# GPON OLT FD1508GS

## GPON Optical Line Terminal Equipment

# Configuration Guide

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# Contents

# Intended Audience

This document helps to learn configuration procedures of various services of GPON OLT

## Command Conventions

The command conventions that may be found in this document are defined as follows.

| Convention | Description |
|---|---|
| **Boldface** | The keywords of a command line are in **boldface**. |
| *Italic* | Command arguments are in *italics*. |
| [ ] | Items (keywords or arguments) in brackets [ ] are optional. |
| ( x \| y \| ... ) | Optional items are grouped in braces and separated by vertical bars. One item is selected. |
| [ x \| y \| ... ] | Optional items are grouped in brackets and separated by vertical bars. One item is selected or no item is selected. |
| <x-y> | One number from x to y can be selected |
| $ | A line starting with the $ sign is comments. |

## Keyword Operation Conventions

| Convention | Description |
|---|---|
| String with < > | It is key name. For example, <Enter>, <Tab>, <Backspace>, <a>, <?> etc, it means to press the key button |
| <Key 1 + Key 2> | It means to press the key at same time. For example < Ctrl+Alt+A> means to press “Ctrl”, “Alt”, “A” button together. |
| <Key 1 , Key 2> | It means to press the first button, then release, and press the second button. For example < Alt, F> means to press “Alt” first, then release “Alt” button, and then press “A” button. |

## Symbol Conventions

The symbols that may be found in this document are defined as follows.:

This warning symbol means danger. You are in a situation that could cause bodily injury or broke the equipment. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents by making quick guide based on this guide.

 Indicates a hazard with a high level of risk, which if not avoided, it will result in death or serious injury on human body.

 Provides additional information to emphasize or supplement important points of the main text.

### Terms Conventions

**OLT:** It is the FD1508G Optical Line Terminal, included the switch and uplink port.

**PON:** It stand for PON protocol process module and PON port to connect with ONU side.

### Prompt

CLI is case – sensitive.

# 1. Overview of the System

This section describes each of the devices in our GPON environment. The GPON FTTx system is an all-optical, fiber-to-the-x system that delivers quadruple-play voice, data, video and wireless services to residential and business subscribers.

Our GPON FTTx system consists of the following network components.

■ Optical Line - the optical line termination unit that provides Network and GPON interface termination, L2 aggregation and control functions.

The model number is FD1508GS

■ Optical Network Terminals - the optical network terminal located at the subscriber premises. The model numbers are:

— FD511HZ (1 GE port)
— FD512H (1GE+1FE)
— FD604HWI (4FE+1POTS+WIFI)
— FD804HWI (4FE+1POTS+WIFI+CATV)

■ Optical passives
— PLC passive splitters
— FWDM for 1550nm video overlay GPON

# 2. System Access

## 2.1 Overview

The CLI of OLT can be configured and managed via local terminal connection or a remote session using Telnet. The OLT supports three methods to gain access for management and configuration tasks:

1. Local access to the OLT through the RS232 console port on front panel, see below picture.

2. Dedicated local Telnet connection to the OLT by using the FE port on OLT front panel (outband interface).

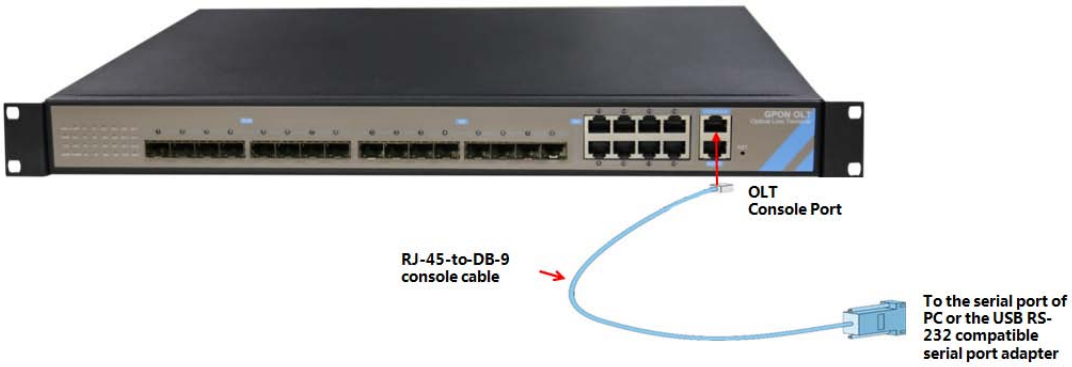
3. Remote access over the provider's Ethernet/IP network by using Telnet. Therefore, an inband management channel, i.e., a specific management VLAN has to be configured.

## 2.2 Console Access

OLT provides console interface (marked as "CONSOLE" RJ45 type port) .
Console access requires:

- Console cable: RJ-45-to-DB-9 console cable
- Terminal emulation software: HyperTerminal

The cable is connected between the serial port of the host and the console port on the device. Most computers and notebooks no longer include built-in serial ports. If the host does not have a serial port, the USB port can be used to establish a console connection. A special USB-to-RS-232 compatible serial port adapter is required when using the USB port.




| Port on Computer | Cable Required | Port on OLT |
|---|---|---|
| Serial Port | RJ-45 to DB-9 Console Cable | RJ-45 Console Port |
| USB Type-A Port | ● USB to RS-232 compatible serial port adapter ( Adapter may require a software driver )<br>● RJ-45 to DB-9 Console Cable | |

RJ-45 to DB-9 Console Cable

USB to RS-232 compatible serial port adapter

Run a VT terminal emulation software (e.g. HyperTerminal) with the attributes

Band Rate: 9600
Data Bit: 8
Parity Check: NO
Stop Bit: 1
Flow Control: NO

When the OLT is starting up, the terminal program displays automatically the login prompt "OLT>".

Access the OLT as follows:

1. After starting the terminal session, the login prompt is displayed:

OLT>

2. Enter the login ID root (default) and the password admin (default) to move into the User mode :

OLT>username: root
Password: (entered characters are hidden)
OLT>

3. To configure and manage the system, enter into the enable mode:

OLT>enable
OLT#

### 2.3 Telnet Access

There are two way for TELNET.

**Out-band Interface Access：** You should configure your PC IP to 192.168.1.X (Except 192.168.1.100), connect to the MGMT port of OLT, login the OLT with the default OLT management IP (Default IP : 192.168.1.100). Default login ID is root and the password is admin.

