
GPON USER GUIDE



V1.0

Shanghai Baud Data Communication Co., LTD

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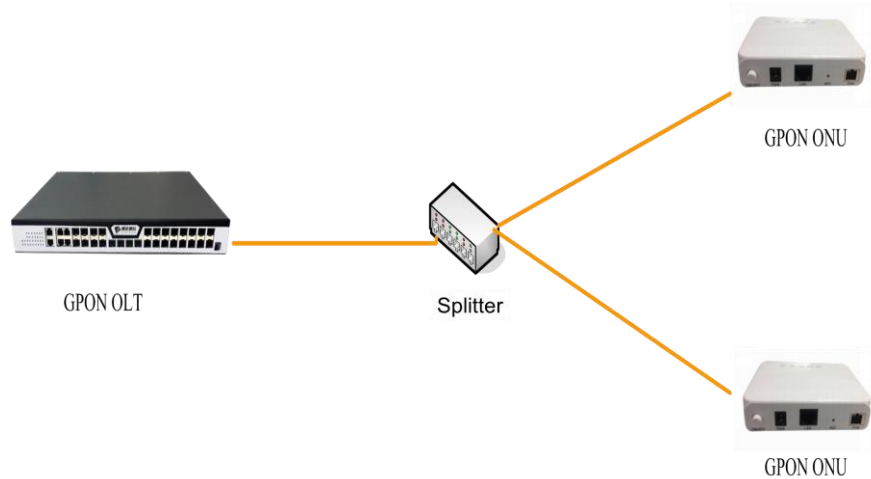
Preface

Overview: The GPON applications are springing in China. In order to guide users to install and debug GPON devices and provide related configuration templates, we edit **GPON User Guide** as the reference for users. The **Guide** is compiled based on GP3600-16 (OLT) and GB1501B (ONU).

Chapter 1 Preparatory Work

1.1 Connecting the Devices

Different from the traditional Ethernet system, the GPON consists of three parts: OLT, the optical splitter and ONU. The topology of the GPON system is shown in the following figure:



Caution: Attention must be paid to the connection of the optical splitter, whose uplink port connects OLT and whose downlink port connects ONU. As the registration light sensitivity of GPON ONU is low, do not connect the fiber to the PON port directly, only if connect through a splitter with the optical splitting ratio of 1:8. Otherwise, overtop optical power may cause the PON indicator on the ONU flickers.

1.2 Checking the Startup of OLT

The power-up and startup of OLT has 3 steps:

1. Hardware checkup and system download.

After the OLT is powered on, the indicators of PWR and SYSALM are on. When the system is normally downloaded, the PWR indicator is always on and the system indicator flickers regularly.

P1/P2: The power indicator. When the yellow indicator is on, the power supply works normally; when the yellow indicator is off, there is no power supply.

ALM: The alarm indicator. It is on in red when there is something wrong with the device.

SYS: The system indicator. When the system works normally, the indicator is always on in yellow; when there is something wrong (software problem or hardware problem), the indicator is on in red.

If you connect the console port of an MSU card and conduct the hardware checkup on the MSU card, the following information appears:

System Bootstrap, Version 0.1.0, Serial No: 00318000109
Copyright (c) by Shanghai Baud Data Communication Co., Ltd.
Current time: 1970-1-1 0:00:00
SDRAM Fast Test.....PASS!
Flash Fast Test.....PASS!
RTC Test.....PASS!

Load the system after the hardware checkup is finished:

Loading flash:/Switch.bin.....

Start Decompress flash:/Switch.bin

```
#####  
#####  
#####  
#####
```

Decompress 9330062 byte. Please wait system up...

old idle is 87371e60,new idle is 30

QUICKTURN|BOARD:ATTN:Skipping RXLP Counter(NACK-issue)

QUICKTURN|BOARD:ATTN:Skipping RXLP Counter(NACK-issue)

BOND_1588_ENABLE : enabling soc_feature_timesync_support

```
#####
```

OLP PORT IS *USED*

```
#####
```

```
=====
```

INFO:XAU1 need all 4 lanes;R-XAU1 need 2 & XFI need 1 lane

Cfg:4 IntCfg:4 Recommended PortGroup Config Setting for WC ports

```
=====
```

portgroup_27.0=1

portgroup_33.0=1

portgroup_28.0=1

portgroup_30.0=1

```
=====
```

MMU is reconfigured

MMU is reconfigured

MMU is reconfigured

MMU is reconfigured

MMU is reconfigured

MMU is reconfigured

System startup OK

Load the file after the system load is finished;

Loading bcm68620_boot.bin.....

