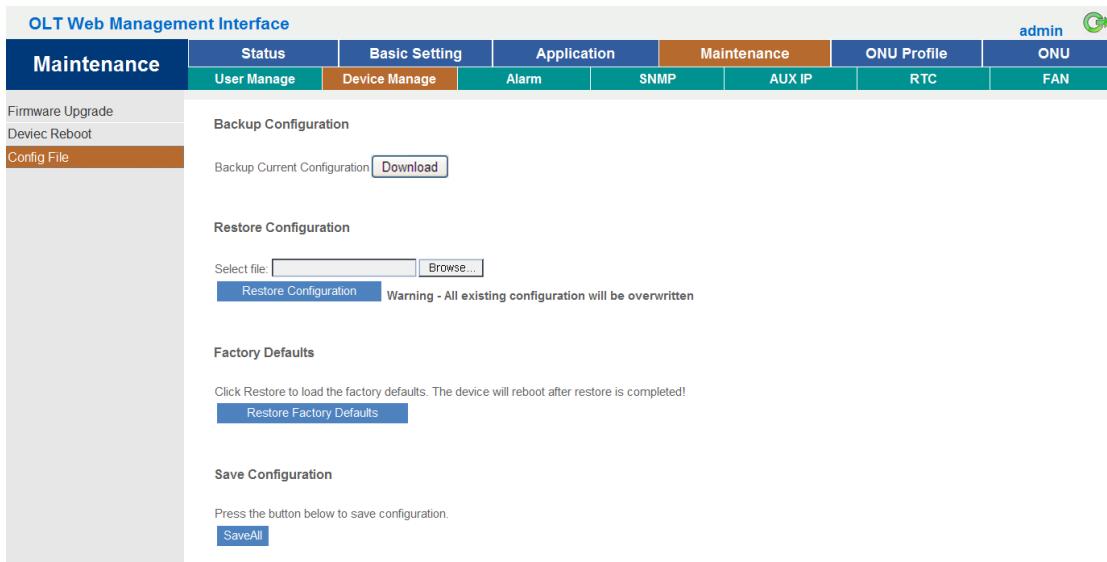


Figure5-4: Config File

## 5.3 Alarm

Show the alarm configuration list.

### 5.3.1 Alarm

It contains all the alarms of OLT. User can choose the different alarms to "Print", "Record", "Trap" and "Remote".

OLT Web Management Interface							
<b>Maintenance</b>	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU	admin
	User Manage	Device Manage	Alarm	SNMP	AUX IP	RTC	FAN
<b>Alarm</b>							
Threshold Alarm							
PON Optical Alarm							
Syslog Server							
<b>Alarm Configuration</b>							
Type	Print	Record	Trap	Remote			
fan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
download-file-failed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
upload-file-failed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
upgrade-file-failed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
port-updown	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
port-loopback	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
pon-deregister	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
pon-register-failed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
pon-disable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
pon-txpower-high	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

Figure5-5: Alarm configuration

### 5.3.2 Threshold Alarm

Configure the temperature threshold, cup-usage threshold and memory-usage threshold.

The screenshot shows the 'Threshold Alarm Configuration' section of the web interface. It includes a table for setting thresholds for various types of alarms:

Type	Print	Record	Trap	Remote	Alarm Threshold	Clear Threshold
temp-high	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	70	70
temp-low	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.00	0.00
cpu-usage-high	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.00	0.00
mem-usage-high	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.00	0.00

Buttons at the bottom include 'Submit' and 'Reset'.

Figure5-6: Threshold Alarm

### 5.3.3 PON Optical Alarm

It is about the PON ports threshold alarm configuration.

The screenshot shows the 'PON Optical Alarm Configuration' section of the web interface. It includes a table for setting thresholds for various types of PON alarms:

Type	State	Alarm Threshold	Clear Threshold
tx_power_high	<input checked="" type="checkbox"/>	20	20
tx_power_low	<input type="checkbox"/>	0.00	0.00
tx_bias_high	<input type="checkbox"/>	0.00	0.00
tx_bias_low	<input type="checkbox"/>	0.00	0.00
vcc_high	<input type="checkbox"/>	0.00	0.00
vcc_low	<input type="checkbox"/>	0.00	0.00
temp_high	<input type="checkbox"/>	0.00	0.00
temp_low	<input type="checkbox"/>	0.00	0.00

Buttons at the bottom include 'Submit' and 'Reset'.

Figure5-7: PON Threshold Alarm

### 5.3.4 Syslog Server

Configure the server of OLT remote system logs.

