VES1724-56 Series

Support Notes

Edition 2

Content

Product Series

1

Physical appearance:

VES1724-56: 1.5U, with FAN

VES1724-56B2: 1 U, no FAN

FW difference:

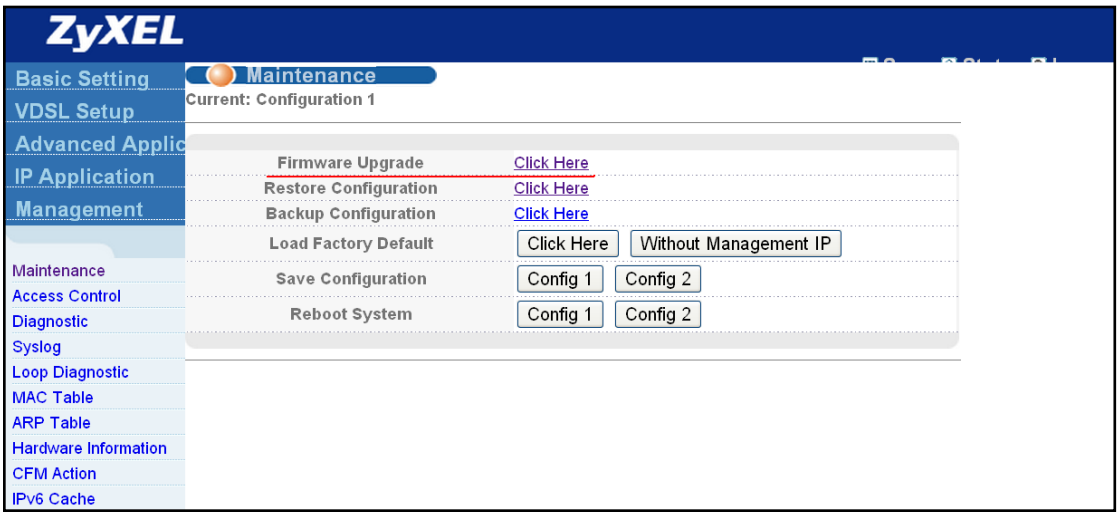
VES1724-56B2 is the same as VES1724-56, only without FAN-control setting/MIB

And the following setting we will use **VES1724-56** as examples.

Firmware Upgrade

Using the Web Configurator

a. Download (and unzipped) the correct model firmware to your computer.
b. Click **Management > Maintenance** in the navigator panel to display the following screen.



c. Click the **Click Here** link for Firmware Upgrade
d. In the File Path field, click Browse to locate the firmware file.
e. Click Upgrade to start the firmware upgrade process.

Using the Console Port:

a. Download (and unzipped) the correct model firmware to your computer.
b. Connect to the console port and launch a Terminal Emulation software
c. Restart the switch to enter the debug mode via the terminal.
d. Enter “ATUR”.
e. Use the X-modem protocol to transfer (Send File) the firmware.
f. Enter “ATGO” to restart the switch after the file transfer is complete and the firmware upgrade process is done.

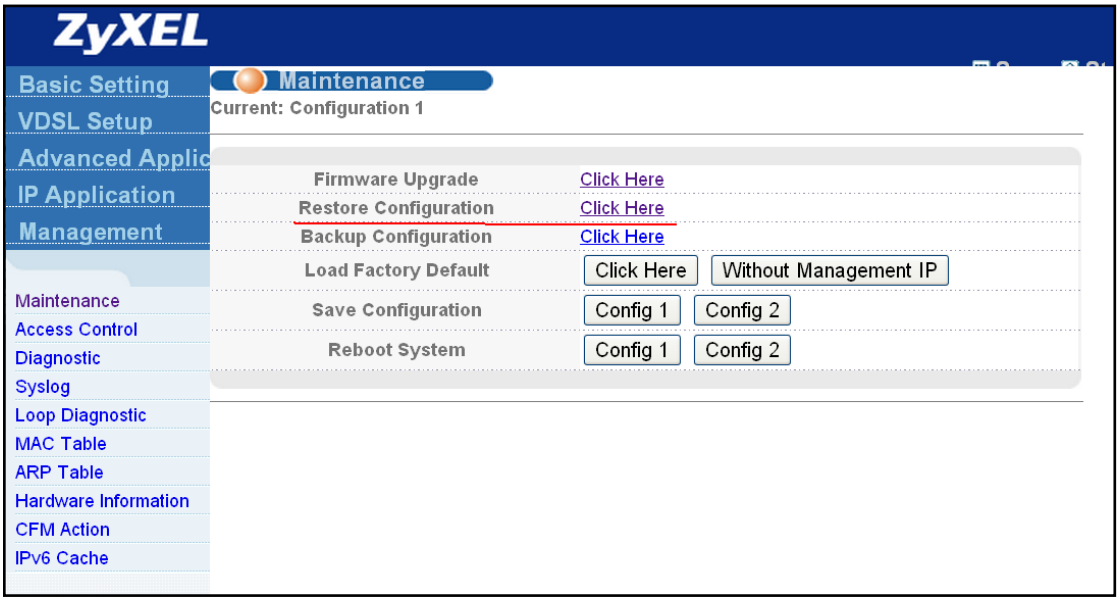
Using FTP:

a. Download (and unzipped) the correct model firmware to your computer.
b. Launch the FTP client on your computer to log into switch. (From the command prompt, type “ftp <Switch IP>”).
c. Press [ENTER] when prompted for a user name.
d. Enter the administrator login password to access the switch and display FTP prompt.
e. Enter “bin” to set the transfer mode to binary.
f. Use “put” to transfer the firmware from the computer to the switch, for example: “put firmware.bin ras-0” (or ras-1) transfers the firmware on your computer (firmware.bin) to the switch and renames it to “ras”.
g. Enter “bye” to log out from the switch.

Restore a Configuration File

Using the Web Configurator:

a. Click **Management > Maintenance** in the navigator panel to display the following screen.



b. Click the **Click Here** link for Restore Configuration
c. In the File Path field, click Browse to locate the firmware file.
d. Click Restore to start restoring configuration.

Using the Console Port:

a. Connect to the console port and launch a Terminal Emulation software.
b. Restart the switch to enter the debug mode via the terminal.
c. Enter “ATLC”
d. Use X-modem protocol to transfer (Send File) the configuration file (with a .rom file extension).
e. Enter “ATGO” to restart the switch after file transfer and the configuration restore processes are complete.

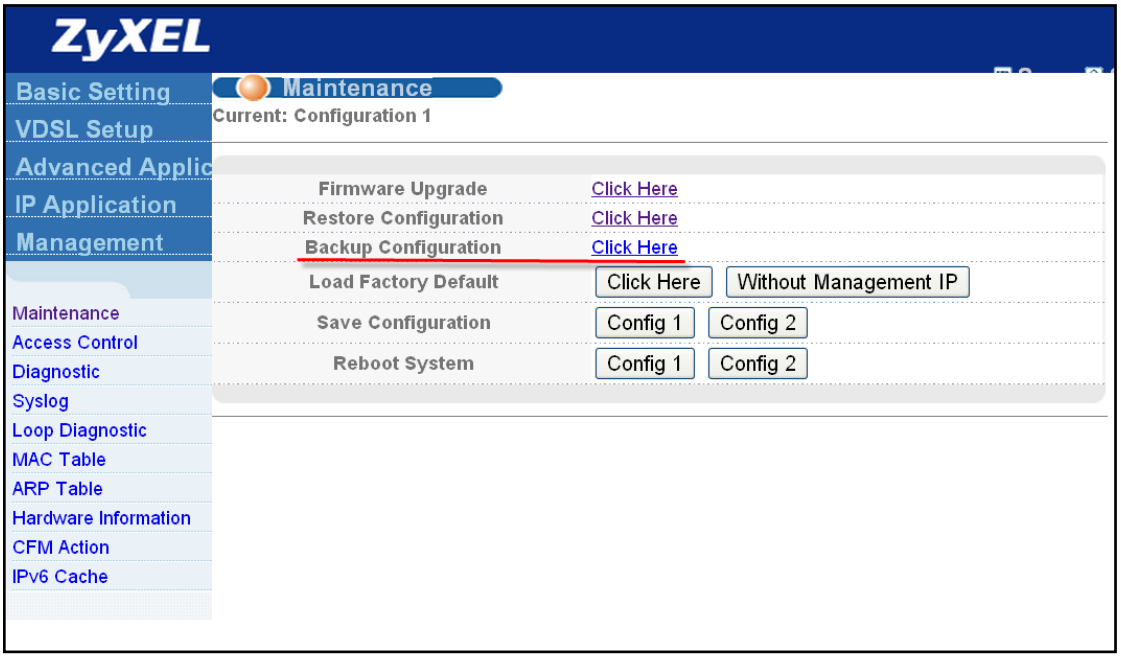
Using FTP:

a. Download (and unzipped) the correct model firmware to your computer.
b. Launch the FTP client on your computer to log into the switch. (From the command prompt, type “ftp <Switch IP>”.
c. Press [ENTER] when prompted for a user name
d. Enter the administrator login password to access the switch and display FTP prompt.
e. Enter “bin” to set the transfer mode to binary.
f. Use “put” to transfer the configuration file from the computer to the switch, for example: “put comfig.rom rom-0” transfers the configuration file on your computer (config.rom) to the switch and renames it to “rom-0”.
g. Enter “bye” to log out from the switch.

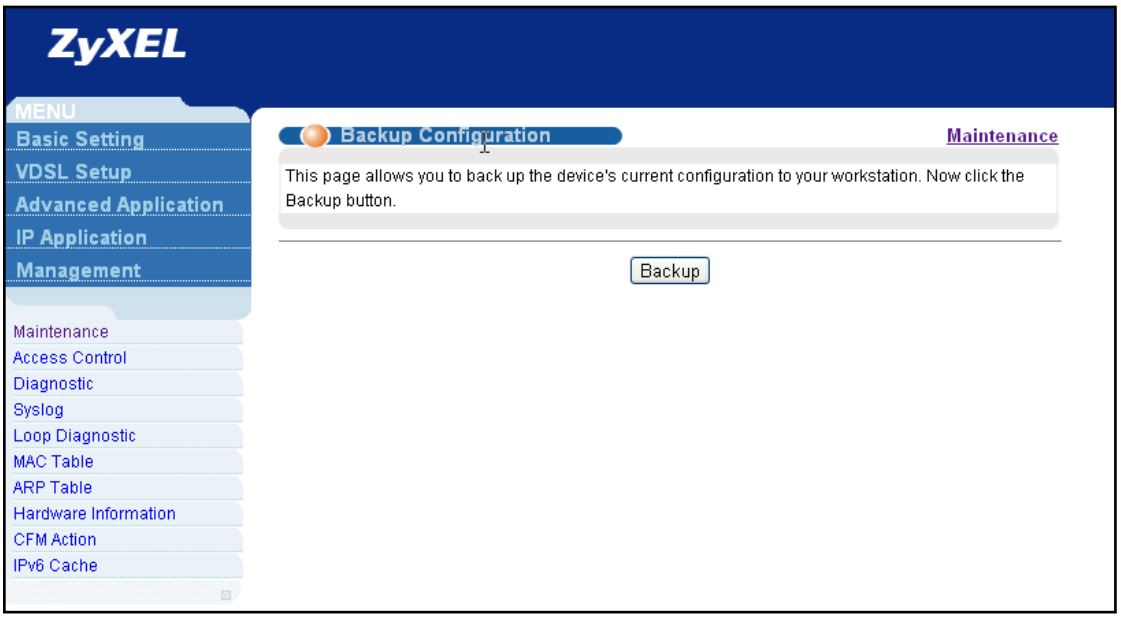
Backing Up a Configuration File

Using the Web Configurator:

a. Click **Management > Maintenance** in the navigator panel to display the following screen.



b. Click the **Click Here** link for Backup Configuration to display the following screen.



c. Click **Backup** to display the File Download dialog. Then, click **Save** to back up the configuration text file to a location you specify on your computer.

Using the Console Port:

a. Connect to the console port and launch a Terminal Emulation software.
b. Restart the switch to enter the debug mode via the terminal.
c. Enter “ATTD”.

d. Use X-modem protocol to transfer (Receive File) the configuration file (with a .rom file extension).
e. Enter “ATGO” to restart the switch after file transfer and the configuration backup processes are complete.