+++++++

%MAPLE-INI: File bcm68620_boot.bin len 39672 Byte.

Chapter 2 File System

The GPON file system is consists of two parts:

Device	Version file	Import flash name
GP3600-16	BD_GP3616_10.3.0A_32900.bin	switch.bin
	maple.1.0.61.blob	maple.blob

The normal operation of OLT needs the olt_blob file, which is the drive program of the PON chip on the PON card.

2.1 Browsing the Version

2.1.1 Browsing the Version of MSU

```
Switch#show version /Check OLT Software Version Information
```

```
BDCOM(tm) GP3600-16 Software, Version 10.3.0A Build 32900
```

```
Copyright by Shanghai Baud Data Communication CO. LTD.
```

```
Compiled: 2016-1-18 11:19:0 by SYS, Image text-base: 0x80008000
```

```
ROM: System Bootstrap, Version 0.1.0, Serial num:00318000109
```

```
System image file is "flash:/Switch.bin"
```

```
hardware version:V1.0
```

```
(RISC) processor with 524288K bytes of memory, 32768K bytes of flash
```

```
Base ethernet MAC Address: 00:e0:0f:be:58:e8
```

```
snmp info:
```

```
product_ID:319 system_ID:1.3.6.1.4.1.3320.1.319.0
```

```
Switch uptime is 0:01:15:31, The current time: 1970-1-1 1:15:30
```

Note: You can judge whether IOS is new or old by browsing OLT's version, ONU's version and the encoding time.

Through the show version information, you can see the version number of the system IOS is **10.3.0A Build 32900, the encoding time is 2016-1-18 11:19:0,**

2.1.2 Browsing the Version of ONU

The basic information of GP1501B ONU:

```
Switch#show gpon int gpON 0/2:1 onu basic-info
```

```
Serial number BDCM:F79D0DAC (4244434DF79D0DAC)
```

```
Vendor id BDCM (4244434D)
```

```
Version V1.0 (56312E300000000000000000000000)
```

```
Traffic management option Priority (0)
```



```

Battery backup           Disable monitoring (0)
Admin state              Lock (1)
Operational state       Disabled (1)
Equipment id            1101
OMCC version             ITU-T G.984.4 2008 Amd.2 (2009)(Baseline only)
Vendor product code     0
Security capability     AES-128 (1)
Security mode           AES-128 (1)
Total priority queue number 0
Total traffic scheduler number 0
Total GEM port number   128
Image #0 version        10.10.15G_1001 (31302E31302E3135475F31303031)
                        //ONU Software Version

Image #0 status         valid/active/committed
Image #1 version        (00000000000000000000000000000000)
Image #1 status         invalid/inactive/uncommitted
Piggyback DBA reporting Mode 0 only (0)
Whole ONU DBA reporting Not supported (0)
Distance                0
Image update state      None(0)

```

2.2 Browsing the File System of the Flash

```
Switch_config#dir /Display the files in the flash
```

Listing Directory /:

```

Switch.bin           <FILE>           9338563      Jan 01 00:03:46 1970
maple.blob           <FILE>           6328554      Jan 01 00:01:34 1970