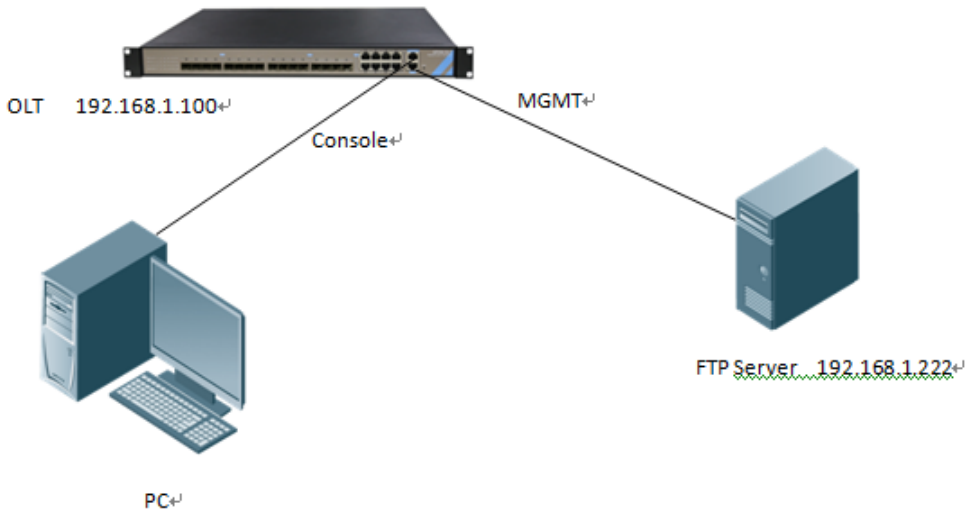
**In-band Interface Access：** You should login via console, and create a dedicated VLAN for inband management, assigned an IP address to this interface, add the uplink port (The manage PC connect via the port) to the VLAN.

OLT> enable
OLT# config
OLT(config)# vlan 100
OLT(config)# interface vlanif 100
OLT(interface-vlanif-100)# ip address 192.168.1.99 255.255.255.0
OLT(interface-vlanif-100)# exit
OLT(config)# interface ge
OLT(interface-ge)# vlan access 9 100
OLT(interface-ge)# exit

# 3. Upgrade OLT Version

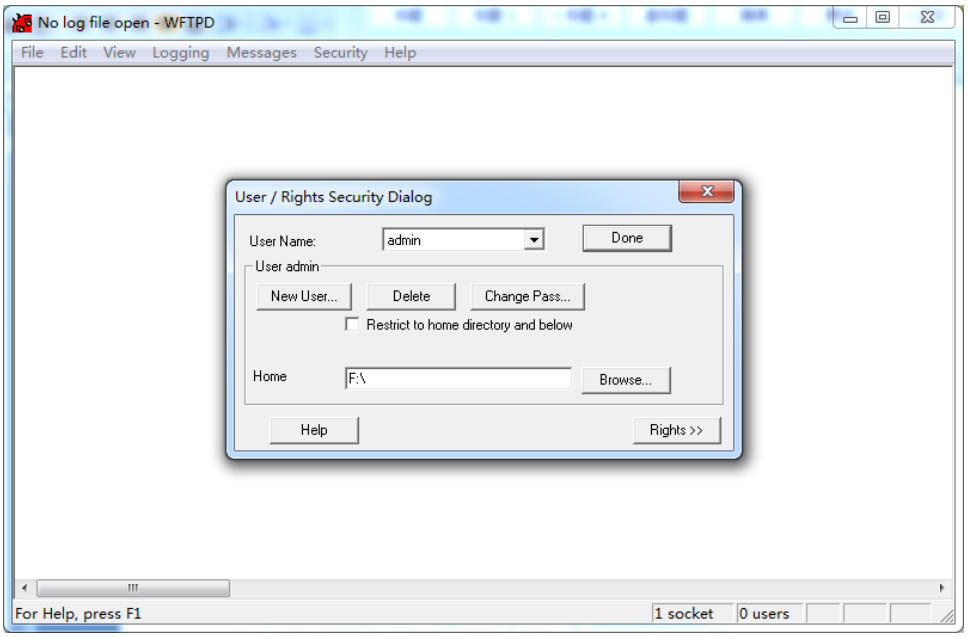
For OLT version upgrade, you need a FTP server for FW download. Connects PC with the OLT console port, the FTP server connects with MGMT port. FTP default login name and password is admin/admin, FTP server IP set to 192.168.1.222.

Checks the FTP server connected well by PING FTP server through the OLT .




**FTP server configuration：**

Security -> User/Rights Security Dialog -> User Name (set to admin) -> Change Password (set to admin) -> Home (choice the file folder of the upgrade software )




Use the command "**load packetfile ftp** server-ip-address user-name user-password filename" in Config Mode to upgrade the OLT as below.

OLT(config)# load packetfile ftp 192.168.1.222 admin admin FD1508GS_FW_V1.0.3_151015_1420.img

Broadcast message from root:

Upgrade is in process.

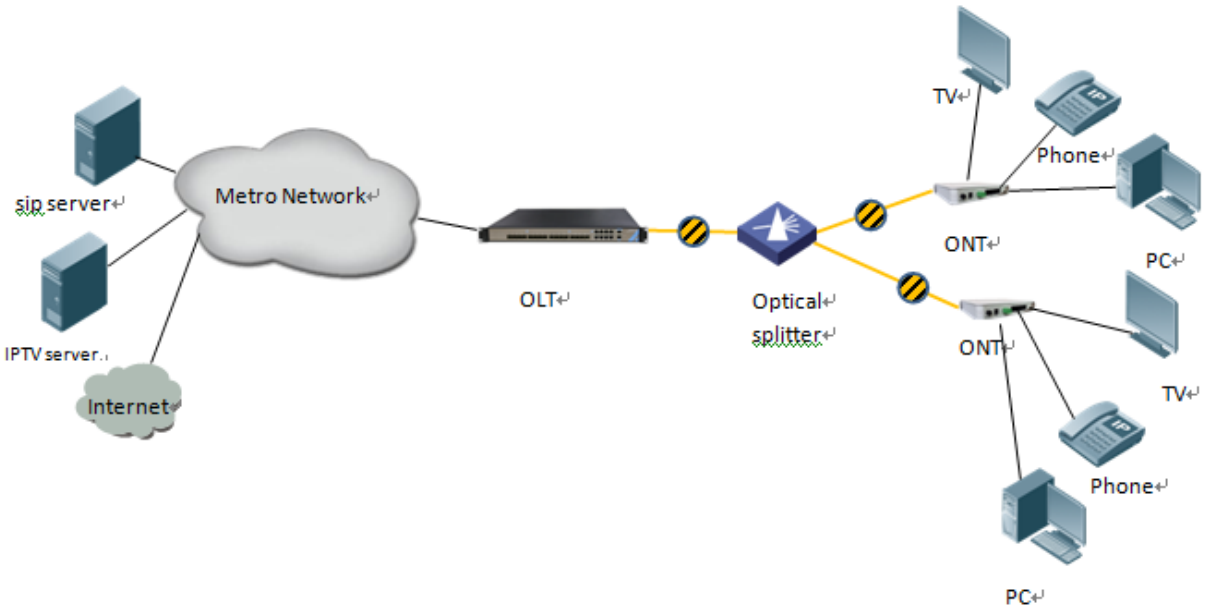
File [FD1508GS_FW_V1.0.3_151015_1420.img] download ..... OK

File [FD1508GS_FW_V1.0.3_151015_1420.img] upgrade ..... OK

# 4. Application Example

This section describes basic concepts related to the fiber to the home (FTTH) solution from the user side to the network side on FTTH networking using PON transmission.