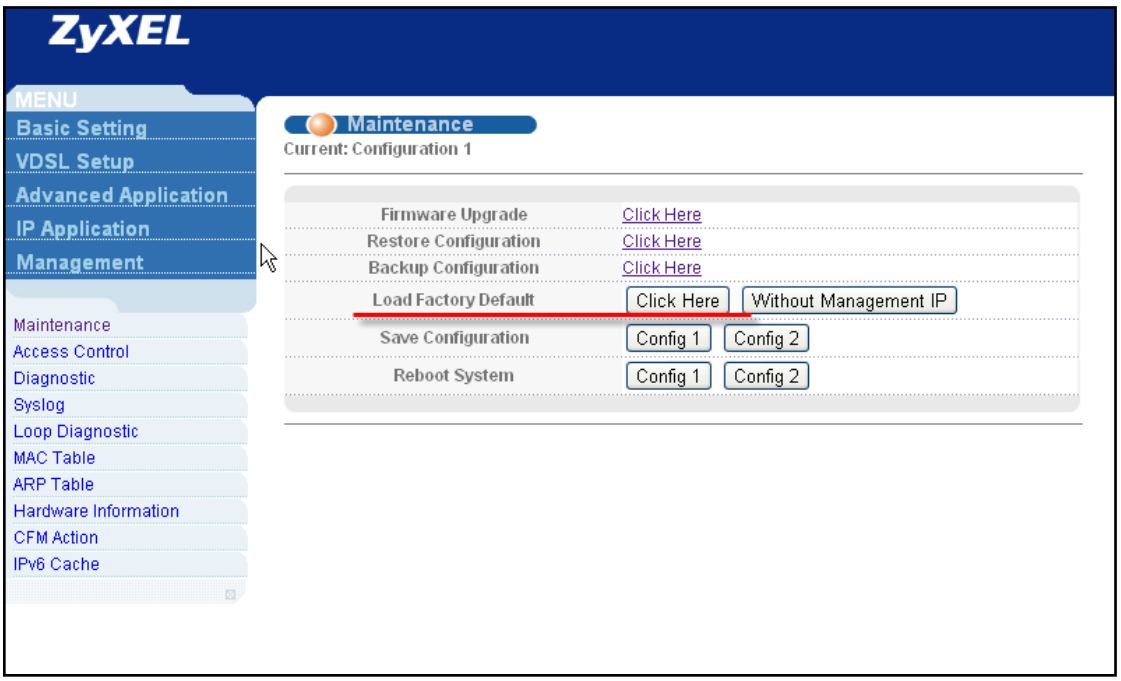
Using FTP:

a. Download (and unzipped) the correct model firmware to your computer.
b. Launch the FTP client on your PC to log into the switch. (From the command prompt, type “ftp <Switch IP>”
c. Press [ENTER] when prompted for a user name
d. Enter the administrator login password to access the switch and display FTP prompt.
e. Enter “bin” to set the transfer mode to binary.
f. Use “get” to transfer the configuration file from the switch to your computer, for example: “get rom-0 config.rom” transfers the configuration file on the switch (rom-0) to your computer and renames it “config.rom”.
g. Enter “bye” to log out from the switch.

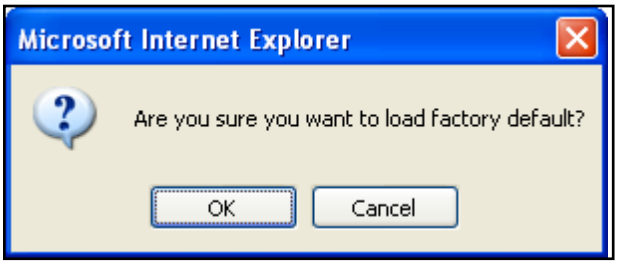
Load Factory Defaults

Using the Web Configurator:

a. Click **Management > Maintenance** in the navigation panel to display the following screen.



b. Click **Click Here** link for Load Factory Default.
c. A dialog box pops up with the “Are you sure you want to load factory defaults?” prompt.

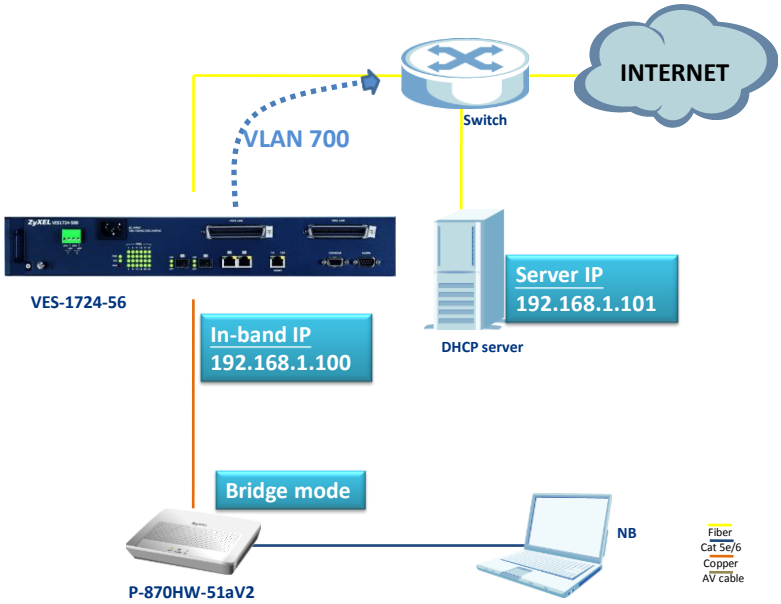


d. Click **OK**.
e. Click **OK** again to start the configuration reset process. After it is complete, the device automatically restarts.
f. Please note that the IP address of the switch is now 192.168.1.1.

DHCP Relay per VLAN

The feature of DHCP relay per VLAN basis comes handy for managing the DHCP IP assignment to the clients. VES-1724-56has the ability to relay the DHCP request packets according to its VLAN tag to the DHCP server in the uplink Network.

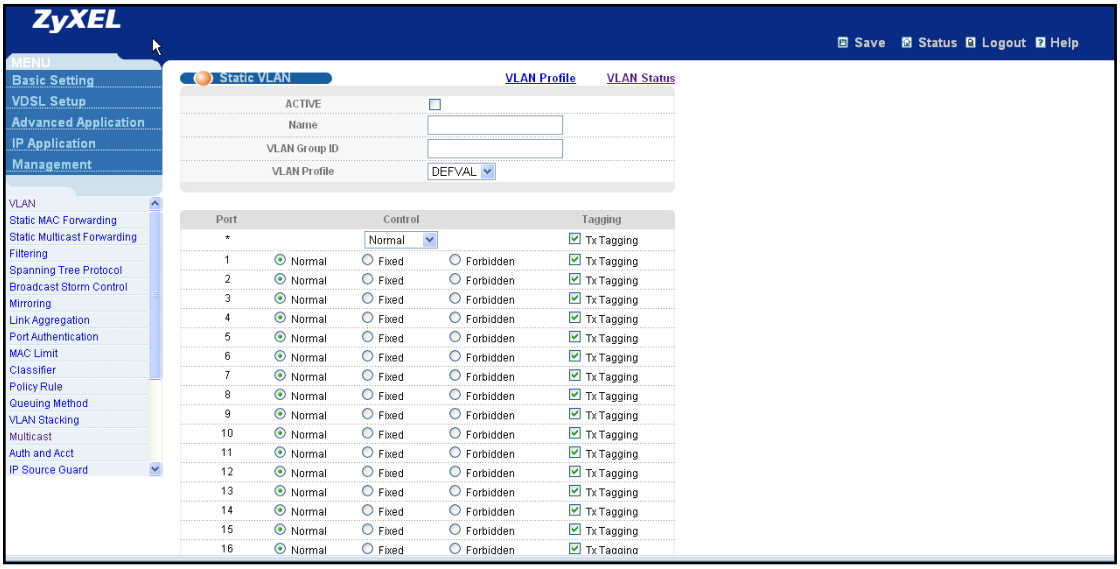
Scenario



The purpose is to have a DHCP relay on the VES according to VLAN=700, to the DHCP server (IP=192.168.1.101). The VES' In-band is 192.168.1.100, and tags a PVID=700 to the ingress traffic on port 1. The NB shall receive the IP assigned from the DHCP server.

Configure a Static VLAN

a. In the navigation panel, click **Advanced Application > VLAN > Static VLAN**. The **Static VLAN** screen appears.



b. Click to select the **ACTIVE** checkbox.

c. Type “700” in the **Name** field.

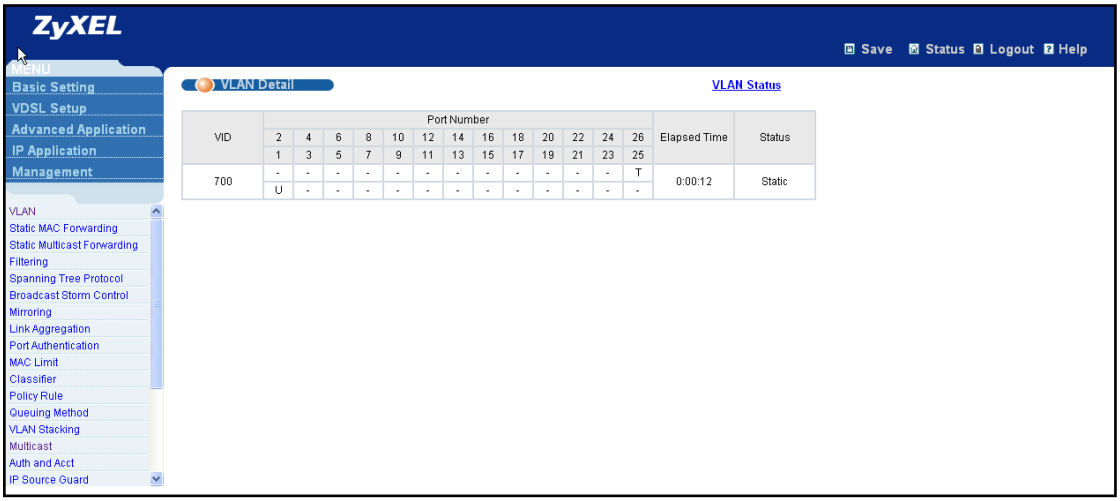
d. Type “700” in the **VLAN Group ID** field.

e. In the **Port 1** field, select **Fixed** and click to clear the **Tx Tagging** checkbox.

f. In the **Port 26** field, select **Fixed**.

g. Leave the **Tx Tagging** checkbox of **Port 26** checked.

h. Click the **Add** button.

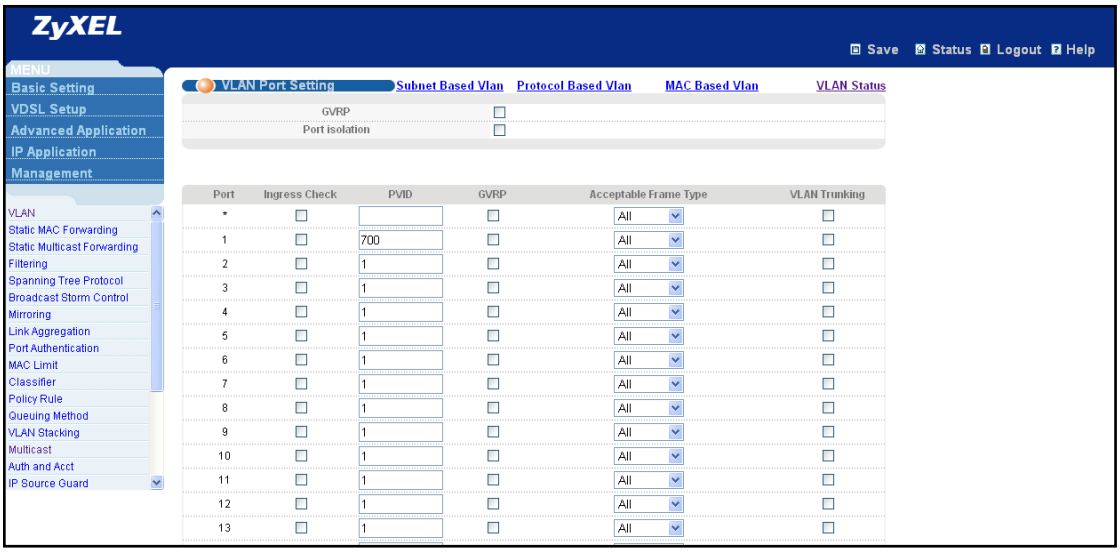


VLAN Port Setting

a. In the navigation panel, click **Advanced Application > VLAN > VLAN Port Setting**. The **VLAN Port Setting** screen appears.

b. Type “700” in the **PVID** field of **Port 1**.

c. Click the **Apply** button.



Configure an In-band IP Address

a. In the navigation panel, click **Basic Setting > IP Setup**.