```

free space is 17276928 bytes

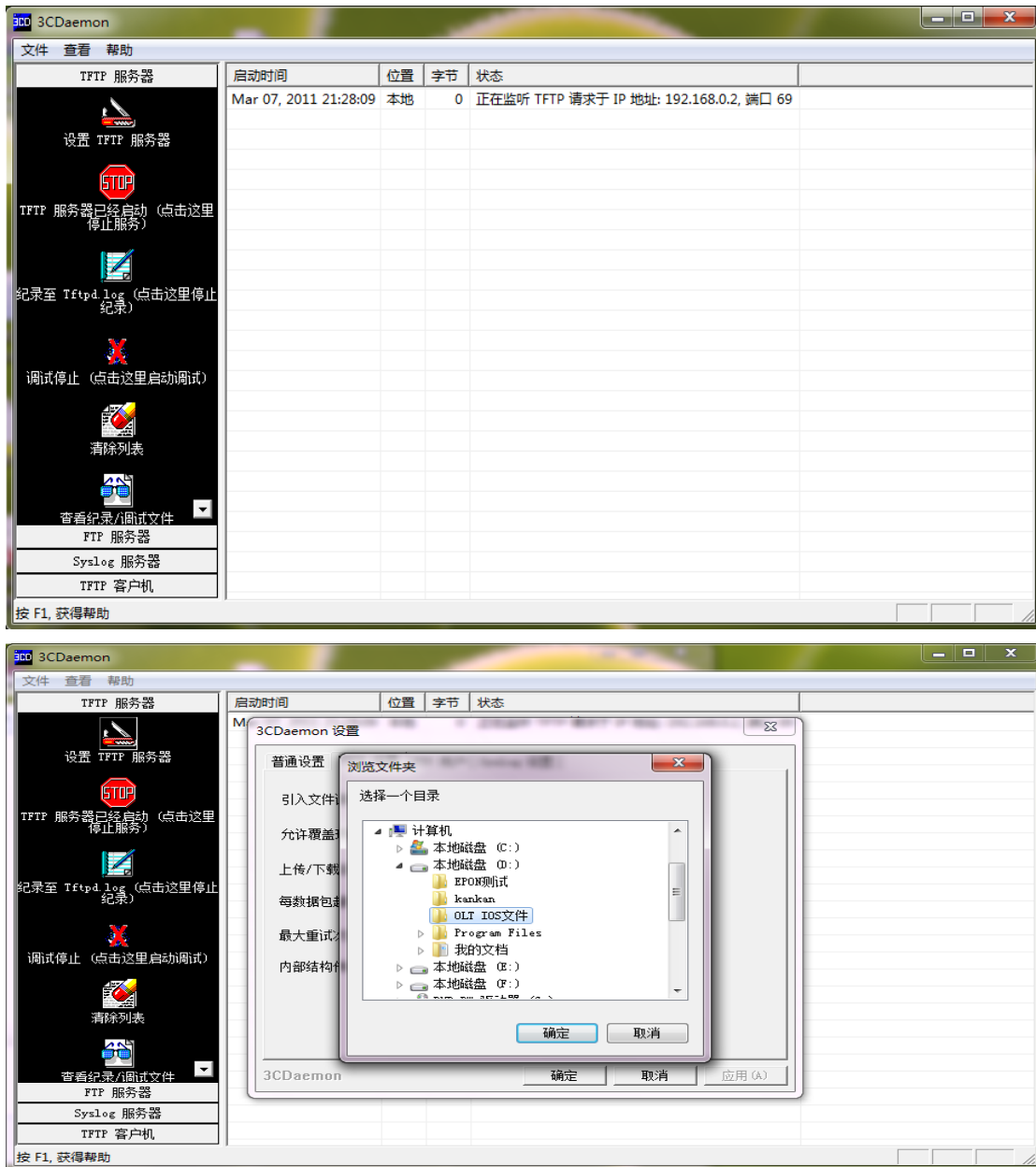
2.3 Software Version Upgrade

Step 1: Set the management address of OLT.

```
Switch_config#int vlan 1 /Create interface vlan1 and enter the interface
Switch_config#ip address 192.168.0.1 255.255.255.0 / Set ip 192.168.0.1 for interface vlan1
```

Meanwhile, make sure the connectivity of PC and OLT's management address.

Step 2: Enable the TFTP server on a PC and set the upload directory of the TFTP server.



Step 3: Upload the OLT IOS file from PC to the OLT flash.

```
Switch_config#copy tftp:BD_GP3616_10.3.0A_32900.bin flash:Switch.bin 192.168.0.2
```

Upload the MSU IOS file from TFTP server 192.168.0.2 to the flash.

```
#####
#####
#####
#####
#####
#####
#####
#####
```

```
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####
```

TFTP:successfully receive 9120 blocks ,9330062 bytes

Switch_config#copy tftp:maple.1.0.61.blob flash:maple.blob 192.168.0.2

Upload the drive file from TFTP server 192.168.0.2 to the flash.

```
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####  
#####
```

TFTP:successfully receive 6181 blocks ,6288832 bytes

Chapter 3 OLT Management

3.1 Out-Band IP Management (on MSU)

The out-band IP address refers to the IP address of the out-band interface of the device, which embodies as the MGMT port on the MSU of the GP3600-16 Series. By default, no management IP address exists, so it shall be set through the command lines.