We will give two example of the configuration. One is layer 2 configuration, another is the layer 3 configuration.




## 4.1 Data Plan

The subsequent examples are configured based on the following data plan.

| Data Plan | |
|---|---|
| **Service Classification** | **Data** |
| DBA Profile | Profile ID：10<br>Profile Type：Type3<br>Assured Bandwidth：8Mbit/s<br>Maximum Bandwidth：20Mbit/s |
| ONT Line Profile | Profile ID：10<br>T-CONT ID：1<br>Internet access service GEM Port ID：11<br>VOIP service GEM Port ID：12<br>IPTV service GEM Port ID：13 |
| ONT Service Profile | Service Profile：10<br>ONT Capacity：4 Eth Port, 1 POTS |
| Network Data | PON Port：1<br>ONT ID：1、2 |

**Configuration Process**

## 4.2 Creating the GPON ONT profile

GPON ONT profiles include the DBA profile, line profile, service profile.

- DBA profile: A DBA profile describes GPON traffic parameters. A T-CONT is bound to a DBA profile for dynamic bandwidth allocation, improving upstream bandwidth utilization DBA.
- Line profile: A line profile describes the binding between the T-CONT and the DBA profile, the QoS mode of the traffic stream, and the mapping between the GEM port and the ONT side service.
- Service profile: A service profile provides the service configuration channel for the ONT that is managed by using optical network terminal management and control interface (OMCI).

**.Configure a DBA profile**

Run the **show dba-**profile command to query existing DBA profiles in the system. If the existing DBA profiles in the system do not meet the requirements, run the **dba-profile** command to add a DBA profile.

Create the same DBA profile for different types of services. Set the profile ID to 10, profile type to type3, assured bandwidth to 8 Mbit/s, and maximum bandwidth to 20 Mbit/s.

```
OLT(config)# dba-profile profile-id 10
OLT(dba-profile-0)# type3 assure 8192 max 20480
OLT(dba-profile-0)# commit
```

**NOTE：**

The DBA implementation is based on an ONT. Therefore, select a DBA profile of the proper bandwidth type and configure proper bandwidth according to the service types and total user count of the ONT. Note that the sum of the fixed bandwidth and the assured bandwidth must not be greater than the total bandwidth of the PON port.

**a. Configure an ONT line profile**

Create a GPON ONT line profile, ID is 10, and bind it to the DBA profile 10

```
OLT(config)# ont-lineprofile profile-id 10
OLT(ont-lineprofile-10)# tcont 1 dba-profile-id 10
```

Create different GEM ports according to different service types, in which

- GEM port 11 is used to carry voice service
- GEM port 12 is used to carry video service
- GEM port 13 is used to Internet access services.

```
OLT(ont-lineprofile-10)# gem add 11 tcont 1
OLT(ont-lineprofile-10)# gem add 12 tcont 1
```

```
OLT(ont-lineprofile-10)# gem add 13 tcont 1
```

Use **commit** command to apply the parameters settings.

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

. **Configure an ONT service profile**

Create a GPON ONT service profile, ID 10. Configure the capability set of the ETH port and POTS port to adaptive. Then the system automatically adapts to the ONT according to the actual capability of the online ONT

```
OLT(config)# ont-srvprofile profile-id 10
OLT(ont-srvprofile-10)# ont-port eth 4 pots 1
```

After the configurations are complete, run the **commit** command to apply the parameters setting.

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

## 4.3 Add an ONT to OLT

Only when the ONT register to the OLT success , you can configure the service of the ONT. So it is important to add ONT to OLT and register to the OLT.
Connect two ONTs to GPON port 4. Set the ONT IDs to 1 and 2, SNs to DB1920223344 and AC120745660A. Bind the two ONTs to ONT line profile 10 and ONT service profile 10.
There are two methods of adding an ONT: add an ONT offline and confirm an automatically discovered ONT.

- Add ONT one by one

```
OLT(config)# interface gpon
OLT(interface-gpon)# ont autofind 4 enable
OLT(interface-gpon)# show ont autofind 4 all
//Uses the command to display all the ONT connected on that PON port.
OLT(interface-gpon)# ont add 4 1 sn-auth DB1920223344 ont-lineprofile-id 10
ont-srvprofile-id 10
  Add pon 4 onu 1 successfully.
OLT(interface-gpon)# ont add 4 2 sn-auth AC120745660A ont-lineprofile-id 10
ont-srvprofile-id 10
  Add pon 4 onu 1 successfully.
```

- Add ONT in batch

Uses **ont confirm** command to add ONT in batch

```
OLT(config)# interface gpon
```

```
OLT(interface-gpon)# ont autofind 4 enable
OLT(interface-gpon)# show ont autofind 4 all
//Uses the command to display all the ONT connected on that PON port.
OLT(interface-gpon)# ont confirm 4 sn-auth HWTC56A88A28 ont-lineprofile-id 10
ont-srvprofile-id 10
  Add pon 4 onu 1 successfully.
OLT(interface-gpon)# ont confirm 4 sn-auth ZTEGC13F0071 ont-lineprofile-id 10
ont-srvprofile-id 10
  Add pon 4 onu 1 successfully.
```

**NOTE：**

If multiple ONTs of the same type bound to the same line profile or service profile are connected to the same port, you can bulk add ONTs by bulk confirming automatically discovered ONTs to make configuration easier and more efficient. To do so, the preceding command can be modified as follows:：

```
OLT(interface-gpon)# ont confirm 4 all sn-auth ont-lineprofile-id 10 ont-srvprofile-id 10
```

## 4.4 Check ONT Status

After an ONT is added, run the **show ont info** command to query the current status of the ONT. Ensure that **Config flag** of the ONT is **active**, **Run State** is **online**, **Config state** is **normal**, and **Match state** is **match**.

```
OLT(interface-gpon)# show ont info 4 2
------------------------------------------------------------------------
  PORT-ID                 : 4
  ONT-ID                  : 2
  Control flag          : Active
  Run state               : Online
  Config state          : Success
  Match state             : Match
 ...// he rest of the response information is omitted.
```

When **Config state** is **failed**, **Run state** is **offline**, or **Match state** is **mismatch**:

- If **Control flag** is **deactive**, run the **ont active** command in GPON mode to activate the ONU.
- If **Run state** is **offline**, a physical line may be broken or the optical module may be damaged. Check the line and the optical module.
- If **Config state** is **failed**, the configured ONU capability exceeds the actual ONU capability.
- If the ONU does not match, that is, **Match state** is **mismatch**, the port types and number of ports unmatch the actual port types and number of ports supported by the ONU. In this case, run the **show ont capability** and **show ont capability** command to query the actual capability of the ONU, and then select right one.