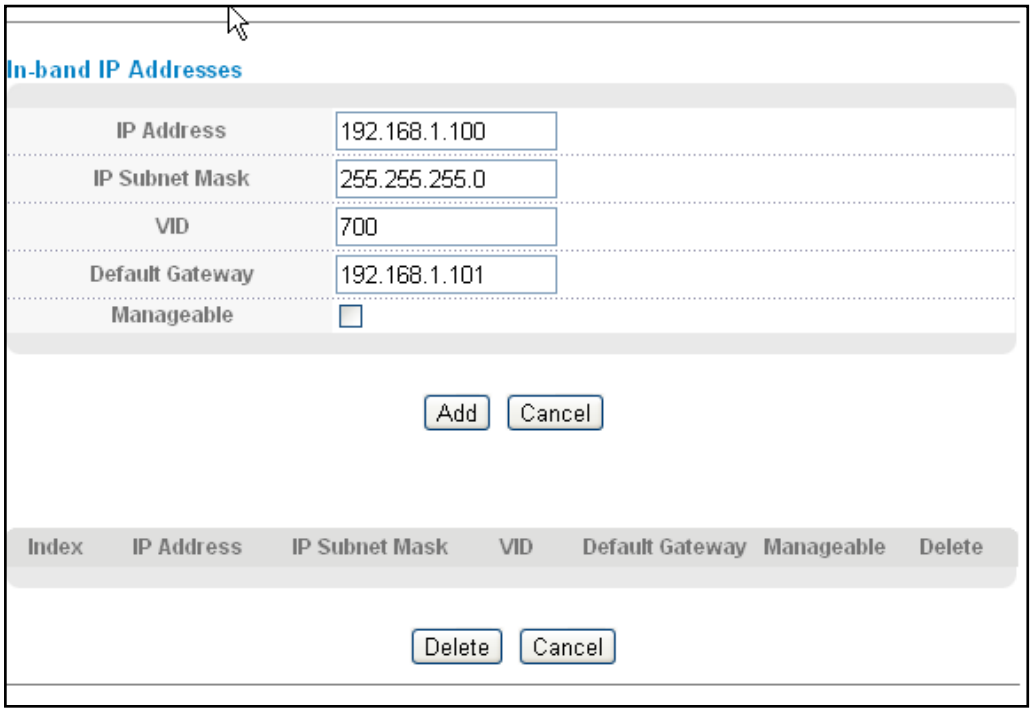
b. In the **In-band IP Addresses** section, type “192.168.1.100” in the **IP Address** field.

c. Type “255.255.255.0” in the **IP Subnet Mask** field.

d. Type “700” in the **VID** field.

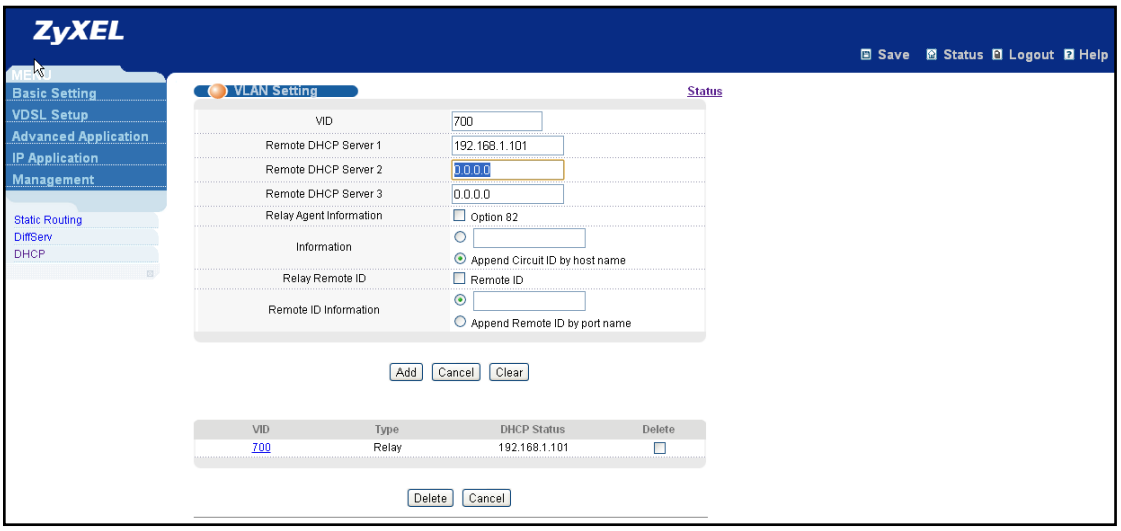
e. Type “192.168.1.101” in the **Default Gateway** field.

f. Click the **Add** button.



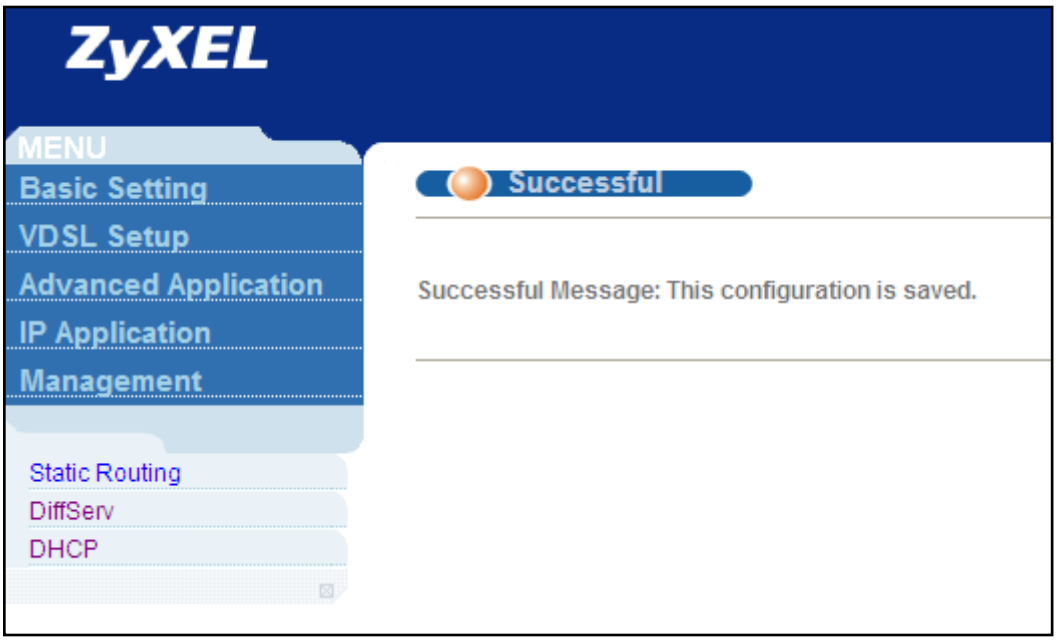
DHCP VLAN Setting

a. In the navigation panel, click **IP Application > DHCP > VLAN**. The **VLAN Setting** screen appears.
b. Type “700” in the **VID** field.
c. Type “192.168.1.101” in the **Remote DHCP Server 1** field.
d. Click the **Add** button.



1. Save Configuration

Click the **Save** link in the top right-hand corner of the screen to save your configuration into the Switch’s nonvolatile memory.



Triple Play

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Triple Play concept

The concept for the setting up a triple play service in VES-1724-56, is to manage the Internet, IPTV and VoIP traffic that are assigned into different VLANs. We will give an example of a service deployed in the fields, according to the following diagram.

PPPoE service

PPPoE application to INTERNET access is a common scene in the nowadays ADSL service deployment, but as xDSL has progressed to the VDSL technology, it is finally time to have the PPPoE application also implemented in the VDSL scenario. ZyXEL, the world's leading broadband access solutions provider, can demonstrate this scenario with products uniquely on its own.

Idea behind the PPPoE service

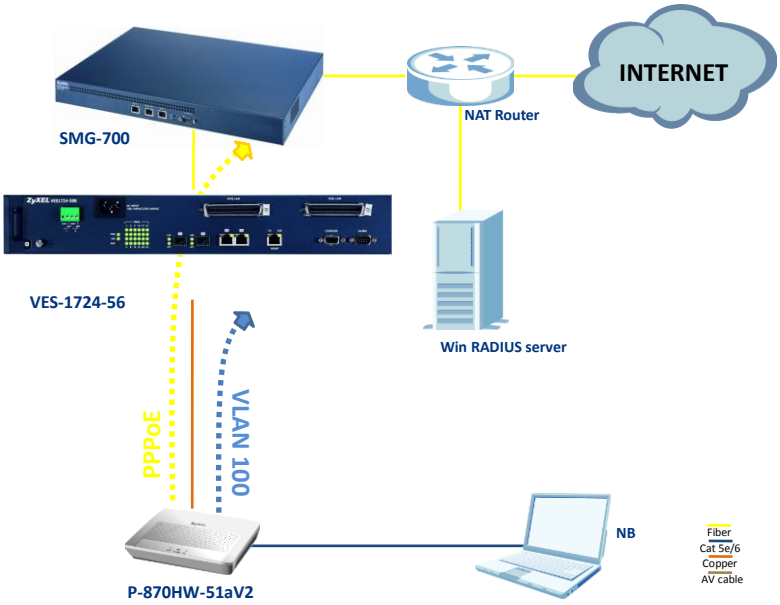
The goal of this case study is to demonstrate a proof of concept on a PPPoE service applied on ZyXEL own VDSL2 and BRAS devices. The scenario is focused on 3 devices: VES-1724-56, P-870HW-51aV2 and SMG-700. The client shall be able to enjoy INTERNET access, by simply plugging the Ethernet cable to the CPE, i.e. P-870HW-51aV2.

Hardware/Firmware for deployment

	Hardware	Firmware
BRAS Server	SMG-700	1.00(TF.4)c0 | 06/07/2007
VDSL COE	VES-1724-56	V1.00(AABH.0)C0 | 02/03/2012
VDSL CPE	P-870HW-51aV2	1.00(AWZ.1)C0 | 03/24/2009

Note: the radius server used for this demo is “WinRadius v4.00”

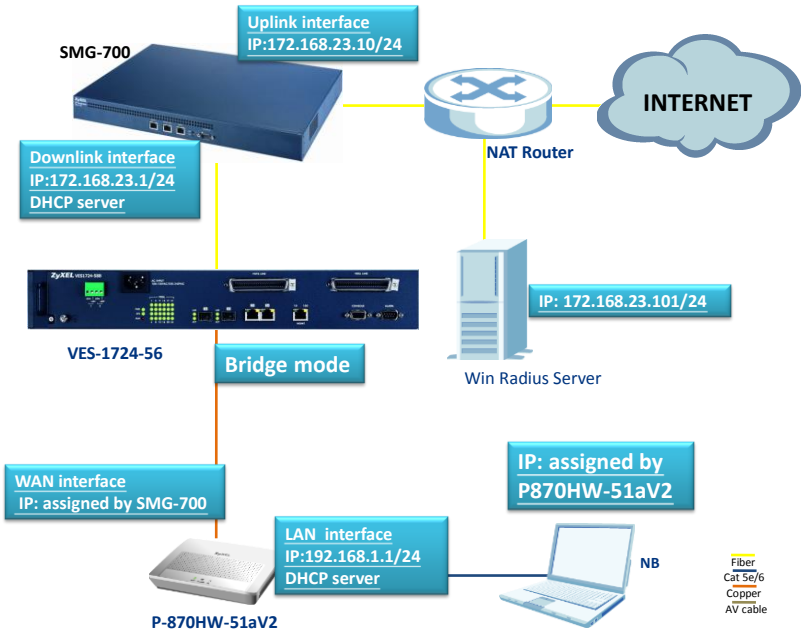
Scenario



The WAN interface in P-870HW-51aV2 shall be configured into PPPoE mode with the correct username and password, which the egress traffic will automatically be tagged with VLAN=100. VES-1724-56 untags the coming PPPoE traffic from the CPE,

and relay it to the BRAS, SMG-700. The SMG-700 shall be able to establish the PPPoE connection by authenticating the username/password with the help of the Win RADIUS server, and relay the traffic to the NAT router, to allow the client to be able to access INTERNET.

IP domain topology

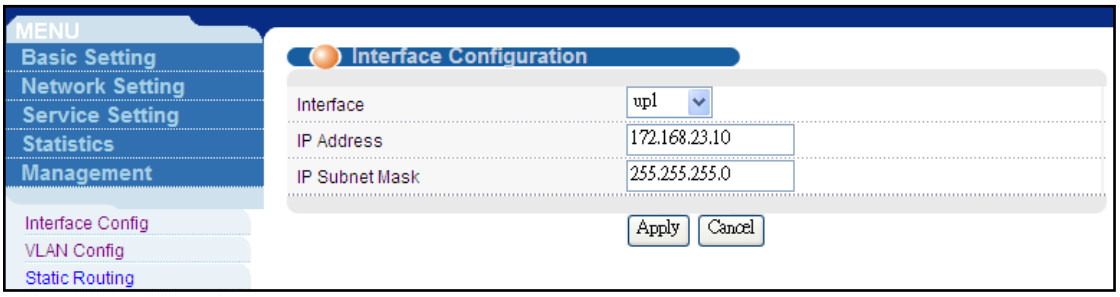


The IP topology is described in details on the above diagram, keeping in mind that the NAT router at this demo has the ability to route the 172.168.23.0 domain to the INTERNET with NAT feature. Notice that the WinRADIUS is a (free) software that can be installed in Windows OS, in this case, WinXP.