The command lines to set the out-band management IP is shown below:

```
Switch_config#interface gigaEthernet 0/0
Switch_config_g5/0#ip address 192.168.1.100 255.255.255.0
Switch_config_g5/0#exit
Switch_config#write
```

3.2 In-band IP Management

3.2.1 Adding/Deleting VLAN

```
Switch_config#vlan 100 /Add vlan 100
Switch_config_vlan100#no vlan 100 /Delete vlan 100
Switch_config#vlan ?
WORD -- VLAN IDs(1-4094), such as (1,3,5,7) Or (1,3-5,7) Or (1-7)
Switch_config#vlan 101,109-111 /add vlan 101, 109,110,111
```

3.2.2 Configuring the OLT Port

The OLT port supports the following modes: the access mode, the relay mode, the VLAN tunnel mode, the VLAN translating tunnel mode and the VLAN tunnel uplink mode.

Each port has a default VLAN and PVID; all VLAN-untagged data received on the port belongs to the packets of the VLAN.

The relay mode can group the port to multiple VLANs; at the same time, you can configure the type of to-be-forwarded packets and the quantity of the corresponding VLANs.

The following commands will be used when you configure the OLT port.

```
Switch_config_g2/1#switchport pvid 101 /Set the PVID of the OLT port
Switch_config_g2/1#switchport mode ? /Set the mode of the OLT port
access -- Access mode /access mode
trunk -- Trunk mode /Trunk mode
dot1q-translating-tunnel -- Dot1q translating tunnel mode /VLAN translating tunnel mode
dot1q-tunnel-uplink -- Dot1q tunnel uplink mode /VLAN tunnel uplink mode
```

3.2.3 Setting the In-Band IP

```
Switch_config#vlan 100          /Add a management vlan100 and enter the config_vlan mode
meanwhile
Switch_config_vlan100#exit      /Exit the config_vlan mode
Switch_config#int vlan 100     /Enter the interface mode of vlan100
Switch_config_v100#ip add 192.168.100.1 255.255.255.0 /set on interface vlan100 an IP, which is
the in-band IP

To delete this IP, run no ip address:

Switch_config_v100#no ip address

Switch_config_vlan100#exit

Switch_config#ip route 0.0.0.0 0.0.0.0 192.168.100.1 /Set the default route in global mode
Switch_config#no ip route 0.0.0.0 0.0.0.0 /Delete the route
Switch_config#show ip route     /Browse the route of the current device
```

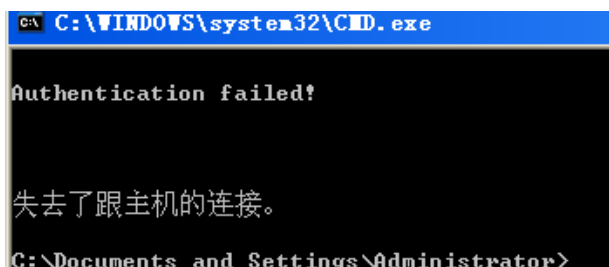
3.2.4 AAA Configuration

Access control is used to control the users to access OLT or NAS and to limit their service types. Access control is also used for authentication, authorization and accounting, which improves the network security.

The common configuration is shown as follows:

```
Switch_config#aaa authentication login default local /Set the login authentication as the
authentication of the local database
Switch_config#aaa authentication enable default none /Set the Enable authentication to null
Switch_config#username admin password bdcorn /Set the authentication account and password
of the local database
```

Note: If the AAA authentication commands are not set, the default telnet login will cause the failure of authentication.



3.3 SNMP Network Management

The SNMP system includes the following parts:

- SNMP NMS
- SNMP AGENT
- Management Information Base (MIB)

SNMP is a protocol applied on the application layer, which provides the packet's format for the communication between SNMP NMS and SNMP agent.