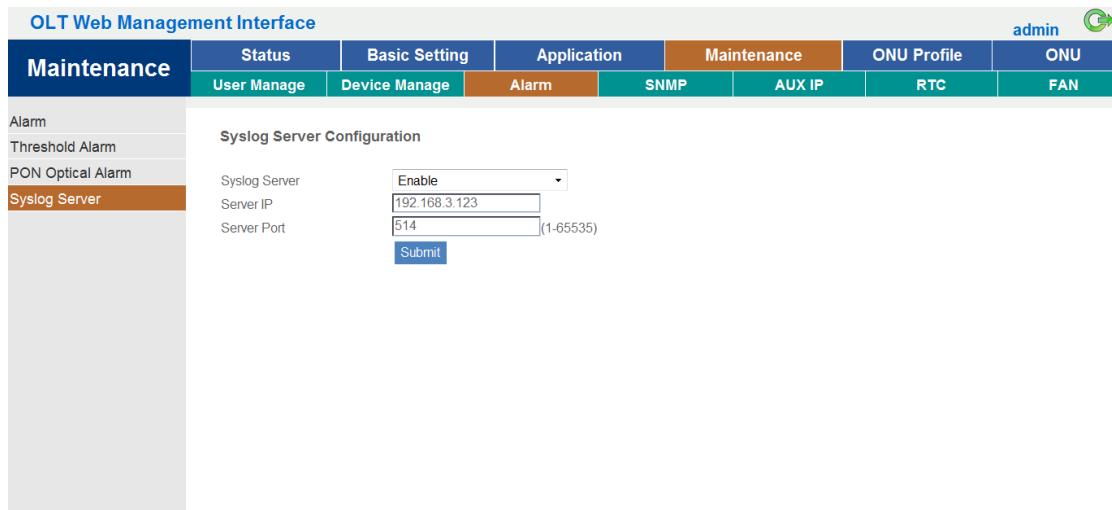


Figure5-8: Syslog Server Configuration

## 5.4 SNMP

### 5.4.1 SNMP V1/V2

SNMP (Simple Network Management Protocol) is an extensive network management protocol at the moment. The EPON OLT uses the SNMP V2.

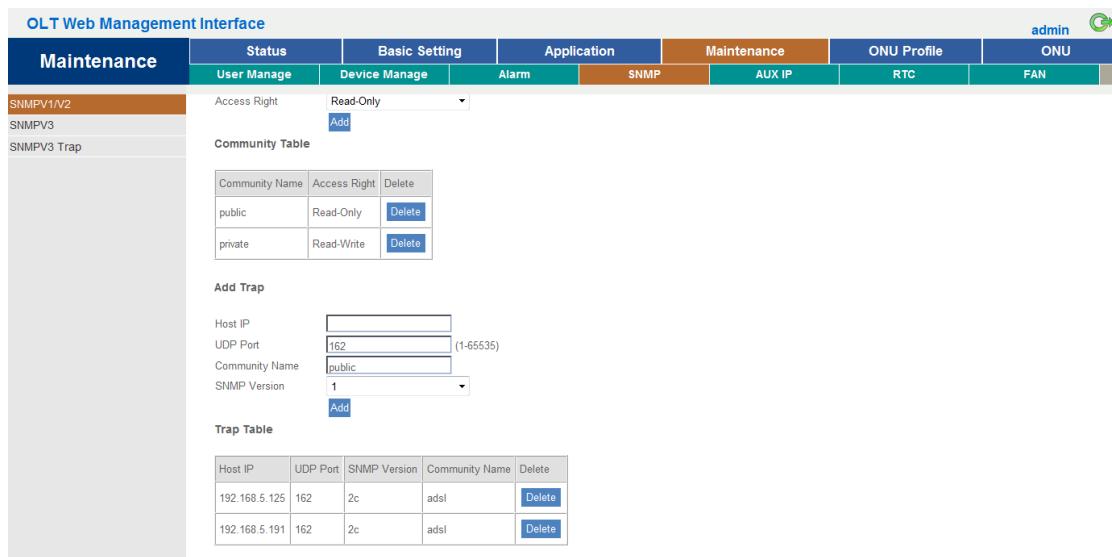


Figure5-9: SNMP V1/V2

## 5.4.2 SNMP V3

The SNMP V3 is the newer version.

OLT Web Management Interface		Maintenance		Status		Basic Setting		Application		Maintenance		ONU Profile		ONU	
User Manage	Device Manage	Alarm	SNMP	AUX IP	RTC	FAN								admin	green icon
<b>SNMPV1/V2</b> <b>SNMPV3</b> <span style="background-color: #c0392b; color: white; padding: 2px;">selected</span> <b>SNMPV3 Trap</b>															
<b>Add View</b> View Name: <input type="text"/> Subtree: <input type="text"/> (Type: Object Identifier) View Type: <input type="button" value="include"/> <input type="button" value="Add"/> <b>View Table</b> <input type="button" value="View Name"/> <input type="button" value="Subtree"/> <input type="button" value="View type"/> <input type="button" value="Delete"/>															
<b>Add Group</b> Group Name: <input type="text"/> Access Level: <input type="button" value="noauth"/> Read View: <input type="text"/> Write View: <input type="text"/> Notify View: <input type="text"/> <input type="button" value="Add"/> <b>Group Table</b> <input type="button" value="Group Name"/> <input type="button" value="Access Level"/> <input type="button" value="Read View"/> <input type="button" value="Write View"/> <input type="button" value="Notify View"/> <input type="button" value="Delete"/>															

Figure5-10: SNMP V3

## 5.4.3 SMNP V3 Trap

Configure or remove the Trap messages of the target host IP address.