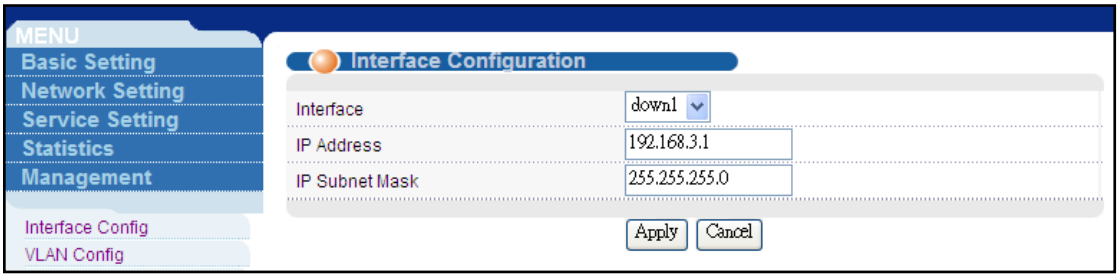
SMG-700 configuration

1. Interface Configuration

a. Go to **Network Setting > Interface Configuration**
b. Select “up1” for the uplink **Interface**
c. Input the **IP Address** for the uplink interface, e.g. ”172.168.23.10”
d. Input the **IP Subnet Mask** for the uplink interface, e.g. “255.255.255.0”
e. Click **Apply**



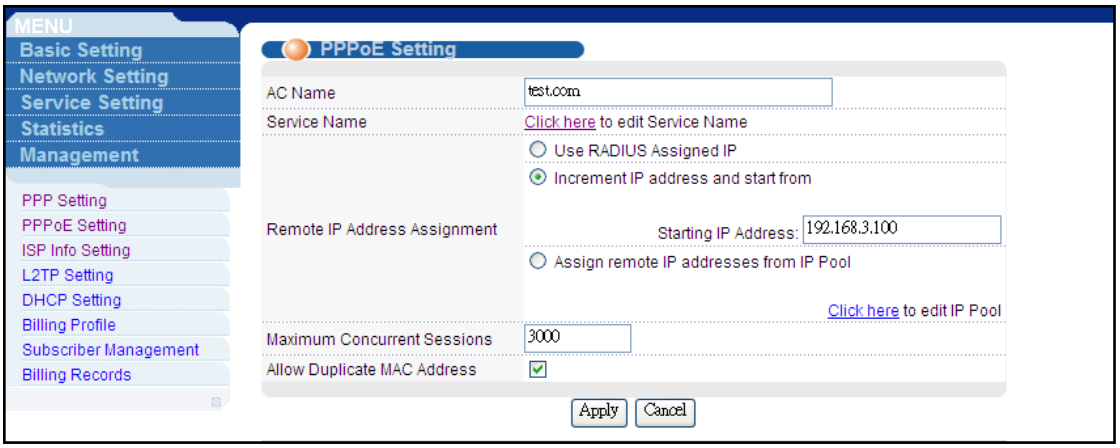
f. Select “down1” for the downlink **Interface**
g. Input the **IP Address** for the downlink interface, e.g. “172.168.23.10”
h. Input the **IP Subnet Mask** for the downlink interface, e.g. “255.255.255.0”
i. Click **Apply**



2. PPPoE Setting Configuration

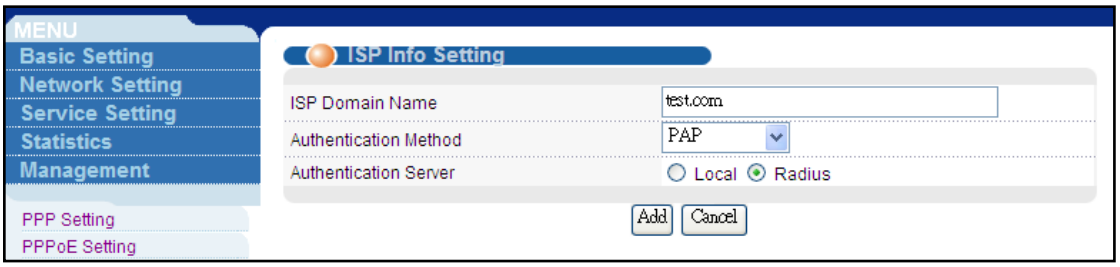
a. Go to **Service Setting > PPPoE Setting**
b. Type the **AC name** (access concentrator) of the PPPoE service, e.g. “test.com”
c. Select the **Increment IP address and start from** and input the IP, e.g. “192.168.3.100”
d. Input the **Maximum Concurrent Sessions**, e.g. “3000”
e. Check the **Allow Duplicate MAC Address** box

f. Click **Apply**

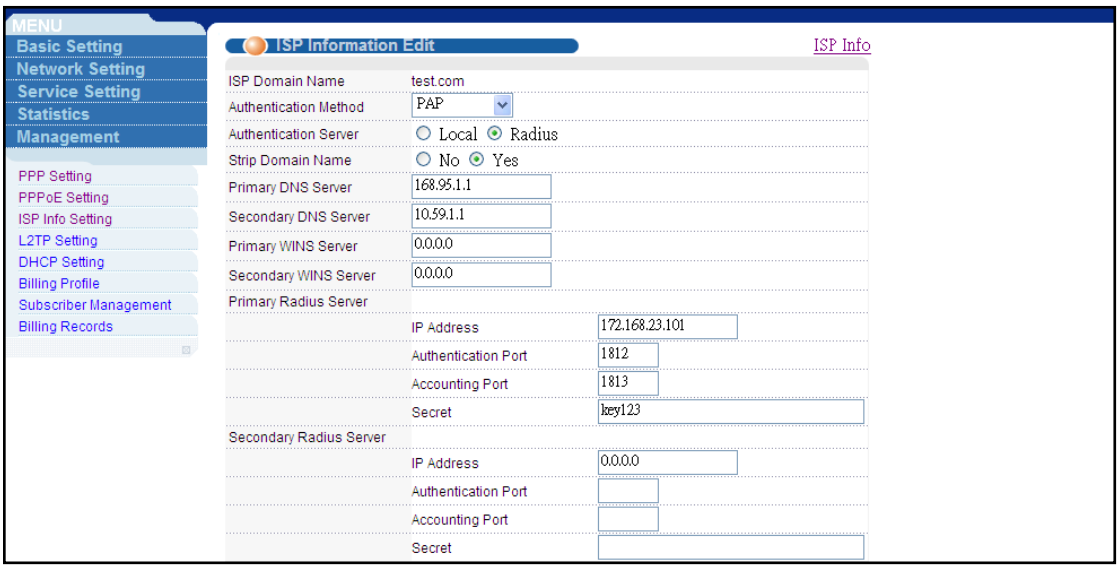


3. ISP Info Setting Configuration

a. Go to **Service Setting > ISP Info Setting**
b. Input the **ISP Domain Name**, e.g. “test.com”
c. Select the **Authentication Method**, e.g. “PAP”
d. Select the **Authentication Server**, e.g. “Radius”
e. Click **Add**



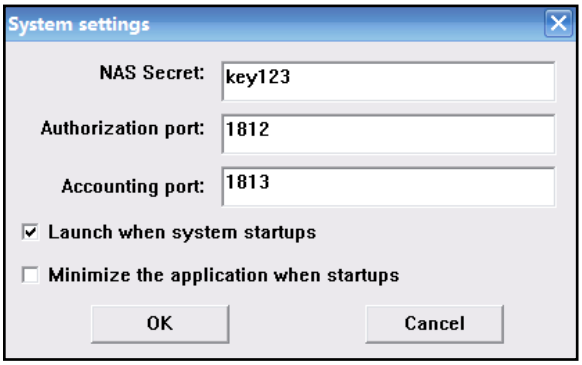
f. Click the **test.com ISP Domain Name** just created to edit
g. Select “Yes” for the **Strip Domain Name**
h. Input the **Primary DNS Server**, e.g. “168.95.1.1”
i. Input the **Secondary DNS Server**, e.g. “10.59.1.1”
j. Input the **IP address** of the **Primary Radius Server**, e.g. “172.168.23.101”
k. Input the **Authentication port** of the **Primary Radius Server**, e.g. “1812”
l. Input the **Accounting Port** of the **Primary Radius Server**, e.g. “1813”
m. Input the **Secret** of the **Primary Radius Server**, e.g. “key123”
n. Click **Apply**



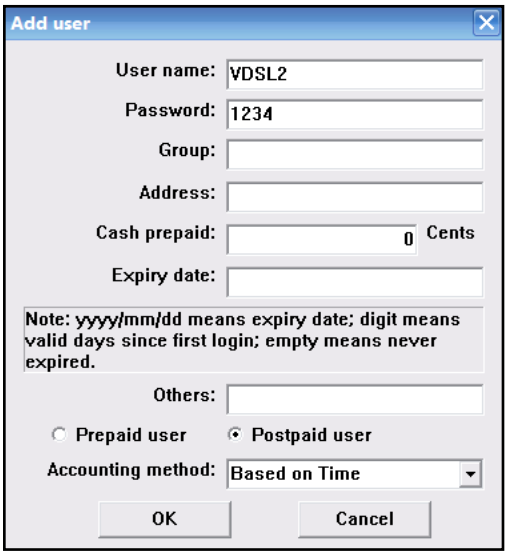
4. Win RADIUS

a. Make sure that Win Radius v4.00 is properly installed in a PC (OS: WinXP) with the IP of the NIC configured as IP: 172.168.23.101/24

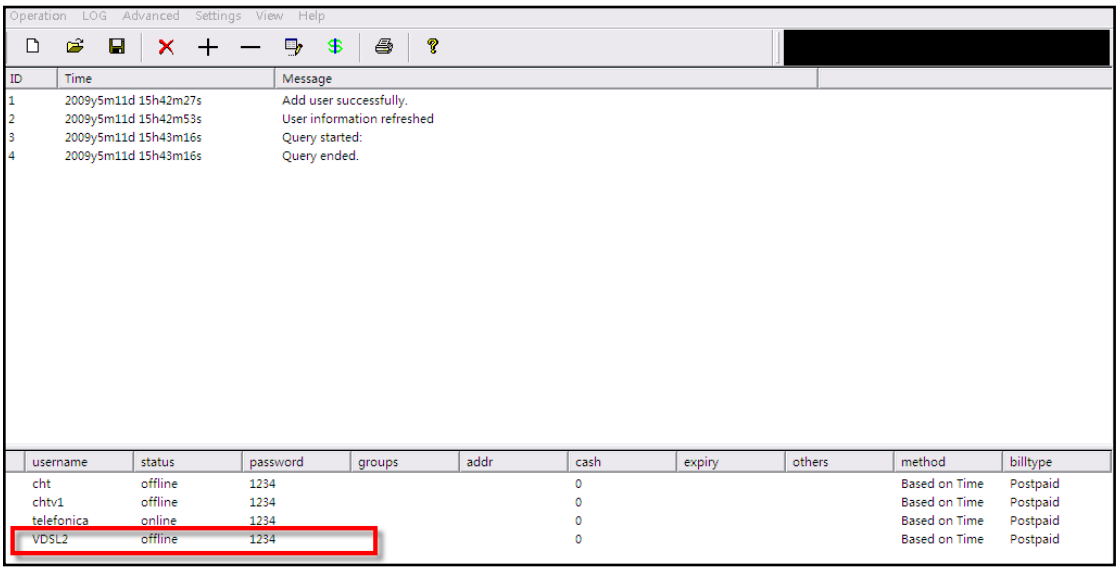
b. Check if the **NAS Secret** and the **Authorization** and **Accounting ports** match the settings in the SMG-700



c. Create a PPPoE account, e.g. username/password = VDSL2/1234



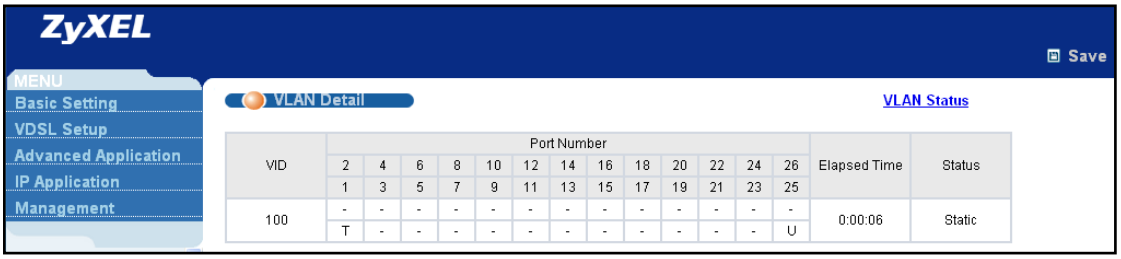
d. Check if the account is successfully created



VES-1724-56 configurations

1. VLAN configuration

a. Go to **Advanced Application > VLAN > Static VLAN**
b. Check the **Active** box
c. Input the **Name**, e.g. “Internet”
d. Input the **VLAN Group ID**, e.g. “100”
e. Set **port 1** to be “fixed” and check the **Tx Tagging** box
f. Set **port 25** to be “fixed” and uncheck the **Tx Tagging** box
g. Click **Add**