The related common configuration commands are shown below:

```
Switch_config#snmp-server community public ro
```

/Set the public character string that has the read permission to all MIB variables

```
Switch_config#snmp-server community private rw
```

/Set the private character string that has the read-and-write permission to all MIB variables

```
Switch_config#snmp-server host 1.1.1.3 version v3 public authentication config snmp
```

/Transmit to host 1.1.1.3 the SNMP/Authentication/Config traps

Chapter 4 ONU Authentication and Operation

4.1 Browsing the Registration Status of ONU

You can run show epon onu-information to browse the registration status and testing distance of ONU.

```
Switch_config#show gpon onu-information /browse the registration of ONU
```

EPON0/4 has registered 4 ONUs:

IntfName	SN	Status
GPON0/4:1	47504F4E598A4AC8	off-line
GPON0/4:2	4244434DF79D0D7E	active
GPON0/4:3	4244434DF79D0DAC	active
GPON0/4:4	47504F4E598A4AC9	inactive

Intf Name: Means the LLID interface distributed to ONU.

SN: vender id + MAC, the first eight numbers represents vendor id and the last eight numbers represents device mac address

Status: Means the registration status, among which active means ONU is successfully registered and can run normally, inactive means ONU is registered but not authenticated, and off-line means ONU is offline.

The successfully registered ONU will add on the GPON port a command of binding ONU SN and LLID interface.

```
interface GPON0/4
    gpon bind-onu sn 47504F4E598A4AC8 1
    gpon bind-onu sn 4244434DF79D0D7E 2
    gpon bind-onu sn 4244434DF79D0DAC 3
    gpon bind-onu sn 47504F4E598A4AC9 4
```

To check all ONU registration statuses on OLT, run command "**show gpon onu-status-count**".

```
Switch#show gpon onu-status-count
```

```
ONU STATUS COUNT
```

```
-----
Offline:          1
Inactive:         0
Disable:          0
Active:           3
```

Unknow: 0

4.2 ONU Discovery

The default status of OLT is auto-register. If ONU transmits the registration request, ONU registration and bandwidth distribution will be automatically conducted. Hence, when ONU is powered and connects the optical fiber of OLT, ONU can then be normally registered and used without any configuration and authorization.

Meanwhile, you can enable the mode of port registration mode disabled

Switch_config_gpon0/4#gpon onu-discover-mode ?

auto -- auto //default

disable -- disable

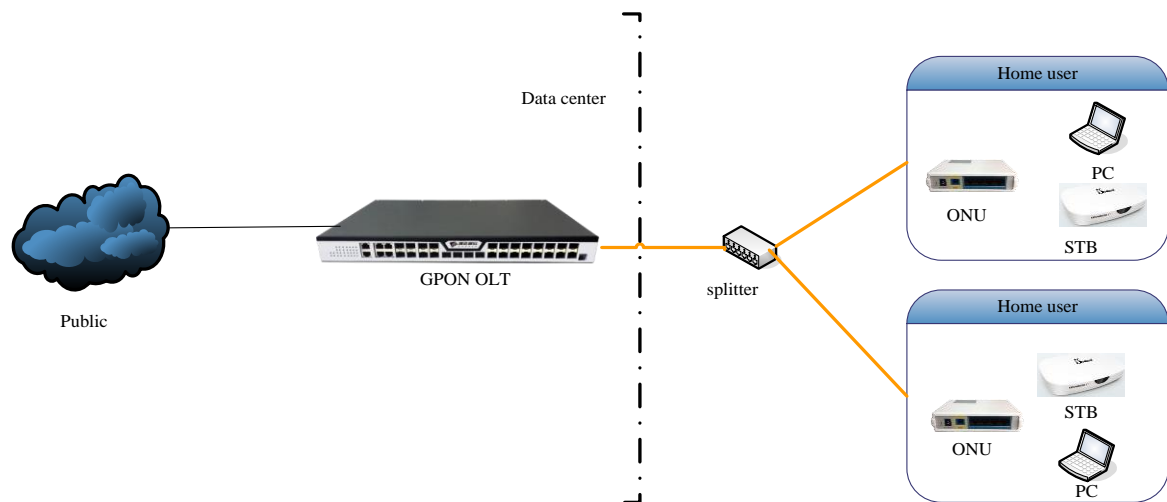
Note: GPON ONU registration authentication function is not applicable temporarily.