## 4.5 Configuring Bridging ONT

This topic describes how to configure Internet access service when bridging ONT is used to build an FTTH network.

**Prerequisites**

- The OLT is connected to the uplink device success
- The ONT has been added to the OLT. For details, see 4.3 chapter
- The VLAN of the LAN switch port connected to the OLT is consistent with the upstream VLAN of the OLT

**Data Plan**

| Item | Data |
|---|---|
| ONT Line Profile | Line Profile：10<br>T-CONT ID：1<br>Internet Access Service GEM Port ID：11 |
| Network topology and VLAN Plan | Upstream Port：ge9 vlan：100<br>PON 口：PON4 vlan：100<br>ONT 1：eth1 vlan：100 |

**Configuration Process**

- **Configure the OLT ：**

1. Configure the mapping between a GEM port and a VLAN

The service flow of C-VLAN 100 is mapped to GEM port 11 in the ONT line profile.

```
OLT(config)# ont-lineprofile profile-id 10
OLT(ont-lineprofile-10)# gem mapping 11 1 vlan-id 100
OLT(ont-lineprofile-10)# commit
OLT(ont-lineprofile-10)# exit
```

2. Configure the VLAN of the Ethernet port on the ONT

If the ONT is connected to the PC through Ethernet port 1, add Ethernet port 1 to VLAN 100 in the ONT service profile.

```
OLT(config)# ont-srvprofile profile-id 10
OLT(ont-srvprofile-10)# port vlan eth 1 native-vlan 100
OLT(ont-srvprofile-10)# port vlan eth  1 vlan 100
OLT(ont-srvprofile-10)# commit
OLT(ont-srvprofile-10)# exit
```

3. Create an Internet access service VLAN and add an upstream port to it.

Add upstream port 9 to VLAN 100.

```
OLT(config)# vlan 100
OLT(config)# interface ge
```

```
OLT(interface-ge)# vlan mode 9 hybrid
OLT(interface-ge)# vlan hybrid 9 tagged 100
ge9      : hybrid add tag vlan:
              Fail: 0, Success: 1
```

4. Configure PON port vlan

Add PON port 4 to VLAN 100

```
OLT(config)# interface gpon
OLT(interface-gpon)# vlan mode 4 hybrid
OLT(interface-gpon)# vlan hybrid 4 tagged 100
```

5. Save the data

```
OLT(config)# save
```

- **The ONT does not need to be configured.**

----End

## 4.6 Configuring service on Gateway ONT

This topic describes how to configure Internet access service, voice service, BTV service and VoD service when gateway ONT is used to build an FTTH network.
The ONT integrating an IAD provides Internet, VoIP, and IPTV services to users. The Gateway ONT facilitates interconnection of home devices by providing Layer 3 services, such as Point-to-Point Protocol over Ethernet (PPPoE)/DHCP dial-up, network address translation (NAT), and Internet Group Management Protocol (IGMP) snooping. This scenario provides fine-grained management channels and service control, and mainly applies to Layer 3 networking.

### 4.6.1 Configuring the Internet Access Service

**Prerequisites**

- The OLT is connected to the uplink device success
- The ONT has been added to the OLT. For details, see 4.3 chapter
- The VLAN of the LAN switch port connected to the OLT is consistent with the upstream VLAN of the OLT

**Data Plan**

| Item | Data |
|---|---|
| ONT Line Profile | Line Profile：10<br>T-CONT ID：1<br>Internet Access Service GEM Port ID：11 |
| Network topology and VLAN Plan | Upstream Port：ge9　　vlan：100<br>PON 口：PON4　　vlan：100<br>ONT 2　　WAN：　veip0.2　　vlan：100 |

**Configuring Process**

- **Configure OLT：**

1. Configure the mapping between a GEM port and a VLAN

The service flow of C-VLAN 100 is mapped to GEM port 11 in the ONT line profile.

```
OLT(config)# ont-lineprofile profile-id 10
OLT(ont-lineprofile-10)# gem mapping 11 1 vlan-id 100
OLT(ont-lineprofile-10)# commit
OLT(ont-lineprofile-10)# exit
```

2. Create an Internet access service VLAN and add an upstream port to it.

Add upstream GE port 9 to VLAN 100.

```
OLT(config)# vlan 100
OLT(config)# interface ge
OLT(interface-ge)# vlan mode 9 hybrid
OLT(interface-ge)# vlan hybrid 9 tagged 100
ge9      : hybrid add tag vlan:
              Fail: 0, Success: 1
```

3. Configure PON port vlan

Add PON port 4 to VLAN 100

```
OLT(config)# interface gpon
OLT(interface-gpon)# vlan mode 4 hybrid
OLT(interface-gpon)# vlan hybrid 4 tagged 100
```

4. Save the data.

```
OLT(config)# save
```

- **Configure the ONT on the Web page. (Please reference of the user manual of 4FE+1POTS+WIFI )**

Log in to the Web page and then configure the ONT on the Web page：

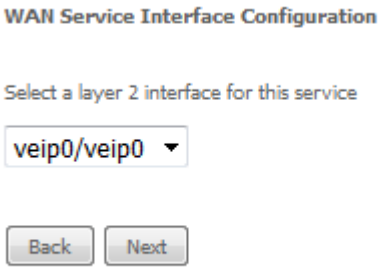
1. Configure the IP address of the PC network adapter to be in the same network segment with the IP address of the local maintenance Ethernet port on the ONT (default: 192.168.100.1).

2. Open the Web browser, and enter the IP address of the local maintenance Ethernet port on the ONT. In the login window, enter the user name (default: CUAdmin) and password (default: CUAdmin) of the administrator. After the password is authenticated, the Web configuration window is displayed.