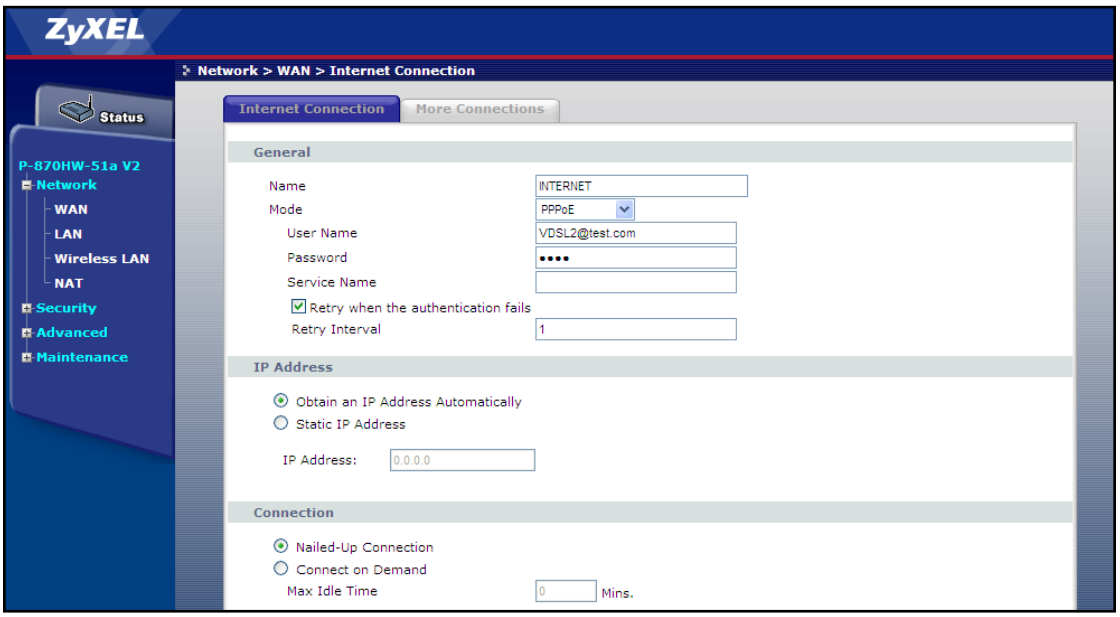


h. Go to **Advanced Application > VLAN > VLAN Port Setting**
i. Set “100” in the **PVID** box of **port 25**
j. Click **Apply**

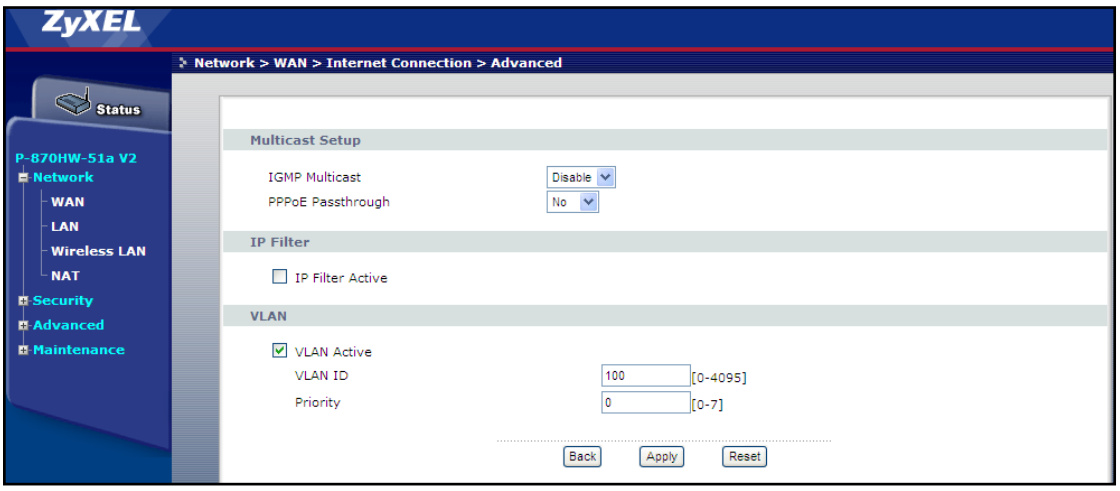
P-870HW-51aV2 configurations

1. WAN configuration

a. Go to **Network > WAN > Internet Connection**
b. Input the **Name**, e.g. “INTERNET”
c. Select the **Mode** as “PPPoE”
d. Type the **User Name**, e.g. “VDSL2@test.com”
e. Type the **Password**, e.g. “1234”
f. Check the **Retry when the authentication fails** box
g. Input “1” in the **Retry Interval**
h. Select **Obtain an IP Address Automatically**
i. Select **Nailed-Up Connection**
j. Check the **Active NAT** box



k. Click **Advanced Setup**
l. Uncheck the **IP Filter Active** box
m. Check the **VLAN Active** box
n. Input “100” in the **VLAN ID**
o. Input **Priority** value, e.g. “0”
p. Click **Apply**



2. Verification

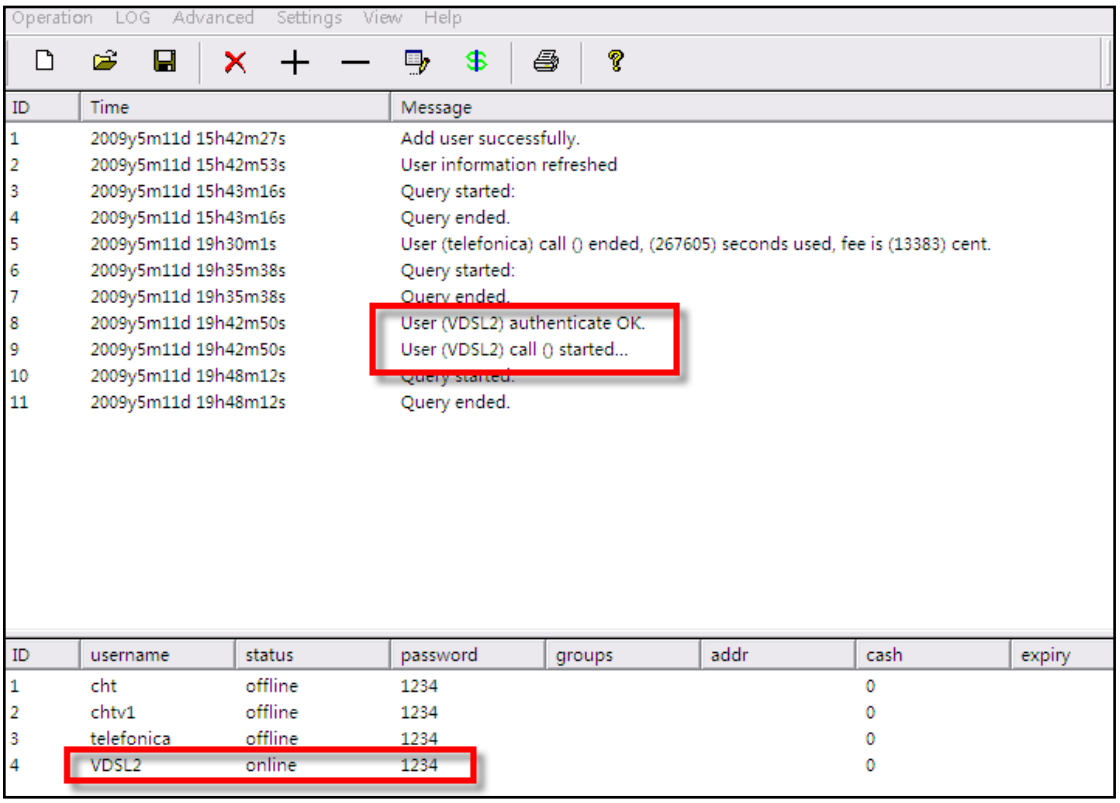
P-870HW-51aV2

Check the status on the homepage:

The PPPoE connection was successful!

3. Win RADIUS

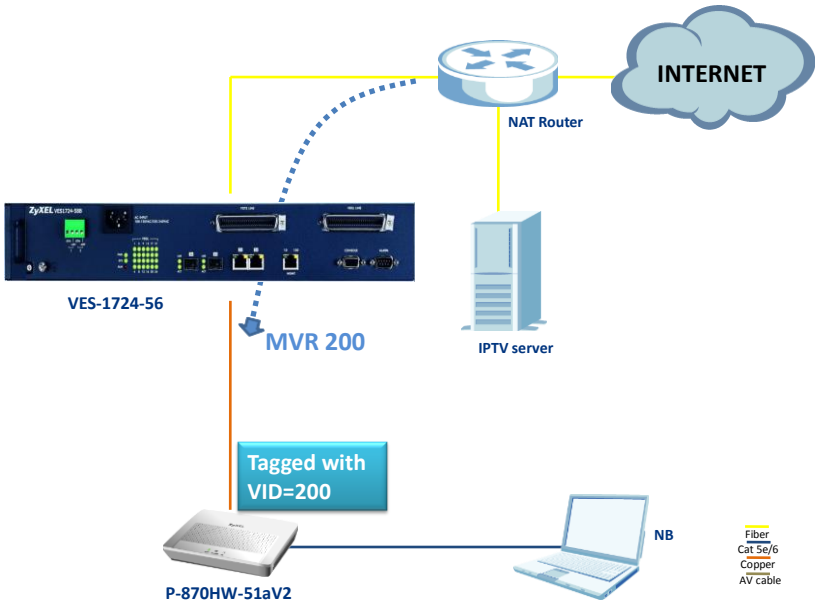
Query the user info:



We can see the record that the use successfully logged in!

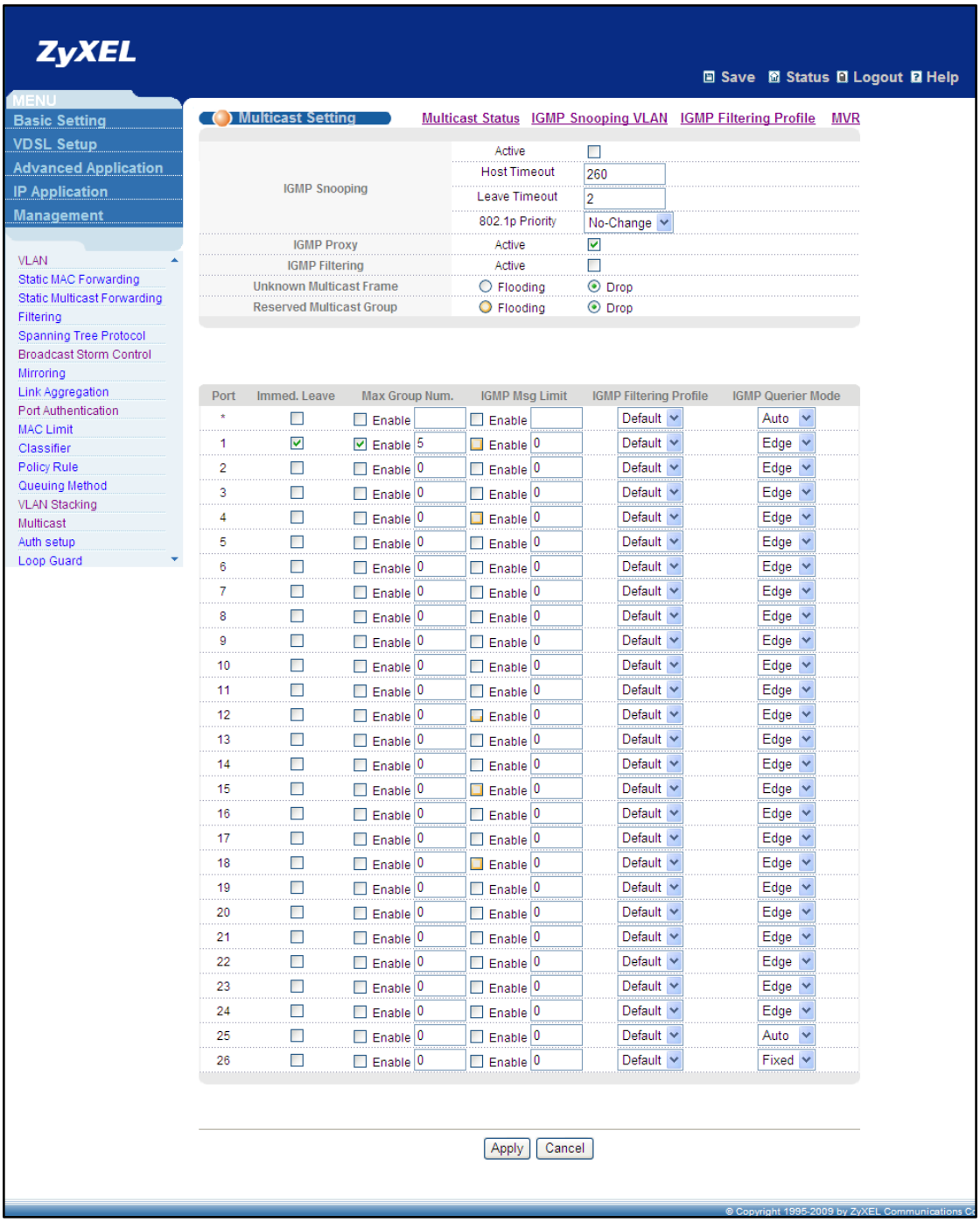
Multicast Service

We shall set up an MVR=200 in VES-1724-56, to allow the multicast traffic to pass through without consuming too much resources. The multicast traffic is tagged with VID=200 before coming to the VES. The P-870HW-51Av2 also tags the IGMP upstream traffic with VLAN=200, and untags it at the downstream direction.