OLT Web Management Interface		Maintenance		Status		Basic Setting		Application		Maintenance		ONU Profile		ONU	
User Manage	Device Manage	Alarm	SNMP	AUX IP	RTC	FAN								admin	green icon
<b>SNMPV1/V2</b> <b>SNMPV3</b> <b>SNMPV3 Trap</b> <span style="background-color: #c0392b; color: white; padding: 2px;">selected</span>															
<b>Add Trap</b> Host IP: <input type="text"/> UDP Port: <input type="text"/> (1-65535) User Name: <input type="text"/> User Level: <input type="button" value="noauth"/> Tag List: <input type="button" value="trap"/> Timeout: <input type="text"/> (1-400000000) Retry Count: <input type="text"/> (1-100) <input type="button" value="Add"/> <b>Trap Table</b> <input type="button" value="Host IP"/> <input type="button" value="UDP Port"/> <input type="button" value="Version"/> <input type="button" value="User Name"/> <input type="button" value="User Level"/> <input type="button" value="Tag List"/> <input type="button" value="Timeout"/> <input type="button" value="Retry Count"/> <input type="button" value="Delete"/>															

Figure5-11: SNMP V3 Trap

## 5.5 AUX IP

AUX port is out band management port. Its IP address is out band

management IP. The default IP address is 192.168.8.100. User can change it if need.

OLT Web Management Interface							admin
Maintenance	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU	
	User Manage	Device Manage	Alarm	SNMP	AUX IP	RTC	FAN
AUX IP	AUX IP Configuration						
	<input type="text" value="192.168.5.5"/> IP Address <input type="text" value="255.255.255.0"/> Subnet Mask <input type="text" value="0.0.0.0"/> Gateway	<input type="button" value="Submit"/>	<input type="button" value="Reset"/>				

Figure5-12: AUX IP

## 5.6 RTC

The system time is adaptable. The default system time is the OLT release time.

OLT Web Management Interface							admin
Maintenance	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU	
	User Manage	Device Manage	Alarm	SNMP	AUX IP	RTC	FAN
RTC	Date Setting						
	<input type="text" value="2016"/> Year <input type="text" value="7"/> Month <input type="text" value="29"/> Day <input type="text" value="15"/> Hour <input type="text" value="21"/> Minute <input type="text" value="17"/> Second	<input type="button" value="Submit"/>	<input type="button" value="Reset"/>				

Figure5-13: RTC Configuration

## 5.7 FAN

The fans can be controlled to turn on/off, or turn on automatically.



Figure5-14: FAN Configuration

## Chapter 6 ONU Profile

This chapter is about the ONU profile configuration. It is made for batch management ONU by OLT.

### 6.1 DBA Profile

The default system will have an id 0 DBA template, this template parameters cannot be modified. All ONU will be bound the template.

When the user bind by hands, the new template will take effect.

The screenshot shows the 'OLT Web Management Interface' for the 'ONU Profile' section. The 'DBA Profile' tab is selected. In the 'Add/Commit' section, there is a 'Create DBA Profile' form. It has a 'Profile ID' input field containing '1' with a note '(1-32767)' and an 'Add' button below it. In the 'DBA Profile table' section, there is a 'Key Value' table with two rows: 'Upstream PIR' and 'Downstream PIR'. Both rows have input fields for 'Value' and dropdown menus for 'Type' and 'Unit'. There are 'Add' and 'Delete' buttons at the bottom of this table.

Figure6-1: Add a DBA Profile

The screenshot shows the 'OLT Web Management Interface' for the 'ONU Profile' section. The 'DBA Profile' tab is selected. In the 'Upstream Configuration' section, there are four input fields for 'Upstream FIR', 'Upstream CIR', 'Upstream PIR', and 'Upstream Weight', each with a note in parentheses. Below these are 'Add' and 'Delete' buttons. In the 'Downstream Configuration' section, there are two input fields for 'Downstream PIR' and 'Downstream Weight', each with a note in parentheses. Below these are also 'Add' and 'Delete' buttons.

Figure6-2: DBA Profile Configure

## 6.2 Server Profile

Create a server profile, it can be shown in the table when user select the profile ID.

ONU Profile		Status	Basic Setting	Application	Maintenance	ONU Profile	ONU														
		DBA Profile	Server Profile	VoIP Profile	Alarm Profile	Bind Profile	admin														
Add/Commit		Create Service Profile Profile ID: <input type="text" value="1"/> (1-32767) <input type="button" value="Add"/>  Service Profile Info Profile ID: <input type="text" value="11"/> <input type="button" value="Delete"/> <input type="button" value="Commit"/>  Service Profile Table <table border="1"> <thead> <tr> <th>Key</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Multicast Logical Link Identifier</td> <td>3</td> </tr> <tr> <td>Lan Count</td> <td>4</td> </tr> <tr> <td>Ian:1</td> <td>Vlan mode translation; Default 111; tpid 10; Translation : 111 to 222;</td> </tr> <tr> <td>Ian:2</td> <td></td> </tr> <tr> <td>Ian:3</td> <td></td> </tr> <tr> <td>Ian:4</td> <td></td> </tr> </tbody> </table>						Key	Value	Multicast Logical Link Identifier	3	Lan Count	4	Ian:1	Vlan mode translation; Default 111; tpid 10; Translation : 111 to 222;	Ian:2		Ian:3		Ian:4	
Key	Value																				
Multicast Logical Link Identifier	3																				
Lan Count	4																				
Ian:1	Vlan mode translation; Default 111; tpid 10; Translation : 111 to 222;																				
Ian:2																					
Ian:3																					
Ian:4																					

Figure6-3: Add Server Profile

The server profile configuration contain ONU PON configuration, port configuration, multicast configuration...

ONU Profile		Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
		DBA Profile	Server Profile	VoIP Profile	Alarm Profile	Bind Profile	admin
Add/Commit		Service Profile Lan Count Profile ID: <input type="text" value="1"/> Lan Count: <input type="text" value="2"/> (0-255) <input type="button" value="Submit"/> <input type="button" value="Delete"/>					

Figure6-4: Server Profile Configuration

## 6.3 VoIP Profile

As the above, create a profile first, and it will be shown in the table when user select the profile ID.