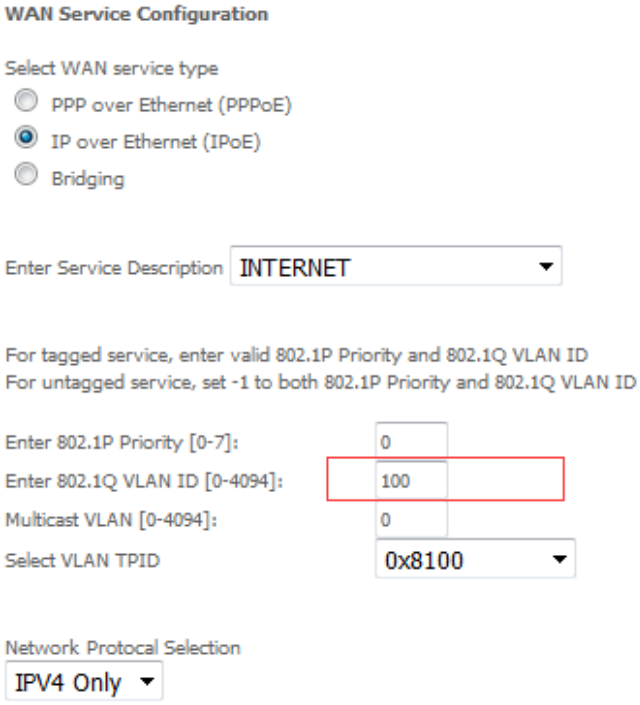
3. Configure parameters of a WAN port.

a. Click Advance Setup→WAN→ADD, to add a WAN connection

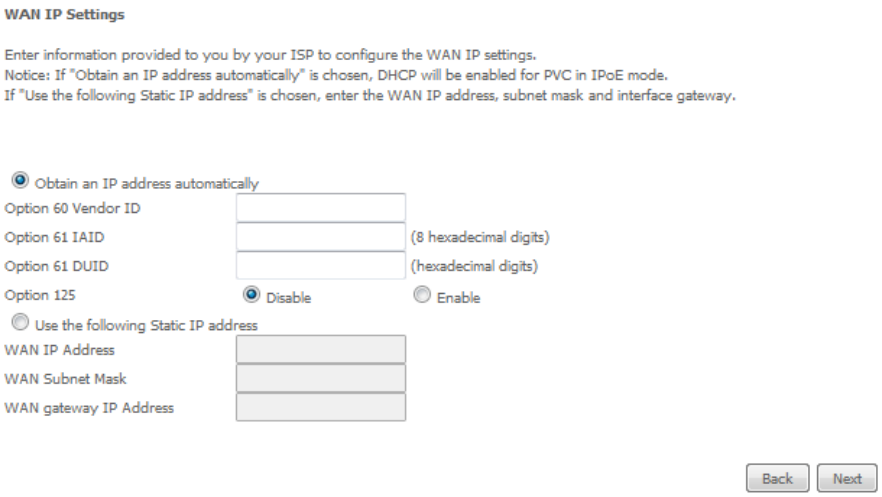
- Select an interface in WAN service interface configuration( For example: veip0.2), then click next；



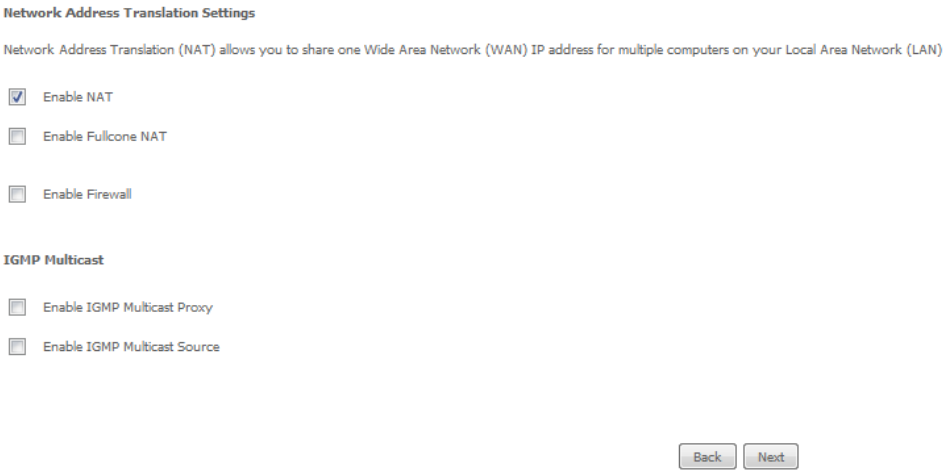

- Set WAN service type to **IPoE**
- Set service description to **INTERNET**
- Set 802.1Q VLAN ID to **10**0 (The VLAN ID of the ONT must be the same as the user-side VLAN ID configured on the OLT.)