1. IGMP Proxy Settings

a. In the navigation panel, click **Advanced Application > Multicast > Multicast Setting**, and the **Multicast Setting** screen appears
b. Click to select the **Active** checkbox of **IGMP Proxy**
c. Select **"**Drop" for **Unknown Multicast Frame**
d. Select "Drop" for **Reserved Multicast Group**
e. Check the **Immed. Leave** box for **port 1**
f. Check the **Max Group Num.** box for **port 1** and enter "5" group
g. Select "Fixed" from the **IGMP Querier Mode** drop-down list box of **Port 26**
h. Click the **Apply** button



2. MVR Settings

a. Go to **Advanced Application > Multicast > Multicast Setting > MVR**

b. Select “IGMP Proxy” in **Behavior**

c. Click **Apply**

d. Check the **Active** box

e. Input the **Name**, e.g. “IPTV”

f. Input the **Multicast VLAN ID** as “200”

g. Select “5” to be the **802.1p Priority**

h. Select the **Mode** to be “Dynamic”

i. Select “Receiver Port” for **port 1**

j. Check the **Tagging** box for **port 1**

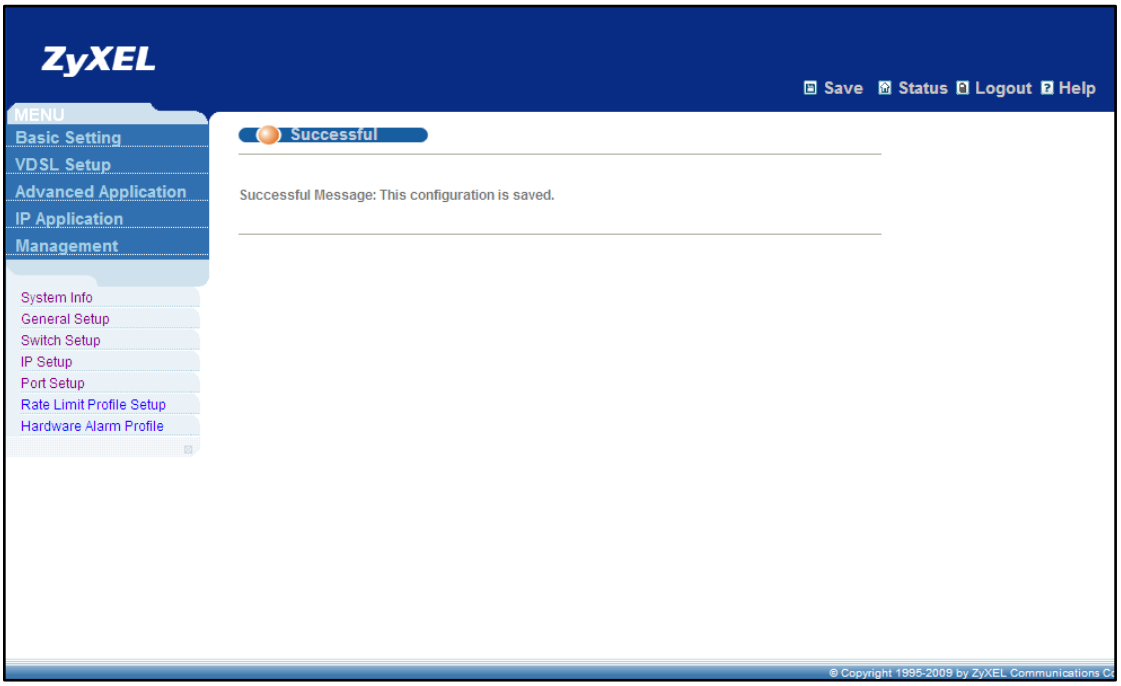
k. Select “Source Port” for **port 26**

l. Check the **Tagging** box for **port 26**

m. Click **Add**

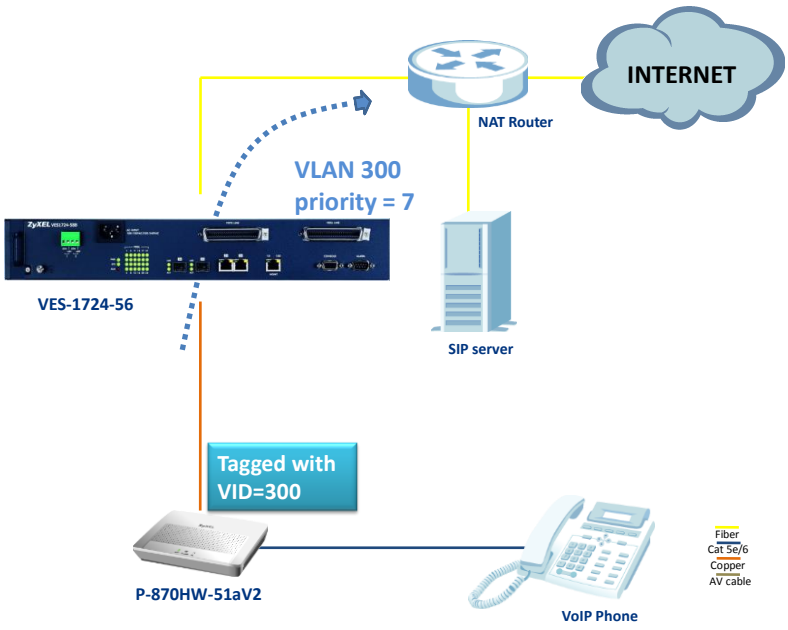
3. Save Configuration

Click the **Save** link in the top right-hand corner of the screen to save your configuration into the nonvolatile memory of the VES



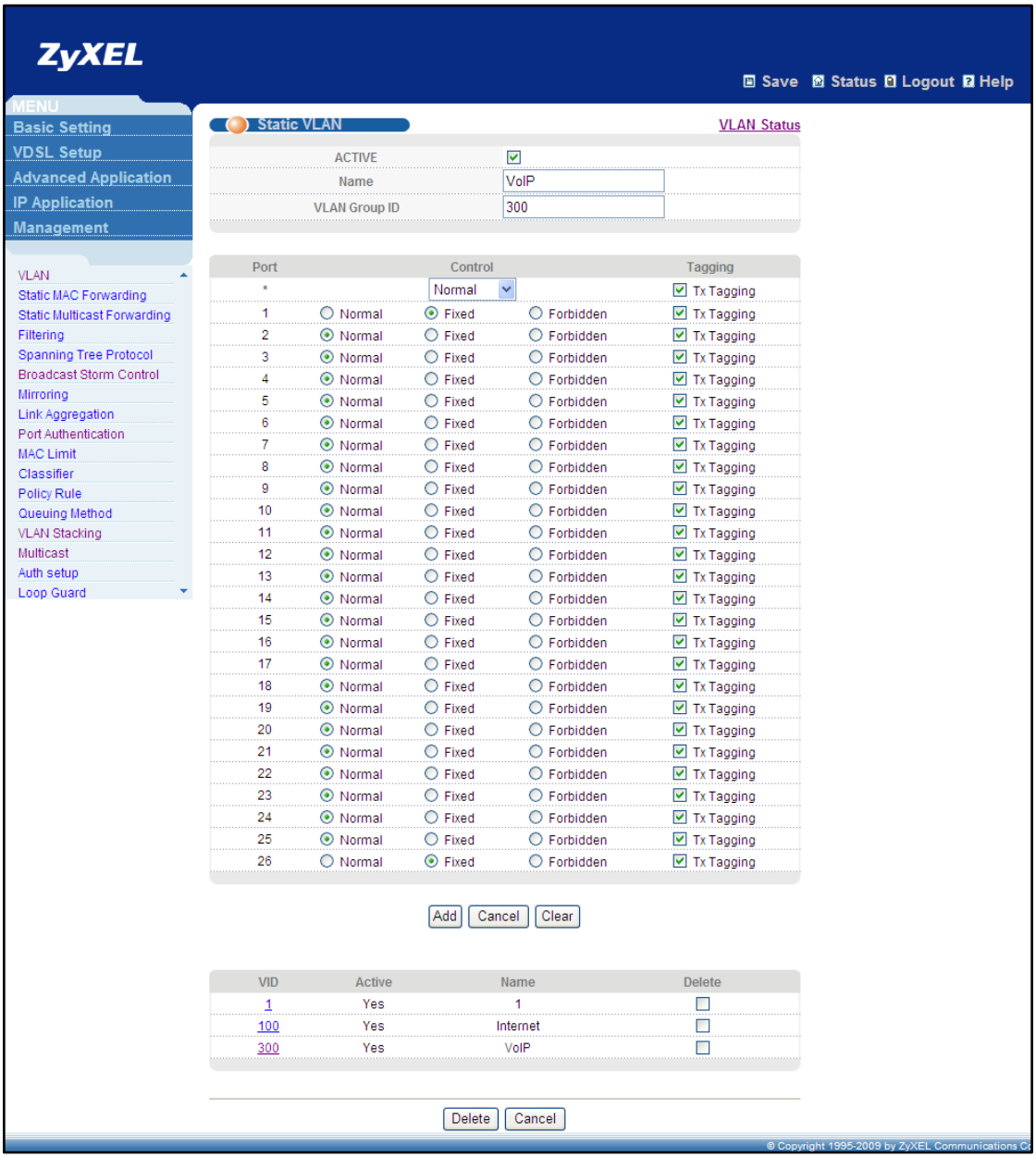
VoIP Service

The VoIP traffic is tagged by the P-870HW-51aV2 with VID=300, so the objective of the VES is to make sure that the traffic of VLAN 300 is treated with high priority, forcing its 802.1p to be 7 at all time. In here will demonstrate how this configuration is done by using the classifier and policy rules.

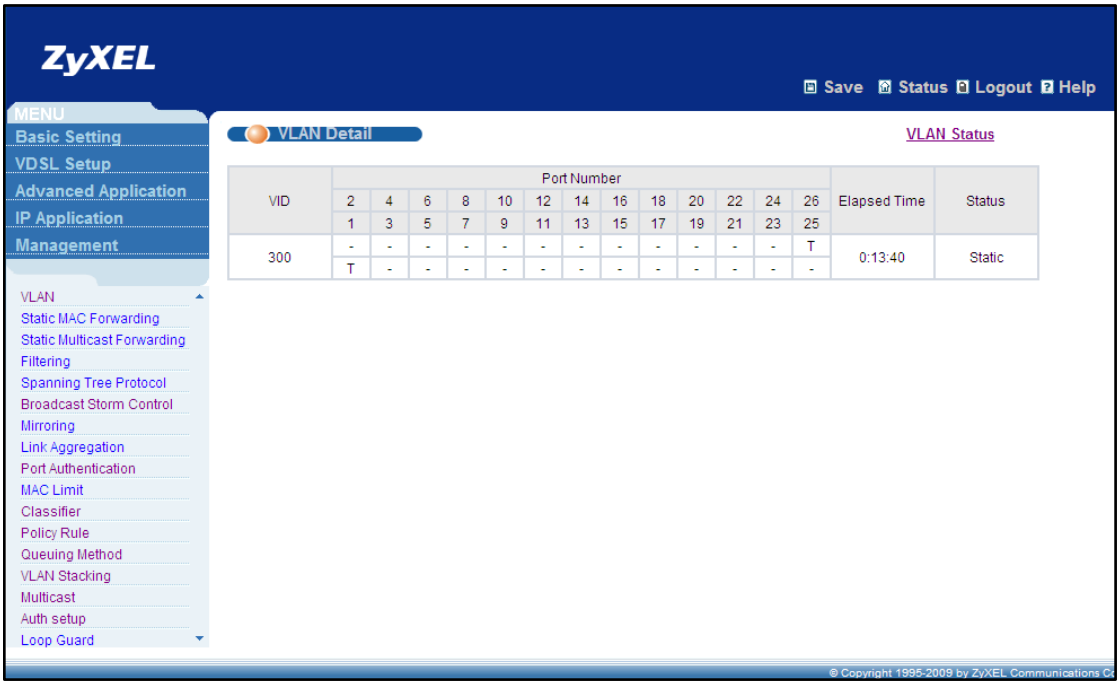


1. VLAN configuration

a. Go to **Advanced Application > VLAN > Static VLAN**
b. Check the **Active** box
c. Input the **Name**, e.g. “VoIP”
d. Input the **VLAN Group ID**, e.g. “300”
e. Set **port 1** to be “fixed” and check the **Tx Tagging** box
f. Set **port 26** to be “fixed” and uncheck the **Tx Tagging** box
g. Click **Add**