Chapter 5 Broadcast & TV Application for GPON

5.1 FTTH Application

5.1.1 Simulated Environment

FTTH overview: FTTH is that ONU directly connects the home, in which higher bandwidth than that of “FTTB+LAN” is provided and due to ONU network's edge ONU turns to an important role of differentiating data flows and marking the first service label on data flows.



Simulated parameters:

VOD Service: VLAN 100-200

Internet Service: VLAN 300-400

Management VLAN 10

Step 1: Create a service VLAN on OLT and add the uplink port to the service VLAN.

In Config mode, run vlan on OLT to create all service vlans or conduct vlan establishment in batches.

```
Switch_config#vlan 10,100-200,300-400 /create VLAN
```

Add the 10G uplink port, TG0/1 to the VLAN of the VOD service.

```
Switch_config#interface TGigaEthernet0/1
```

```
Switch_config_TG0/1#switchport mode trunk /Set to be the TRUNK mode
```

```
Switch_config_TG0/1#switchport trunk vlan-allowed 100-200
```

```
/Allow vlans 100-200 to pass through
```

Add the 10GE uplink port, TG0/2 to the VLAN of the Internet service.

```
Switch_config#interface TGigaEthernet0/2
Switch_config_TG0/2#switchport mode trunk
Switch_config_TG0/2#switchport trunk vlan-allowed 300-400
```

Add the gigabit uplink port, G0/1 to the management VLAN.

```
Switch_config#interface GigaEthernet0/1
Switch_config_G0/1# switchport pvid 10           /Set the default VLAN of port G0/1 to be
VLAN 10
```

Step 2: Add the downlink PON port of OLT to service VLAN.

Set the downlink port, EPON1/5, to TRUNK, and allow the corresponding service VLAN to pass through.

```
Switch_config#interface gpon0/0
Switch_config_gpon0/4#switchport mode trunk
Switch_config_gpon0/4#switchport trunk vlan-allowed 100-200,300-400
```

Step 3: Create a service VLAN on ONU and add the UNI port to the service VLAN.

If configure different interface modes for the uni interface of the current ONU, build profile in the global configuration mode and define it by binding the corresponding profile in the UNI interface. The current ONU uni can be configured to the following mode:

```
Switch_config_prof_onuVlan_1#gpon-profile vlan mode ?
transparent    -- transparent
tag            -- tag
translation    -- translation
vlan-stacking  -- vlan-stacking
aggregation    -- VLAN aggregation
trunk         -- trunk
```

Set the tag mode for the UNI port (To illustrate as an example)

Create profile template in the global configuration mode (Multiple vlans need multiple profiles)

```
gpon profile onu-vlan vod           // vod is the name for creating the onu-vlan template
gpon-profile vlan mode tag          // set the port mode
gpon-profile vlan pvid 100         //set pvid value
```

```
gpon profile onu-vlan internet
gpon-profile vlan mode tag
gpon-profile vlan pvid 300
```

After the global template is created, bind the template to its corresponding uni port under Iid.

Set the UNI PORT 1 of ONU to the VOD service port and to join in VLAN 100.

```
Switch_config_gpon0/4:1#gpon onu uni 1 vlan-profile vod
```

/Bind the port 1 of ONU to the vlan-profile vod template and apply the corresponding parameters set by the template

Set the UNI PORT 2 of ONU to the Internet service port and to join in VLAN 300.

```
Switch_config_epon0/4:1#gpon onu uni 2 vlan-profile internet
```

As the current system has written the binding relation of tcot and gempport, there is no need to create a binding relation again. The above configuration can well met the need of the Layer-2 communication of the GPON system.

Step 4: Check the status of layer-2 link by the OLT physical address table.