VoIP Profile Table	
Key	Value
Profile_Id :	12
Pots_Count :	2
SIP_DigitMap Config	Num Of SIP DigitalMap Block : 7 SIP DigitalMap Block No : 222 SIP DigitalMap Block : 1
SIP_POTS	sip_Pots : 1 User Account : 88880001 User Name : 88880001 User PassWord : 88880001
SIP_POTS	sip_Pots : 2 User Account : 66660001 User Name : 66660001 User PassWord : 66660001

Figure6-5: Add VoIP Profile

Add VoIP Pots Count	
Pots Count	Value
	2

Figure6-6: Server Profile Configuration

## 6.4 Alarm Profile

As the above, create a profile first, and it will be shown in the table when user select the profile ID.

**OLT Web Management Interface**

ONU Profile	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	DBA Profile	Server Profile	VoIP Profile	Alarm Profile	Bind Profile	
Add/Commit	<b>Create Alarm Profile</b> Profile ID: <input type="text" value="1"/> (1-32767) <input type="button" value="Add"/>  <b>Alarm Profile Info</b> Profile ID: <input type="text" value="1"/> <input type="button" value="commit"/> <input type="button" value="delete"/>  <b>Alarm Profile Table</b> Key: <input type="text"/> Value: <input type="text"/>					
ONU						
PON						
PON Statistics						
Port						
Port Statistics						
POTS						
E1						

Figure6-7: Add Alarm Profile

The alarm profile contains ONU global threshold alarm, PON alarm, port alarm, pots alarm...

**OLT Web Management Interface**

ONU Profile	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	DBA Profile	Server Profile	VoIP Profile	Alarm Profile	Bind Profile	
Add/Commit	<b>Alarm Profile Info</b> Profile ID: <input type="text" value="1"/>  <b>ONU Alarm System State</b> ONU Alarm Type: <input type="text" value="equipmem_Alarm"/> Alarm State: <input type="text" value="enable"/> <input type="button" value="Commit"/> <input type="button" value="Delete"/>  <b>ONU Temperature Alarm Threshold</b> Alarm Type: <input type="text" value="onu_Temp_High_Alarm"/> Alarm State: <input type="text" value="enable"/> Alarm Threshold: <input type="text" value="700"/> (-1280..1280,units:0.1C) Alarm Clear Threshold: <input type="text" value="700"/> (-1280..1280,units:0.1C) <input type="button" value="Commit"/> <input type="button" value="Delete"/>  <b>ONU VCC Alarm Threshold</b> ONU VCC Switch: <input type="text" value="enable"/> Alarm Threshold: <input type="text" value="6000"/> (0..65535,units:0.1V) Alarm Clear Threshold: <input type="text" value="6000"/> (0..65535,units:0.1V) <input type="button" value="Commit"/> <input type="button" value="Delete"/>					
ONU						
PON						
PON Statistics						
Port						
Port Statistics						
POTS						
E1						

Figure6-8: Alarm Profile Configuration

## 6.5 Bind Profile

The DBA profile, server profile, VoIP profile, alarm profile can be bound to the ONU.

OLT Web Management Interface

ONU Profile	Status	Basic Setting	Application		Maintenance	ONU Profile	ONU
	DBA Profile	Server Profile	VoIP Profile	Alarm Profile	Bind Profile		
Bind Profile	<b>Profile Binding</b> Port ID: PON1 ONU ID: 2 DBA Profile ID: 1 SRV Profile ID: 11 VoIP Profile ID: 12 Alarm Profile ID: 13 <input type="button" value="Commit"/>						

Figure6-9: Bind Profile Configuration

## Chapter 7 ONU

This chapter is about configuring the ONU by OLT.

### 7.1 Authentication

#### 7.1.1 ONU authentication

There are 4 modes of the ONU authentication. The default mode is disable.

The screenshot shows the 'OLT Web Management Interface' with a navigation bar at the top. The main content area is titled 'ONU Authentication'. It contains fields for 'Port ID' (set to 'PON1') and 'Port Authentication Mode' (set to 'Disable'). A 'submit' button is at the bottom of the form. The left sidebar has links for 'ONU Authentication', 'MAC List', 'Loid List', and 'ONU Action'.

Figure7-1 ONU Authentication

#### 7.1.2 MAC List

When the ONU authentication mode is MAC mode, only the white list ONU can register. The black MAC list ONU cannot register whatever the mode.

ONU		Status	Basic Setting	Application	Maintenance	ONU Profile	ONU	
	Authentication	ONU Global	ONU Port	ONU VoIP	ONU Alarm			
ONU Authentication	ONU MAC Authentication							
MAC List	Port ID	PON1						
Loid List	MAC Authentication	00:01:00:12:05:22 (HH.HH.HH.HH.HH.HH)						
ONU Action	Add							
	Black MAC Authentication							
	Add							
	ONU MAC Authentication Table							
	Index	MAC	Delete					
	Clear							
	ONU Black MAC Authentication Table							
	Index	Black MAC	Delete					
	Clear							

Figure7-2 MAC List

### 7.1.3 Loid List

When the authentication mode is Loid, only the Loid list ONU can register.