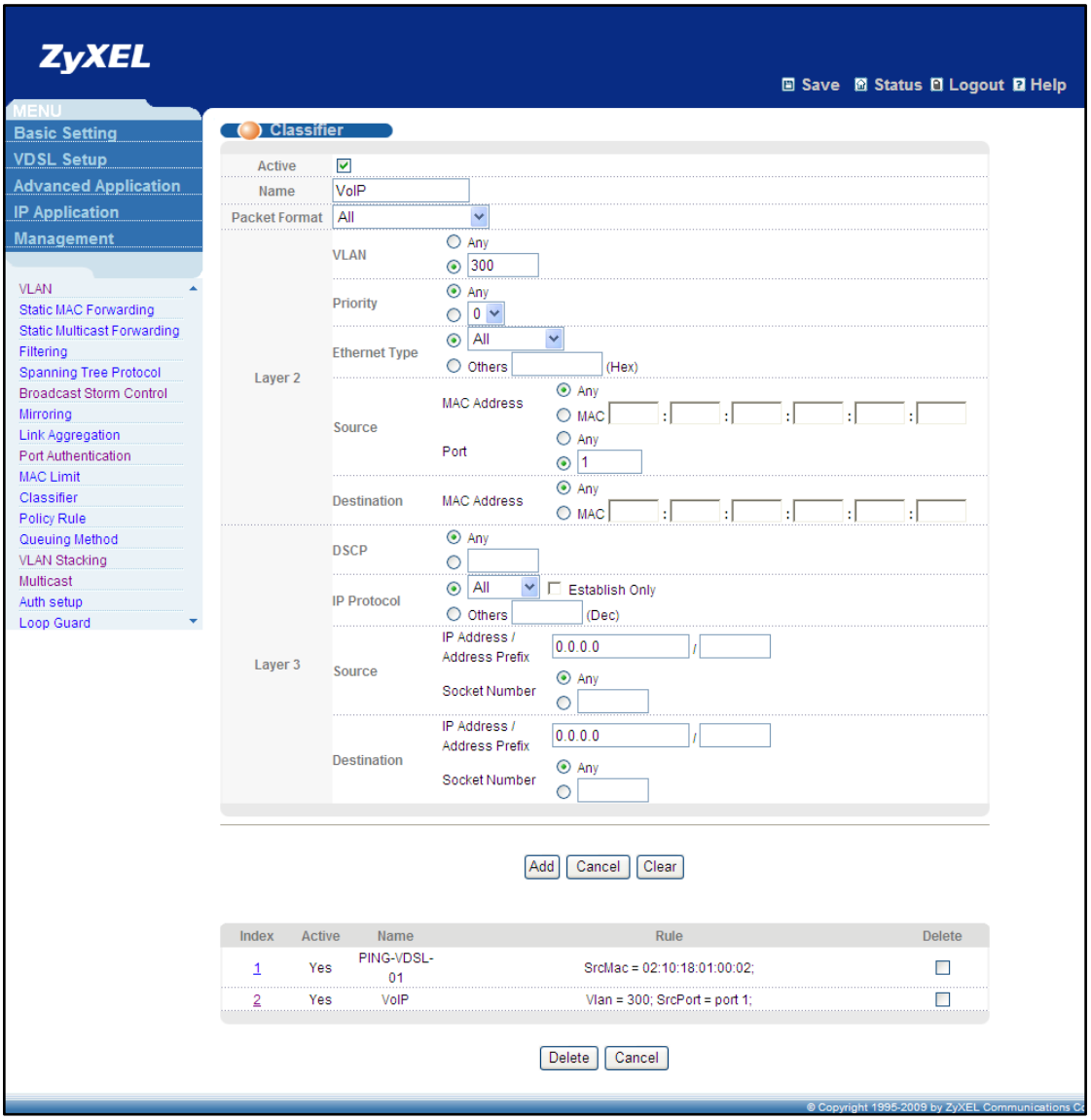


h. Go to **Advanced Application > VLAN** and click the index that VID=”300”



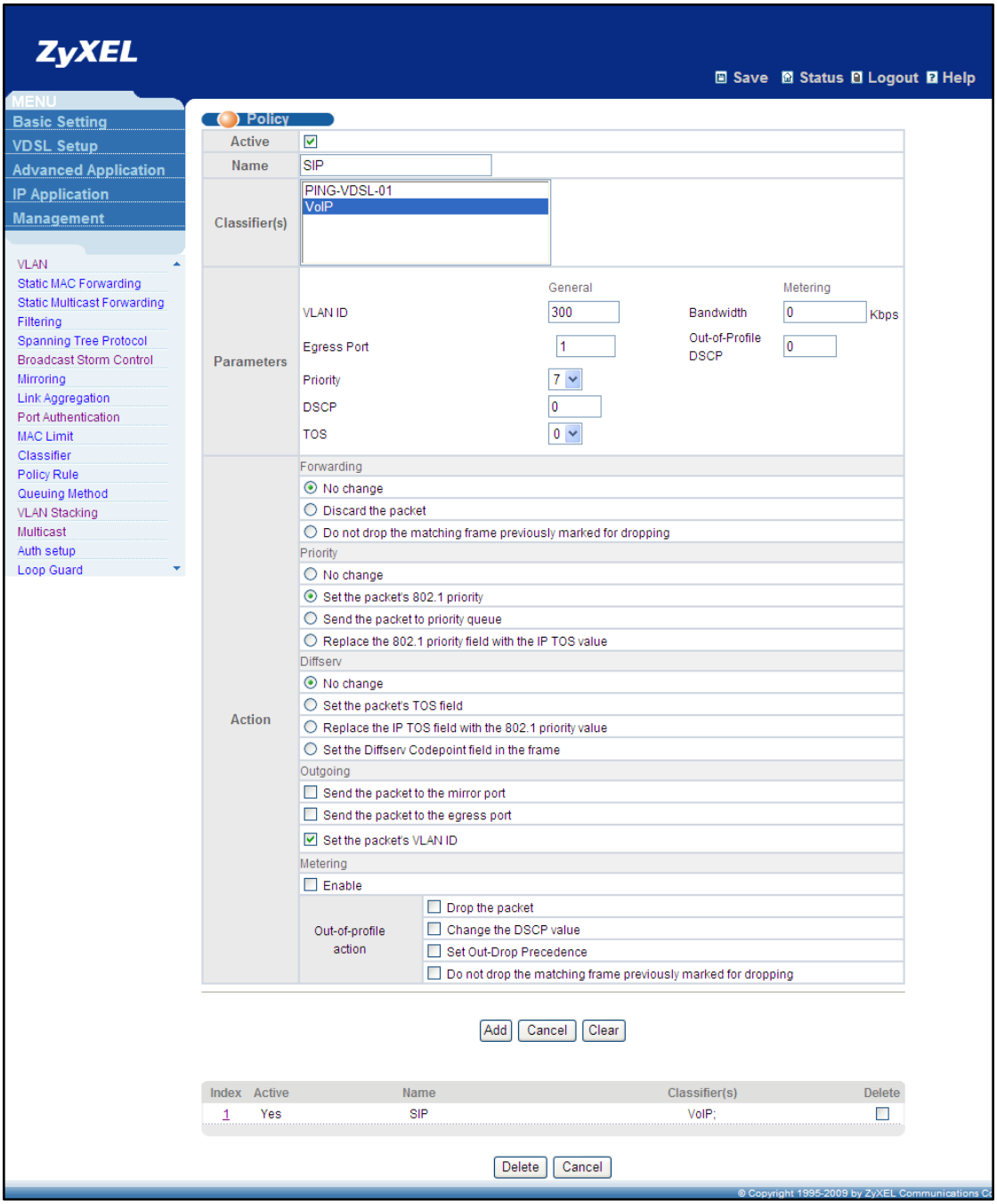
2. Classifier configuration

a. Go to **Advanced Application > Classifier**
b. Check the **Active** box
c. Input the **Name**, e.g. “VoIP”
d. Input the **VLAN** on **Layer 2** as “300”
e. Select the **Source Port** on **Layer 2** as “1”
f. Click **Add**



3. Policy Rule configuration

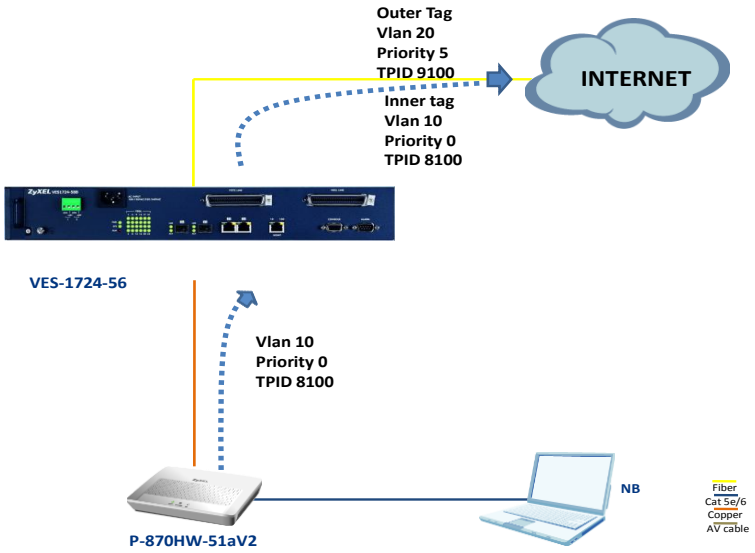
a. Go to **Advanced Application > Policy Rule**
b. Check the **Active** box
c. Input the **Name**, e.g. “SIP”
d. Select “VoIP” as the **Classifier**
e. Input “300” for the **VLAN ID**
f. Select the **Priority** to be “7”
g. Select “Set the packet's 802.1 priority” in the **Action > Priority** field
h. Check the “Set the packet's VLAN ID” in the **Action > Outgoing** field
i. Click **Add**



Double Tagging application notes

As the telecommunication market grows rapidly, customers nowadays have the privilege of subscribing to multi-optional Internet Service Providers, based on the benefits that each service provider offers. Double-tagging (QinQ) can be very useful for multiple Internet Service Providers, allowing them to use VLANs internally while mixing traffic from clients that are already VLAN-tagged, to improve management efficiency.

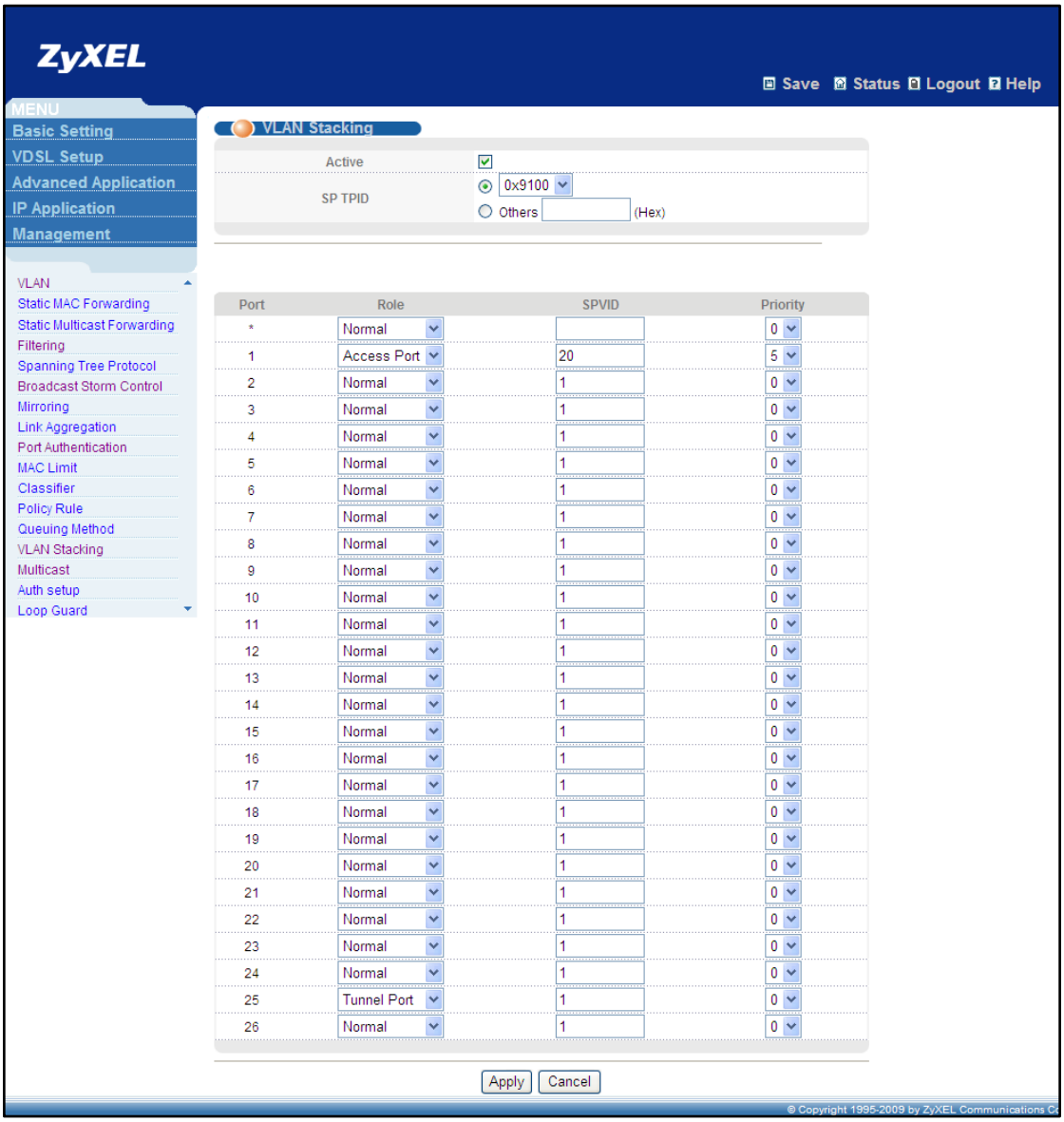
Scenario



The WAN interface in P-870HW-51aV2 is configured so that its egress traffic is automatically tagged with VLAN=10, priority=0 under TPID=8100. According to the Service Provider this client subscribed to, the VES-1724-56 has to add an outer tag of VLAN=20, priority=5 under TPID=9100 before forwarding upwards to the Internet. For the traffic on the downlink direction, the VES-1724-56 shall only untag VLAN=20, priority=5 under TPID=9100, and let the P-870HW-51aV2 untag the rest, i.e. VLAN=10, priority=0 under TPID=8100.