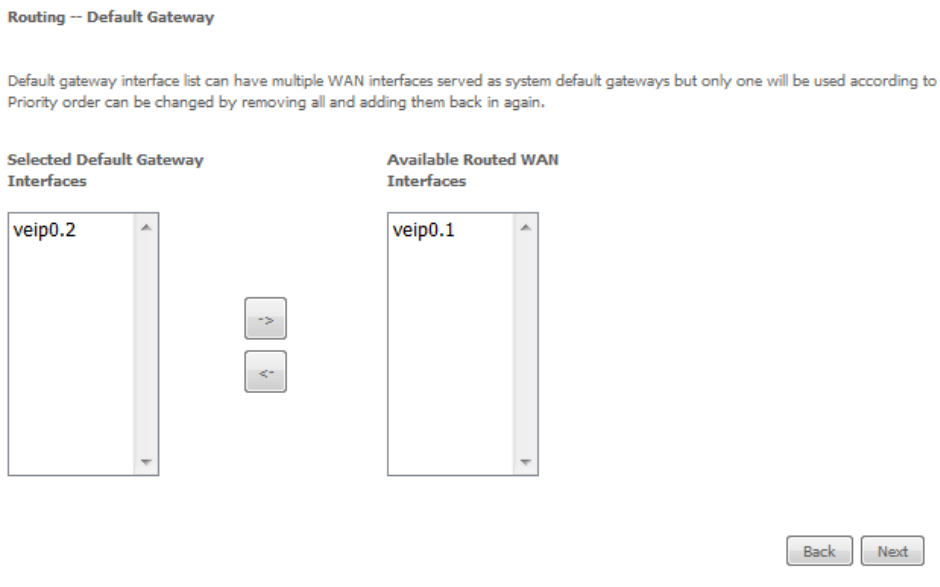

- Set WAN IP Mode to **Obtain an IP auto**



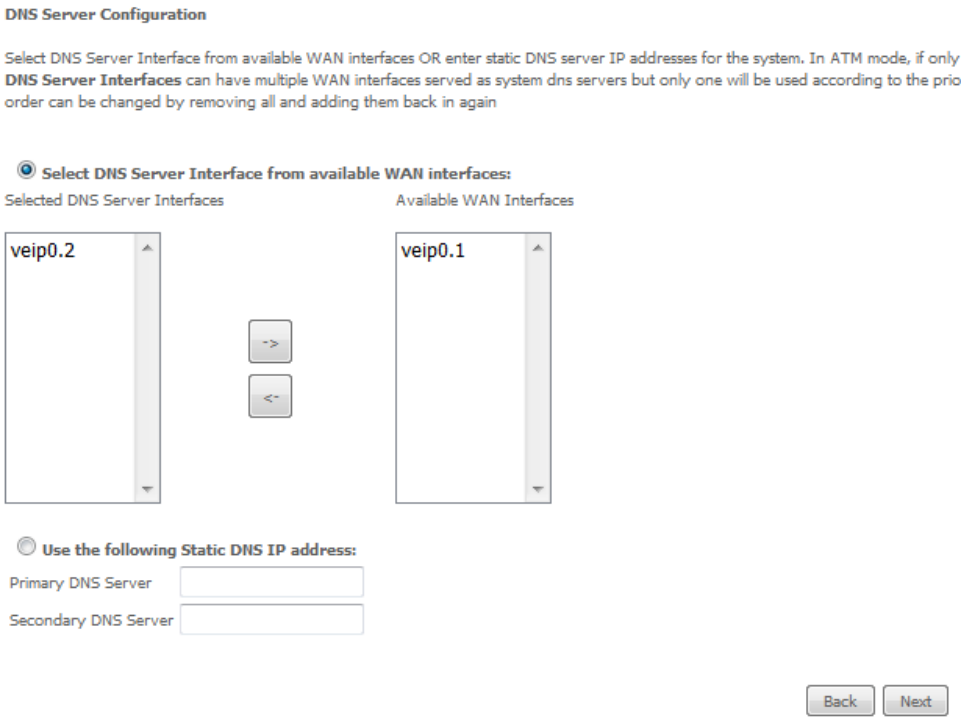

- Set **Enable NAT** to enable the NAT function



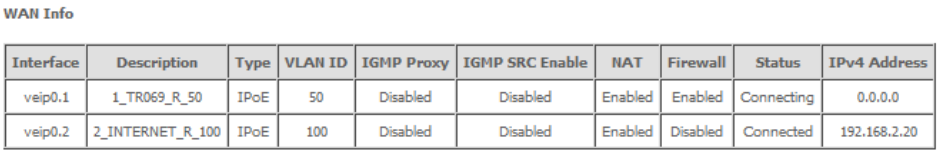

- Set the default Gateway is **veip0.2**



- Set the DNS server interface to **veip0.2**




- Click **APPLY/Save** button in WAN Setup Summary window
- Check the WAN Connection , the **veip0** status is **Connected**, and get the IPv4 address success.




| Interface | Description | Type | VLAN ID | IGMP Proxy | IGMP SRC Enable | NAT | Firewall | Status | IPv4 Address |
|---|---|---|---|---|---|---|---|---|---|
| veip0.1 | 1_TR069_R_50 | IPoE | 50 | Disabled | Disabled | Enabled | Enabled | Connecting | 0.0.0.0 |
| veip0.2 | 2_INTERNET_R_100 | IPoE | 100 | Disabled | Disabled | Enabled | Disabled | Connected | 192.168.2.20 |

### 4.6.2 Configuring Voice Service

**Prerequisites**

- The SIP interface data and POTS user data corresponding to the MG interface have been configured on the SIP server.
- The connection between the OLT and the SIP server is set up. The OLT can ping the IP address of the SIP server successfully.
- The ONT has been added to the OLT. For details, see Adding an ONT to an OLT.
- Different voice services require different ONT software versions. Before the configuration, ensure that the current ONT software version supports SIP. For details, see relevant ONT manuals.

**Data Plan**

| Item | Data |
|---|---|
| ONT Line Profile | Line Profile：10<br>T-CONT ID：1<br>Internet Access Service GEM Port ID：12 |
| Network topology and VLAN Plan | Upstream Port：ge9 vlan：200<br>PON 口：PON4 vlan：200<br>ONT 2 WAN： veip0.3 vlan：200 |
| Voice Parameter | IP address of the SIP server:200.200.200.200/24<br>Port ID of the SIP server:：5060<br>User phone number 1:：88880001 |

**Configuration Process**

- Configure the OLT：

1. Configure the mapping relationship between a GEM port and a VLAN

   The service flow of C-VLAN 200 is mapped to GEM port 12 in the ONT line profile.

```
OLT(config)# ont-lineprofile profile-id 10
OLT(ont-lineprofile-10)# gem mapping 12 2 vlan-id 200
OLT(ont-lineprofile-10)# commit
OLT(ont-lineprofile-10)# exit
```

2. Create a service VLAN and add an upstream port to it

   Add upstream port 9 VLAN 200

```
OLT(config)# vlan 200
OLT(config)# interface ge
OLT(interface-ge)# vlan hybrid 9 tagged 200
ge9      : hybrid add tag vlan:
              Fail: 0, Success: 1
```

3. Configure PON port vlan

```
OLT(config)# interface gpon
OLT(interface-gpon)# vlan mode 4 hybrid
OLT(interface-gpon)# vlan hybrid 4 tagged 200
```

4. Save the data

```
OLT(config)# save
```

- **Configure the ONT on the Web page. (Please reference of the user manual of 4FE+1POTS+WIFI )**

  Log in to the Web page and then configure the ONT on the Web page：

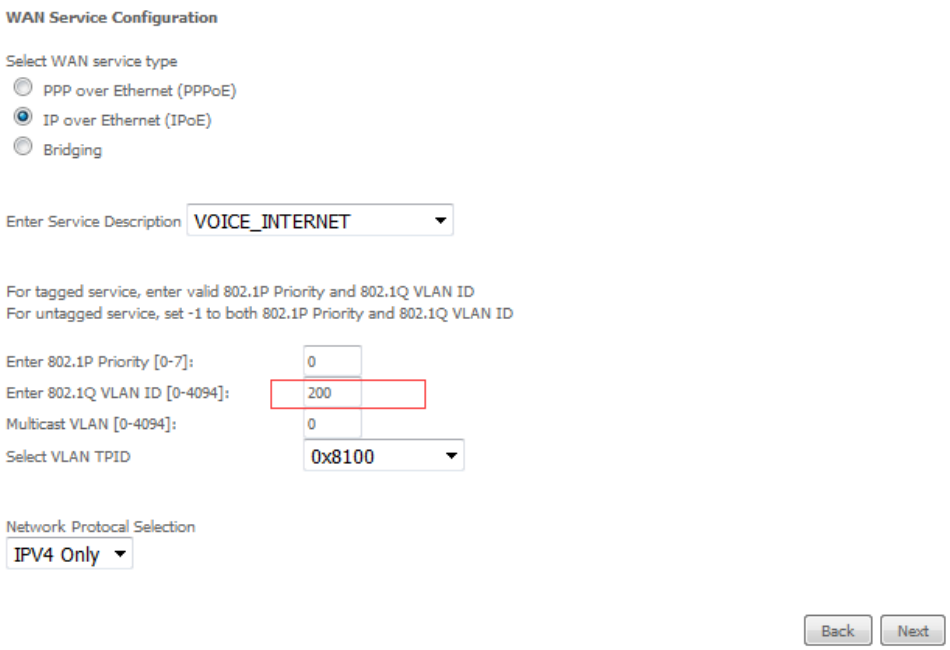
1. Configure the IP address of the PC network adapter to be in the same network segment with the IP address of the local maintenance Ethernet port on the ONT (default: 192.168.100.1).