ONU		Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	Authentication	ONU Global	ONU Port	ONU VoIP	ONU Alarm		
ONU Authentication	ONU Loid						
MAC List	Port ID	PON1					
Loid List	Loid	EPON123456					
ONU Action	Password	1111					
	Add						
	ONU Loid Authentication Table						
	Index	Loid	Password	Delete			
	Clear						

Figure7-3 Loid List

### 7.1.4 ONU Action

Manage the ONU unauth, deregister, reset. User can operate one of the ONU, or a batch of ONU in the same PON port.

ONU ID	LLID	Status	MAC Address	Unauth	Deregister	Reset
1	1	Online	80:14:A8:10:87:38	<input type="button" value="UnAuth"/>	<input type="button" value="Deregister"/>	<input type="button" value="Reset"/>
2	-1	Offline	80:14:A8:0D:CE:30	<input type="button" value="UnAuth"/>		
3	0	Online	80:14:A8:08:1B:10	<input type="button" value="UnAuth"/>	<input type="button" value="Deregister"/>	<input type="button" value="Reset"/>
4	2	Online	80:14:A8:09:CB:E8	<input type="button" value="UnAuth"/>	<input type="button" value="Deregister"/>	<input type="button" value="Reset"/>

Figure7-4 ONU Action

## 7.2 ONU Global

In this section, all the global configuration of ONU can be operated.

CTC Version	0x30
OUI	0x11 0x11 0x11
RTT	81
Vendor ID	0x56534f4c

Figure7-5 ONU Global Configuration

## 7.3 ONU Port

All the port services can be configured. It contains port VLAN, multicast, monitor and so on.

**OLT Web Management Interface**

ONU	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	Authentication	ONU Global	ONU Port	ONU VoIP	ONU Alarm	
Basic Info	VLAN	VLAN				
VLAN	PON ID	PON1	ONU ID	1	ONU Port	Port1
	VLAN Information					
	VLAN Mode	Transparent	PVID Value	0	Port VLAN Value	
	VLAN Configuration					
	VLAN Mode	tag	PVID Value	100	(1-4095)	
	<b>Commit</b>					

Figure7-6 ONU Port Configuration

## 7.4 ONU VoIP

Configure the HGU ONU VoIP information, it contains H248 protocol and sip protocol configuration.

**OLT Web Management Interface**

ONU	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	Authentication	ONU Global	ONU Port	ONU VoIP	ONU Alarm	
Basic Info	Global	Choose ONU				
Global	PON ID	PON1	ONU ID	3		
H248 Global	Global Parameter Config					
H248 POTS	Voice IP Mode	Static_IP	Tagged Flag	Transparent		
SIP Global	Voice Priority	7	(0-7)			
SIP POTS	Voice Client VLAN	4000	(0-4095)			
Fax Modem	Voice Service VLAN	65535	(0-4095)			
IAD Oper	IAD IP Adress		(x.x.x.x)			
	IAD Net Mask		(x.x.x.x)			
	IAD Default Gateway		(x.x.x.x)			
	<b>Commit</b>					

Figure7-7 ONU VoIP Configuration

## 7.5 ONU Alarm

In this page, user can view the chosen ONU alarm information, the alarm

info contains ONU global alarm info, PON alarm info, port alarm info,

POTS alarm info, E1 alarm info.

Alarm Name	equipment_alarm
Alarm Configuration	disable

Figure7-8 ONU Alarm Information

## Chapter 8 Configuration Cases

### 8.1 Internet With VLAN 100

OLT configuration

Step 1: Create a new VLAN.

OLT Web Management Interface																														
Basic Setting	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU																								
	VLAN	Port	QoS	MAC	Security																									
New VLAN	<b>New VLAN</b> VLAN ID: <input type="text" value="100"/> (1-4094) Description: <input type="text" value="Vlan100"/> <input type="button" value="Add"/>																													
Port VLAN																														
QinQ																														
VLAN IP																														
	<b>VLAN Table</b> <table border="1"> <thead> <tr> <th>VLAN ID</th> <th>Description</th> <th>Edit</th> <th>Delete</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>default</td> <td><input type="button" value="Edit"/></td> <td><input type="button" value="Delete"/></td> </tr> <tr> <td>960</td> <td>vlan960</td> <td><input type="button" value="Edit"/></td> <td><input type="button" value="Delete"/></td> </tr> <tr> <td>1000</td> <td>vlan1000</td> <td><input type="button" value="Edit"/></td> <td><input type="button" value="Delete"/></td> </tr> <tr> <td>1001</td> <td>vlan1001</td> <td><input type="button" value="Edit"/></td> <td><input type="button" value="Delete"/></td> </tr> <tr> <td>1010</td> <td>vlan1010</td> <td><input type="button" value="Edit"/></td> <td><input type="button" value="Delete"/></td> </tr> </tbody> </table>						VLAN ID	Description	Edit	Delete	1	default	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>	960	vlan960	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>	1000	vlan1000	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>	1001	vlan1001	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>	1010	vlan1010	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
VLAN ID	Description	Edit	Delete																											
1	default	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>																											
960	vlan960	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>																											
1000	vlan1000	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>																											
1001	vlan1001	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>																											
1010	vlan1010	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>																											

Step 2: Add the VLAN to GE port and PON port.