After connecting STB or PC with the ONU, check the MAC address table of OLT and ONU to ensure the performance of service VLAN configuration and the layer-2 link.

```
Switch_config#show mac address-table
```

/Check MAC address table

Mac Address Table (Totals : 27)

Vlan	Mac Address	Type	Ports
----	-----	----	----
1	00e0.0fcb.9980	DYNAMIC	gpon0/4:1
100	0000.0000.1111	DYNAMIC	gpon0/4:1
300	0000.0000.2222	DYNAMIC	gpon0/4:1

Check device port status

```
Switch_config#show int brief
```

Port	Description	Status	Vlan	Duplex	Speed	Type
g0/0		down		half	auto	1000BASE-TX
g0/1		shutdown	1	auto	auto	Giga-Combo-FX
g0/2		shutdown	1	auto	auto	Giga-Combo-FX
g0/3		shutdown	1	auto	auto	Giga-Combo-FX
g0/4		shutdown	1	auto	auto	Giga-Combo-FX
g0/5		shutdown	1	full	auto	Giga-FX
g0/6		shutdown	1	full	auto	Giga-FX
g0/7		shutdown	1	full	auto	Giga-FX
g0/8		shutdown	1	full	auto	Giga-FX
tg0/1		shutdown	1	full	10000Mb	10Giga-FX

tg0/2	shutdown	1	full	10000Mb	10Giga-FX
tg0/3	shutdown	1	full	10000Mb	10Giga-FX
tg0/4	shutdown	1	full	10000Mb	10Giga-FX
gpon0/1	down		full	2500Mb	GPON
gpon0/2	down		full	2500Mb	GPON
gpon0/3	down		full	2500Mb	GPON
gpon0/4	up		full	2500Mb	GPON

5.2 Flexible QinQ

5.2.1 Dot1Q Tunnel

Dot1Q Tunnel is a lively name of the tunnel protocol based on 802.1Q encapsulation, which is defined in IEEE 802.1ad. Its core idea is to encapsulate the VLAN tag of the private network to that of the public network, and the packets with two layers of tags traverse the backbone network of ISP and finally a relatively simple L2 VPN tunnel is provided to users.

The packet with a single VLAN tag has the following structure, as shown in table 1:

DA (6B)	SA (6B)	ETYPE(8100) (2B)	VLAN TAG (2B)	ETYPE (2B)	DATA (0~1500B)	FCS (4B)
------------	------------	---------------------	------------------	---------------	-------------------	-------------

Table 1 Packet with a single VLAN tag

DA (6B)	SA (6B)	ETYPE(8100) (2B)	SPVLAN Tag (2B)	ETYPE (8100) (2B)	CVLAN Tag (2B)	ETYPE (2B)	DATA (0~1500B)	FCS (4B)
------------	------------	---------------------	-----------------------	-------------------------	-------------------	---------------	-------------------	-------------

Table 2 Packet with double VLAN tags

There are two modes to realize Dot1Q Tunnel: port-based Dot1Q Tunnel and Dot1Q Tunnel based on memory CVLAN tag classification.

1. Port-based Dot1Q Tunnel:

When a port of this device receives packets, no matter whether packets have the VLAN tag, the OLT will add the VLAN tag of the default VLAN on this port to these packets. Thus, if a received packet has a VLAN tag, the packet become a packet with double tags; if a received packet is untagged, this packet will be added a default VLAN tag of this port.

2. Dot1Q Tunnel based on the inner CVLAN Tag:

The service is distributed according to the CVLAN ID zone of the inner CVLAN tag of Dot1Q Tunnel. The CVLAN zone can be translated into SPVLAN ID and there are two translation modes: Flat VLAN translation and QinQ VLAN translation. In QinQ VLAN translation mode,

when a same user uses different services by using different CVLAN IDs, the services can be distributed according to CVLAN ID. For example, the CVLAN ID of bandwidth service ranges between 101 and -200; the CVLAN ID of VOIP service ranges between 201 ~-300; and the CVLAN ID of IPTV service ranges between 301 ~-400. When PE device receives the user data, set SPVLAN Tag with ID as 1000 for the bandwidth service; set SPVLAN Tag with ID as 2000 for the VOIP service; set SPVLAN Tag with ID as 3000 for IPTV. The difference between Flat VLAN translation mode and QinQ VLAN translation mode is that, in the Flat VLAN translation mode, SPVLAN tag is not added outside of CVLAN tag, but directly replaced by CVLAN tag. What's more, CVLAN and SPVLAN are not one-to-one translation mapping.