2. Open the Web browser, and enter the IP address of the local maintenance Ethernet port on the ONT. In the login window, enter the user name (default: CUAdmin) and password (default: CUAdmin) of the administrator. After the password is authenticated, the Web configuration window is displayed.

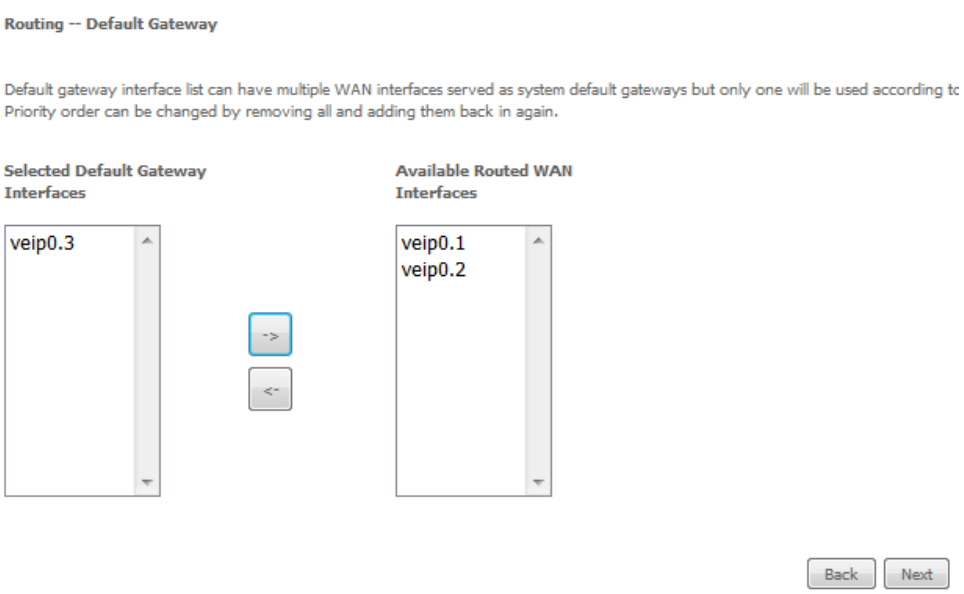
3. Configure parameters of a WAN port.

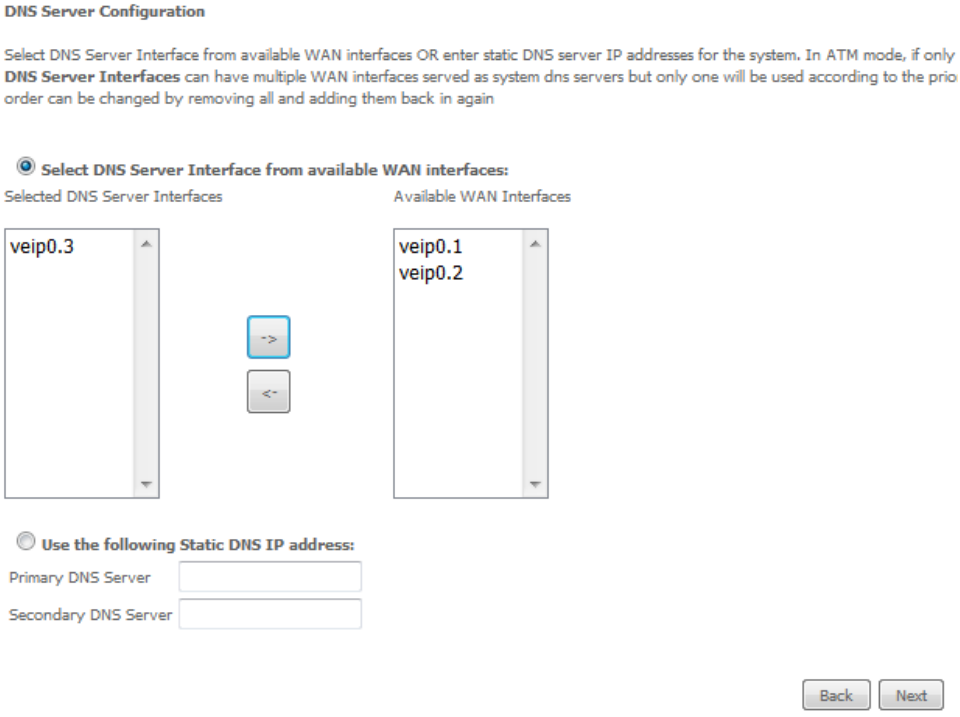
a. Click Advance Setup→WAN→ADD, to add a WAN connection

- Set WAN service type to **IPoE**
- Set service description to **VOICE**
- Set 802.1Q VLAN ID to **20**0 (The VLAN ID of the ONT must be the same as the user-side VLAN ID configured on the OLT.)



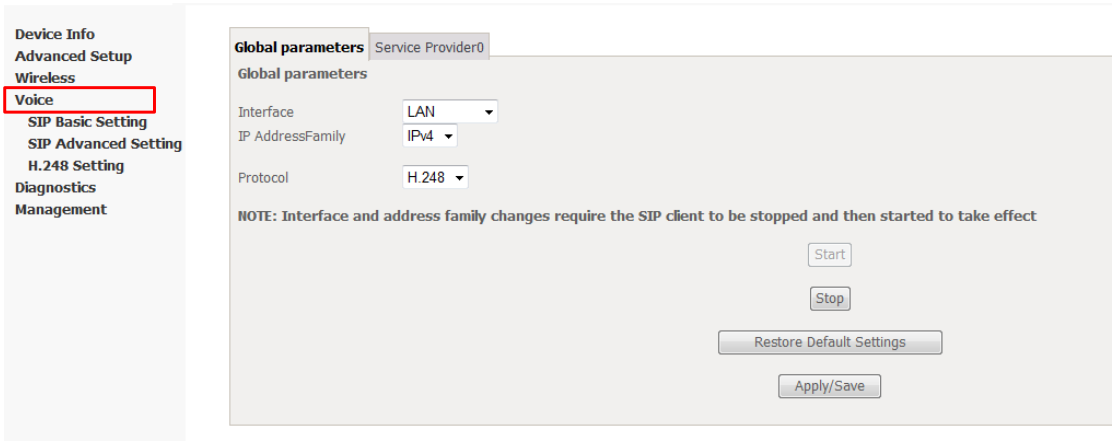

- Set WAN IP Mode to Obtain an IP auto
- Set Enable NAT to enable the NAT function
- Set the default Gateway is **veip0.3**
- Set the DNS server interface to **veip0.3**
- Click **APPLY/Save** button in WAN Setup Summary window