OLT Web Management Interface						
Basic Setting	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	VLAN	Port	QoS	MAC	Security	
New VLAN						
Port VLAN	<b>Port VLAN Configuration</b> VLAN ID: <input type="text" value="100"/> GE1: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE2: <input checked="" type="radio"/> None <input type="radio"> Tag <input type="radio"/> Untag            GE3: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag            GE4: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag            GE5: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag            GE6: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag            GE7: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag            GE8: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag            GE9: <input checked="" type="radio"/> None <input type="radio"/> Tag <input checked="" type="radio"/> Untag            GE10: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag            GE11: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag            GE12: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag            GE13: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag            GE14: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag            GE15: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag            GE16: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag            PON1: <input checked="" type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag         </input>					
QinQ						
VLAN IP						

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Step 3: Configure the default VLAN ID (PVID) in untag port.

**OLT Web Management Interface**

Basic Setting	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU																																																																								
	VLAN	Port	QoS	MAC	Security																																																																									
GE Setup	GE Configuration																																																																													
PON Setup	Port ID: GE9 Description: <input type="text"/> Admin Status: <input checked="" type="radio"/> Enable <input type="radio"/> Disable Flow Control: <input checked="" type="radio"/> On <input type="radio"/> Off Isolate: <input checked="" type="radio"/> Enable <input type="radio"/> Disable Broadcast Storm Protection: 512 (0~64-1000000fps) Multicast Storm Protection: 0 (0~64-1000000fps) Unicast Storm Protection: 512 (0~64-1000000fps) Ingress Rate: 0 (0~32-1000000kbps) Egress Rate: 0 (0~32-1000000kbps) MAC Limit: 0 (0-16384) Default VLAN ID: 100																																																																													
Channel Group	<input type="button" value="Submit"/> <input type="button" value="Reset"/>																																																																													
Mirroring	GE Information																																																																													
	<table border="1"> <thead> <tr> <th>Port ID</th> <th>Description</th> <th>Admin Status</th> <th>Flow Control</th> <th>Isolate</th> <th>Broadcast Storm</th> <th>Multicast Storm</th> <th>Unicast Storm</th> <th>Ingress Rate</th> <th>Egress Rate</th> <th>MAC Limit</th> <th>PVID</th> </tr> </thead> <tbody> <tr> <td>GE1</td> <td></td> <td>enable</td> <td>off</td> <td>enable</td> <td>512</td> <td>0</td> <td>512</td> <td>0</td> <td>0</td> <td>0</td> <td>100</td> </tr> <tr> <td>GE2</td> <td></td> <td>enable</td> <td>off</td> <td>enable</td> <td>512</td> <td>0</td> <td>512</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>GE3</td> <td></td> <td>enable</td> <td>off</td> <td>enable</td> <td>512</td> <td>0</td> <td>512</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>GE4</td> <td></td> <td>enable</td> <td>off</td> <td>enable</td> <td>512</td> <td>0</td> <td>512</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>GE5</td> <td></td> <td>enable</td> <td>off</td> <td>enable</td> <td>512</td> <td>0</td> <td>512</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> </tbody> </table>						Port ID	Description	Admin Status	Flow Control	Isolate	Broadcast Storm	Multicast Storm	Unicast Storm	Ingress Rate	Egress Rate	MAC Limit	PVID	GE1		enable	off	enable	512	0	512	0	0	0	100	GE2		enable	off	enable	512	0	512	0	0	0	1	GE3		enable	off	enable	512	0	512	0	0	0	1	GE4		enable	off	enable	512	0	512	0	0	0	1	GE5		enable	off	enable	512	0	512	0	0	0	1
Port ID	Description	Admin Status	Flow Control	Isolate	Broadcast Storm	Multicast Storm	Unicast Storm	Ingress Rate	Egress Rate	MAC Limit	PVID																																																																			
GE1		enable	off	enable	512	0	512	0	0	0	100																																																																			
GE2		enable	off	enable	512	0	512	0	0	0	1																																																																			
GE3		enable	off	enable	512	0	512	0	0	0	1																																																																			
GE4		enable	off	enable	512	0	512	0	0	0	1																																																																			
GE5		enable	off	enable	512	0	512	0	0	0	1																																																																			

## ONU configuration

Step 4: Choose the VLAN mode and set the PVID value.

**OLT Web Management Interface**

ONU	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU						
	Authentication	ONU Global	ONU Port	ONU VoIP	ONU Alarm							
Basic Info												
<b>VLAN</b>	VLAN											
Port Class	PON ID: PON1											
Multicast VLAN	ONU ID: 1											
Multicast Port	ONU Port: Port1											
Monitor Status												
Monitor Current	VLAN Information											
	<table border="1"> <tr> <td>VLAN Mode</td> <td>Transparent</td> </tr> <tr> <td>PVID Value</td> <td>0</td> </tr> <tr> <td>Port VLAN Value</td> <td></td> </tr> </table>						VLAN Mode	Transparent	PVID Value	0	Port VLAN Value	
VLAN Mode	Transparent											
PVID Value	0											
Port VLAN Value												
	VLAN Configuration											
	VLAN Mode: tag PVID Value: 100 (1~4095)											
	<input type="button" value="Commit"/>											