5.2.2 Enabling VLAN STACKING and VLAN translation on OLT

By default GPON OLT enables **dot1q-tunnel** in the global configuration mode. All ports with vlan translating tunnel mode will become the down link port of Dot1Q Tunnel and add SPVLAN Tag to the incoming packets compellingly.

```
Switch_config#int gpon 0/4 /enter GPON configuration mode
Switch_config_gpon0/4#switchport mode dot1q-translating-tunnel /PON port
configuring tunnel translating mode
Switch_config_gpon0/4#switchport dot1q-translating-tunnel mode qinq translate 101-200
1000 /Configuring QINQ nest list
Switch_config_gpon0/4#switchport dot1q-translating-tunnel mode flat translate 300 2000
/Configuring QINQ switching list
Switch_config#int g0/1 /Entering the uplink port configuration mode
```

```
Switch_config_g0/1#switchport mode dot1q-tunnel-uplink /the uplink port configuration is
dot1q-tunnel-uplink
```

Note: The flexible qinq in the form of Policy-map is not applicable temporarily.

5.2.3 Enabling VLAN Stacking and VLAN Translation on ONU

1. Create vlan template in the global configuration mode:

```
gpon profile onu-vlan 1
gpon-profile vlan mode vlan-stacking
gpon-profile vlan pvid 1
gpon-profile vlan aggregation-entry 10-11 20

gpon profile onu-vlan 2
```

```
gpon-profile vlan mode translation
gpon-profile vlan pvid 1
gpon-profile vlan translation-entry 100 200
```

2. Applying to the ONU port (Each port can be only applied with one template definition and one interface mode)

```
interface GPON0/4:1
gpon onu tcont-virtual-port-bind-profile tvbind-default
gpon onu flow-mapping-profile flow-mapping-default
gpon onu virtual-port 1 gem-port 257
gpon onu uni 1 vlan-profile 1
!
```

```
interface GPON0/4:2
gpon onu tcont-virtual-port-bind-profile tvbind-default
gpon onu flow-mapping-profile flow-mapping-default
gpon onu virtual-port 1 gem-port 258
gpon onu uni 1 vlan-profile 2
```

3. **Switch_config#show gpon onu-vlan-cfg-profile //Check ONU vlan configuration**

```
-----
ONU Vlan Config Profile Id 3:
-----
Name: 1
Pvid: 1
Vlan Mode: vlan-stacking
Vlan translation-entry:
10-11 -> 20
```

```
-----
-----
ONU Vlan Config Profile Id 4:
-----
Name: 2
```

Pvid: 1

Vlan Mode: translation

Vlan translation-entry:

100->200

Chapter 6 Common Functions

6.1 Storm control

Switch_config_gpon0/4#**storm-control** ? /The options for storm control under the port

broadcast -- Broadcast address storm control /broadcast
multicast -- Multicast address storm control /multicast
unicast -- Unicast address storm control /unknown unicast

Switch_config_gpon0/4#storm-control broadcast threshold ?

<0-262143> --/ Enter PPS number of storm suppression level rate limit, unit: pps

6.2 Port Isolation

Switch_config_gpon0/4#**switchport protected** 1 /port protection, the ports between the same isolation group cannot communicate

6.3 Port Rate Limit

Switch_config_gpon0/4#**switchport rate-limit** ? / port rate limit 64kbps
<1-16384> --/ Configure Bandwidth(unit:64kbps)

6.4 Port Mirroring

The port mirroring function is compulsory in trouble shooting and debug. The port mirroring function for the switch is common. OLT and ONU has ports of the same function such as PON ports, NNI ports or UNI ports.

6.4.1 PON Port Mirroring to GE Port

Switch_config#mirror session 1 destination interface g0/4 /Create mirror session 1 and set the mirror destination interface

Switch_config#mirror session 1 source interface gpon0/4 both /Set mirror source interface

- Note: 1. The source interface supports many-for-one mirroring;
2. The source interface supports receiving-only, forwarding-only, receiving and forwarding
3. When mirroring to the PON port, the destination interface is GE port.

6.5 Showing Optical Power

6.5.1 Showing PON Forwarding Optical Power

Switch#**show gpon optical-transceiver-diagnosis**

interface	Temperature(degree)	Voltage(V)	Current(mA)	TxPower(dBm)
gpon0/4	31.2	3.3	13.0	3.5

6.5.2 Showing ONU Receiving Optical Power

Switch#**show gpon interface gPON 0/4:4 onu optical-transceiver-diagnosis**

interface	RxPower(dBm)	TxPower(dBm)
gpon0/4:4	-9.0	2.6