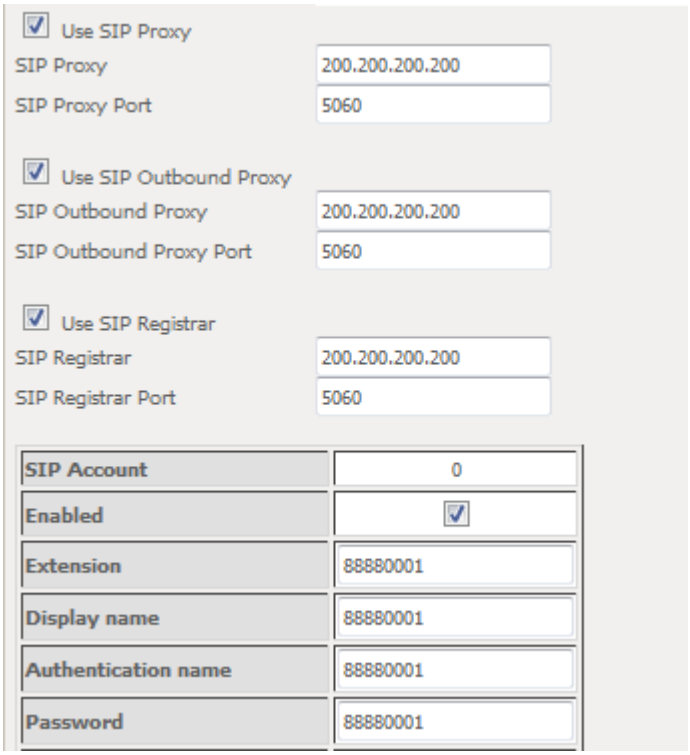




4. Configure parameters for the SIP-based voice interface

a. Click Voice→Global parameters to choice the SIP protocol.




b. Click Voice > SIP Basic Seething> Service Provider0, configuring the SIP Registrar, SIP Proxy, SIP Account, Password etc.




c. Click Apply/Save

### 4.6.3 Configuring IPTV Service

The OLT is connected to the remote gateway ONT through a GPON port to provide users with the bridge WAN multicast service.

**Prerequisites**

- The OLT has been connected to the uplink device and the program source.
- The VLAN of the LAN switch port connected to the OLT is the same as the upstream VLAN of the OLT.

**Data plan**

| Item | Data |
|---|---|
| ONT Line Profile | Line Profile：10<br>T-CONT ID：1<br>Internet Access Service GEM Port ID：13 |
| Network topology and VLAN Plan | Upstream Port：ge9 vlan：300<br>PON 口：PON4 vlan：300<br>ONT 2 WAN： Bridging vlan：300 Multicast vlan:300 |
| Multicast service data | Multicast protocol:IGMP Snooping<br>Multicast version:IGMP v3 |

**Procedure**

- Configuring the OLT：
  - Configure the mapping relationship between a GEM port and an Ethernet port on the ONT

```
OLT(config)# ont-lineprofile profile-id 10
OLT(ont-lineprofile-10)# gem mapping 13 3 vlan-id 300
OLT(ont-lineprofile-10)# commit
OLT(ont-lineprofile-10)# exit
```

  - Create a multicast VLAN

    Create a multicast VLAN 300. Add the port GE9 and PON port 4 to the Multicast-Vlan.

```
OLT(config)# vlan 300
OLT(config)# multicast-vlan 300
OLT(config)# multicast-unknown policy discard
OLT(multicast-vlan-300)# port ge 9
OLT(multicast-vlan-300)# port gpon 4
```

  - Enable igmp-snooping。

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

  - Enable igmp-snooping querier

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

  - Creating VLAN300 and add GE9 and PON4 to the VLAN

```
OLT(config)# vlan 300
OLT(config)# interface ge
OLT(interface-ge)# vlan mode 9 hybrid
OLT(interface-ge)# vlan hybrid 9 tagged 300
ge9      : hybrid add tag vlan:
              Fail: 0, Success: 1
OLT(interface-ge)# exit
OLT(config)# interface gpon
OLT(interface-gpon)# vlan hybrid 4 tagged 300
p4       : hybrid add tag vlan:
              Fail: 0, Success: 1
```

- Save the data

```
OLT(config)# save
```

- **Configure the ONT**
  - Set Wan service to “Bridging”;
  - Set WAN service type to “INTERNET”, select the check box of “Allow as IGMP Multicast Source”
  - Set 802.1Q VLAN ID to 300, set Multicast VLAN to 300 (The VLAN ID of the ONT must be the same as the VLAN ID configured on the OLT)


- Click Apply/Save;

**WAN Setup - Summary**

Make sure that the settings below match the settings provided by your ISP

| | |
|---|---|
| **Connection Type** | Bridge |
| **NAT** | Enabled |
| **Enable Fullcone NAT** | Disabled |
| **Firewall** | Disabled |
| **IGMP Multicast Proxy** | Disabled |
| **IGMP Multicast Source** | Enabled |
| **MLD Multicast Proxy:** | Disabled |
| **MLD Multicast Source Enabled:** | Disabled |
| **Quality Of Service** | Disabled |

Click "Apply/Save" to have this interface to be effective. Click "Back" to make any modifications

Back Apply/Save

- Click Advance Setup→ LAN, select check box **Enable IGMP Snooping**;

**Local Area Network (LAN) Setup**

Configure the Broadband Router IP Address and Subnet Mask for LAN interface. GroupName Default

IP Address 192.168.100.1
Subnet Mask 255.255.255.0

LAN port work mode

| LAN1 | LAN2 | LAN3 | LAN4 |
|---|---|---|---|
| RG | RG | RG | RG |

Enable IGMP Snooping

Standard Mode
Blocking Mode

Enable IGMP LAN to LAN Multicast Disable
(LAN to LAN Multicast is enabled until the first WAN service is connected, regardless of this setting.)

- Click Advance Setup→ LAN, Default version is 3

**Multicast Precedence:** Disable lower value, higher priority

**IGMP Configuration**

Enter IGMP protocol configuration fields if you want modify default values shown below

| | |
|---|---|
| Default Version: | 3 |
| Query Interval: | 125 |
| Query Response Interval: | 10 |
| Last Member Query Interval: | 10 |
| Robustness Value: | 2 |
| Maximum Multicast Groups: | 25 |
| Maximum Multicast Data Sources (for IGMPv3): | 10 |
| Maximum Multicast Group Members: | 25 |
| Fast Leave Enable: | ☑ |

Apply/Save

# 5 Ending

Thanks very much for deploying C-DATA equipment.
Should have any doubt or problem to know about our products installation, please don't hesitate to contact us.

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