## 8.2 IPTV With VLAN 200

### OLT configuration

### Step 1: Create a new VLAN.

**OLT Web Management Interface**

Basic Setting	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU																												
	VLAN	Port	QOS	MAC	Security																													
New VLAN	<b>New VLAN</b> VLAN ID: 200 (1-4094) Description: vlan200 <input type="button" value="Add"/>																																	
Port VLAN	<b>VLAN Table</b> <table border="1"> <thead> <tr> <th>VLAN ID</th> <th>Description</th> <th>Edit</th> <th>Delete</th> </tr> </thead> <tbody> <tr><td>1</td><td>default</td><td><input type="button" value="Edit"/></td><td><input type="button" value="Delete"/></td></tr> <tr><td>100</td><td>vlan100</td><td><input type="button" value="Edit"/></td><td><input type="button" value="Delete"/></td></tr> <tr><td>960</td><td>vlan960</td><td><input type="button" value="Edit"/></td><td><input type="button" value="Delete"/></td></tr> <tr><td>1000</td><td>vlan1000</td><td><input type="button" value="Edit"/></td><td><input type="button" value="Delete"/></td></tr> <tr><td>1001</td><td>vlan1001</td><td><input type="button" value="Edit"/></td><td><input type="button" value="Delete"/></td></tr> <tr><td>1010</td><td>vlan1010</td><td><input type="button" value="Edit"/></td><td><input type="button" value="Delete"/></td></tr> </tbody> </table>						VLAN ID	Description	Edit	Delete	1	default	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>	100	vlan100	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>	960	vlan960	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>	1000	vlan1000	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>	1001	vlan1001	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>	1010	vlan1010	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
VLAN ID	Description	Edit	Delete																															
1	default	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>																															
100	vlan100	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>																															
960	vlan960	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>																															
1000	vlan1000	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>																															
1001	vlan1001	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>																															
1010	vlan1010	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>																															
QinQ																																		
VLAN IP																																		

### Step 2: Add the VLAN to GE port and PON port.

**OLT Web Management Interface**

Basic Setting	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	VLAN	Port	QOS	MAC	Security	
New VLAN						
Port VLAN	<b>Port VLAN Configuration</b> VLAN ID: 200 GE1: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE2: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE3: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE4: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE5: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE6: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE7: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE8: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE9: <input checked="" type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag GE10: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE11: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE12: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE13: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE14: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE15: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag GE16: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag PON1: <input checked="" type="radio"/> None <input checked="" type="radio"/> Tag <input type="radio"/> Untag PON2: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag PON3: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag PON4: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag PON5: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag PON6: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag PON7: <input checked="" type="radio"/> None <input type="radio"/> Tag <input type="radio"/> Untag					
QinQ						
VLAN IP						

### Step 3: Enable the IGMP status.

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**OLT Web Management Interface**

Application	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	IGMP	RSTP	ARP Proxy	DHCP	Static Route	
Global Setup	IGMP Configuration					
Port Setup						
Port User VLAN	IGMP Status: <input type="button" value="Enable"/> <input type="button" value="Disable"/> Last Member Query Interval: <input type="text" value="1"/> (1-255s) Last Member Query Count: <input type="text" value="2"/> (1-255) Last Member Query Response: <input type="text" value="1"/> (1-255s) General Query Packet: <input checked="" type="radio" value="Disable"/> <input type="radio" value="Enable"/> Enable General Query Interval: <input type="text" value="125"/> (10-255s) Query Source IP: <input type="text" value="1.1.1.1"/>					
Port Mrouter						
Static Group						

Step 4: Add the IGMP user VLAN and group VLAN

**OLT Web Management Interface**

Application	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	IGMP	RSTP	ARP Proxy	DHCP	Static Route	
Global Setup	User VLAN Configuration					
Port Setup						
Port User VLAN	Port ID: PON1 User VLAN ID: 200 Group VLAN ID: 200 <input type="button" value="Add"/>					
Port Mrouter						
Static Group	User VLAN Table					
	<input type="button" value="Port ID"/> <input type="button" value="User VLAN ID"/> <input type="button" value="Group VLAN ID"/> <input type="button" value="Delete"/>					

Step 5: Add the M-router in GE port

**OLT Web Management Interface**

Application	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	IGMP	RSTP	ARP Proxy	DHCP	Static Route	
Global Setup	Add Multicast Router					
Port Setup						
Port User VLAN						
Port Mrouter	Port ID: GE9 Group VLAN ID: 200 <input type="button" value="Add"/>					
Static Group	Multicast Router Table					
	<input type="button" value="Port ID"/> <input type="button" value="Group VLAN ID"/> <input type="button" value="Delete"/>					

ONU configuration

Step 6: Choose the VLAN mode and set the PVID value.

**OLT Web Management Interface**

ONU	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU	
	Authentication	ONU Global	ONU Port	ONU VoIP	ONU Alarm		
Basic Info	VLAN						
VLAN	PON ID	PON1					
Port Class	ONU ID	2					
Multicast VLAN	ONU Port	Port1					
Multicast Port	VLAN Information						
Monitor Status	VLAN Mode						
Monitor Current	PVID Value	0					
	Port VLAN Value						
	VLAN Configuration						
	VLAN Mode	tag					
	PVID Value	200	(1-4095)				
	<input type="button" value="Commit"/>						

## Step 7: Configuration multicast VLAN

**OLT Web Management Interface**

ONU	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU	
	Authentication	ONU Global	ONU Port	ONU VoIP	ONU Alarm	ONU Private	
Basic Info	Multicast VLAN						
VLAN	PON ID	PON1					
Port Class	ONU ID	2					
Multicast VLAN	ONU Port	Port1					
Multicast Port	Multicast VLAN Configuration						
Monitor Status	Multicast VLAN	200	(1-4095)				
Monitor Current	<input type="button" value="Add"/>						
	<input type="button" value="Multicast VLAN"/> <input type="button" value="Delete"/>						
	<input type="button" value="Clear"/>						

## Step 8: Configure the IGMP VLAN tagstrip mode

**OLT Web Management Interface**

ONU	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	Authentication	ONU Global	ONU Port	ONU VoIP	ONU Alarm	ONU Private
Basic Info						
VLAN						
Port Class						
Multicast VLAN						
<b>Multicast Port</b>						
Monitor Status						
Monitor Current						
<b>Multicast Port</b>						
PON ID	PON1					
ONU ID	2					
ONU Port	Port1					
<b>Multicast Max Group</b>						
Multicast Max Group	64 (0-4096)					
<b>Commit</b>						
<b>Multicast Port Information</b>						
Tagstrip Mode	no strip					
Tagstrip Value						
<b>Multicast Port Configuration</b>						
Tagstrip Mode	Strip					

## 8.3 VoIP With VLAN 300

### OLT Configuration

#### Step 1: Create a new VLAN

**OLT Web Management Interface**

Basic Setting	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	VLAN	Port	QoS	MAC	Security	
New VLAN						
Port VLAN						
QinQ						
VLAN IP						
<b>New VLAN</b>						
VLAN ID	300 (1-4094)					
Description	vlan300					
<b>Add</b>						
<b>VLAN Table</b>						
VLAN ID	Description	Edit	Delete			
1	default					
100	vlan100					
200	vlan200					
960	vlan960					
1000	vlan1000					
1001	vlan1001					
1010	vlan1010					

#### Step 2: Add the VLAN to GE port and PON port.

OLT Web Management Interface

Basic Setting	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	VLAN	Port	QOS	MAC	Security	
New VLAN	Port VLAN Configuration					
Port VLAN	VLAN ID	300				
QinQ	GE1	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
VLAN IP	GE2	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	GE3	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	GE4	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	GE5	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	GE6	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	GE7	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	GE8	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	GE9	<input checked="" type="radio"/> None	<input checked="" type="radio"/> Tag	<input type="radio"/> Untag		
	GE10	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	GE11	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	GE12	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	GE13	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	GE14	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	GE15	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	GE16	<input checked="" type="radio"/> None	<input type="radio"/> Tag	<input type="radio"/> Untag		
	PON1	<input checked="" type="radio"/> None	<input checked="" type="radio"/> Tag	<input type="radio"/> Untag		

## ONU Configuration

### Step 3: Configure the VoIP global parameter

OLT Web Management Interface

ONU	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	Authentication	ONU Global	ONU Port	ONU VoIP	ONU Alarm	ONU Private
Basic Info	Choose ONU					
Global	PON ID	PON5				
H248 Global	ONU ID	9				
H248 POTS	Global Parameter Config					
SIP Global	Voice IP Mode	Static_IP				
SIP POTS	Tagged Flag	<input type="radio"/> Tag				
Fax Modem	Voice Priority	7 (0-7)				
IAD Oper	Voice Client VLAN	300 (0-4095)				
	Voice Service VLAN	300 (0-4095)				
	IAD IP Adress	192.168.3.123 (x.x.x.x)				
	IAD Net Mask	255.255.255.0 (x.x.x.x)				
	IAD Default Gateway	192.168.3.1 (x.x.x.x)				
		<input type="button" value="Commit"/>				

### Step 4: Setup the sip configuration

**OLT Web Management Interface**

ONU	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	Authentication	ONU Global	ONU Port	ONU VoIP	ONU Alarm	ONU Private
Basic Info	ONU ID	4				
Global	<b>SIP Parameter Config</b>					
H248 Global	Heartbeat Switch	Enable				
H248 POTS	Heartbeat Cycle	30	(1-65535)			
<b>SIP Global</b>	Heartbeat Count	1	(1-65535)			
SIP POTS	SIP Register Interval	0	(0-65535)			
Fax Modem	Manage Port	5060	(1-65535)			
IAD Oper	Out Bound Service IP	0.0.0.0				
	Out Bound Service Port	5060	(0-65535)			
	SIP Proxy Service IP	192.168.3.45				
	SIP Proxy Service Port	5060	(1-65535)			
	Backup SIP Proxy Service Ip	192.168.3.45				
	Backup SIP Proxy Service Port	5060	(1-65535)			
	SIP Register Service IP	192.168.3.45				
	SIP Register Service Port	5060	(1-65535)			
	Backup SIP Register Service IP	192.168.3.45				
	Backup SIP Register Service Port	5060	(0-65535)			
	<b>Commit</b>					

Step 5: Fill in the user account and password

**OLT Web Management Interface**

ONU	Status	Basic Setting	Application	Maintenance	ONU Profile	ONU
	Authentication	ONU Global	ONU Port	ONU VoIP	ONU Alarm	ONU Private
Basic Info	<b>Choose ONU</b>					
Global	PON ID	PON5				
H248 Global	ONU ID	5				
H248 POTS	ONU VoIP Port	Pots1				
<b>SIP Global</b>	<b>SIP User Parameter Config</b>					
SIP POTS	User Account	12345678				
Fax Modem	User name	12345678				
IAD Oper	User Password	00000000				
	<b>commit</b>					