1. VLAN Stacking configuration

a. Go to **Advanced Application > VLAN Stacking**
b. Select the **Active** box
c. Select the **SP TPID** to be “0x9100”
d. Select the **Role** of **port 1** to be “Access Port”
e. Input the **SPVID** of **port 1** to be “20”
f. Input the **Priority** of **port 1** to be “5”
g. Select the **Role** of **port 25** to be “Tunnel Port”
h. Click **Apply**

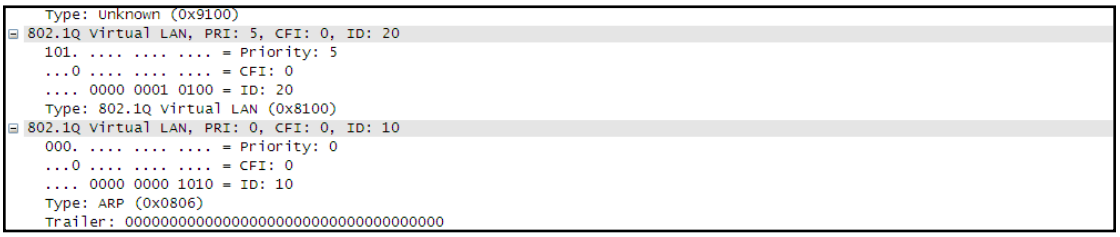


2. Static VLAN configuration

a. Go to **Advanced Application > VLAN**
b. Select the **Active** box
c. Input the **Name**, e.g. “20”
d. Input the **VLAN Group ID** to be “20”
e. Select **port 1** to be “fixed”
f. Uncheck the **Tx Tagging** box of **port 1**
g. Select **port 20** to be “fixed”
h. Click **Apply**

3. Verification

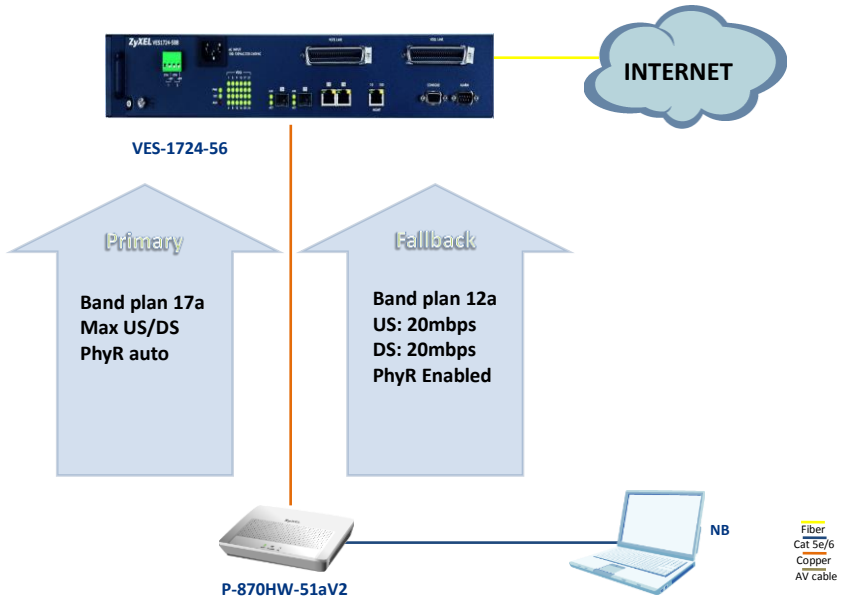
If we capture the packets from the uplink ports of the VES, we can see the double tags on all traffic, such as the following picture



VDSL Template application notes

On VES-1724-56, you can specify a primary and a fallback VDSL template for each subscriber port. A subscriber port uses the parameters defined in the primary VDSL template when the line is initialized. When the actual line condition is too poor to use the primary template (for example, the defined minimum transmission rate cannot be reached), the VES then uses the fallback template instead. We can select a looser fallback template for a line, acting as a backup profile.

Scenario



The primary VDSL profile should consist of:

1. Band plan 17a
2. Maximum Upstream/Downstream rate
3. PhyR auto

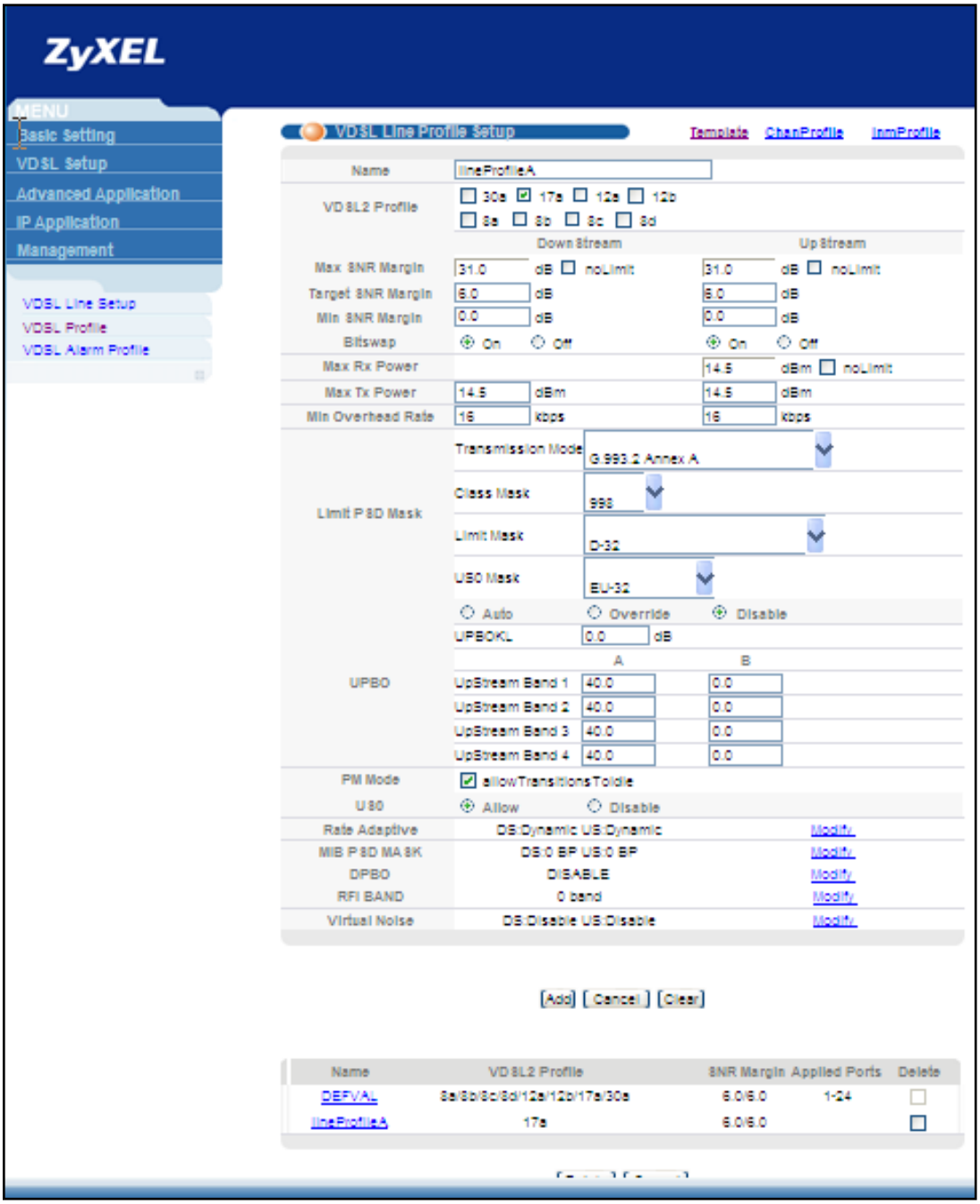
The Fallback VDSL profile should consist of:

1. Band plan 12a
2. US/DS = 20/20 mbps

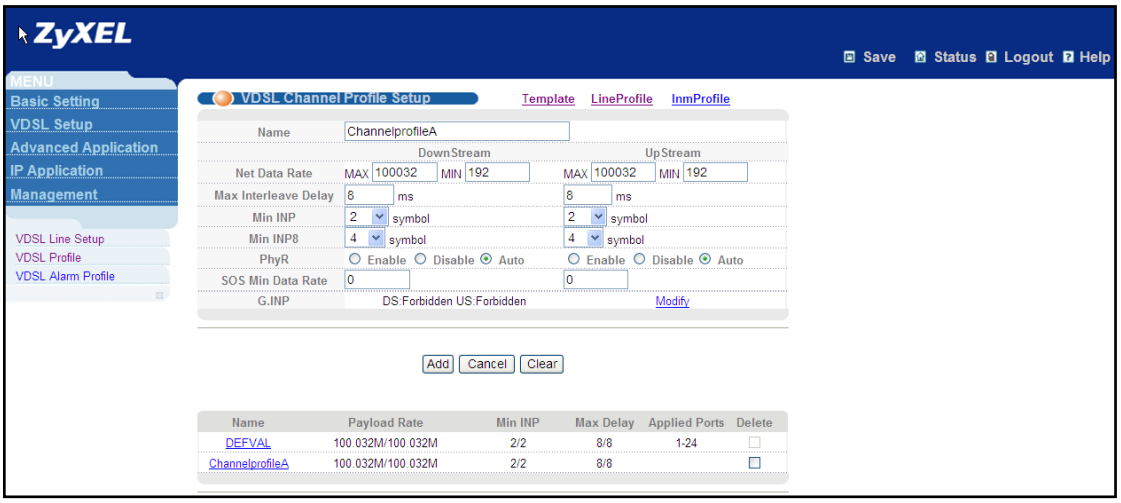
3. PhyR enabled

1. VDSL Profile Configuration for Primary Template

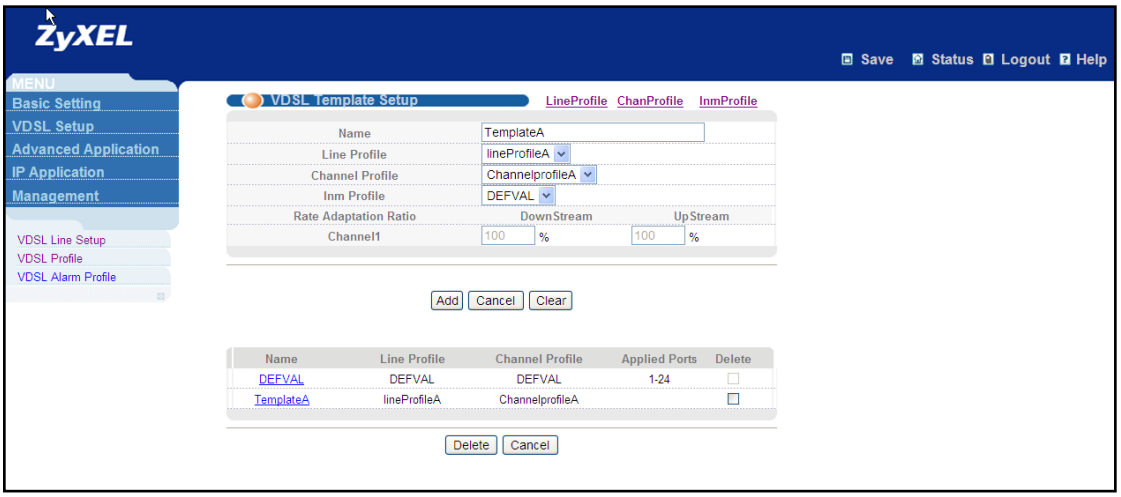
a. Go to **VDSL Setup > VDSL Profile > Line Profile**
b. Input the **Name**, e.g. “lineprofileA”
c. Select the **VDSL2 Profile** to be “17a”
d. Click **Add**



e. Go to **VDSL Setup > VDSL Profile > ChanProfile**
f. Input the **Name**, e.g. “ChannelprofileA”
g. Select the **PhyR** to be “auto”
h. Click **Add**



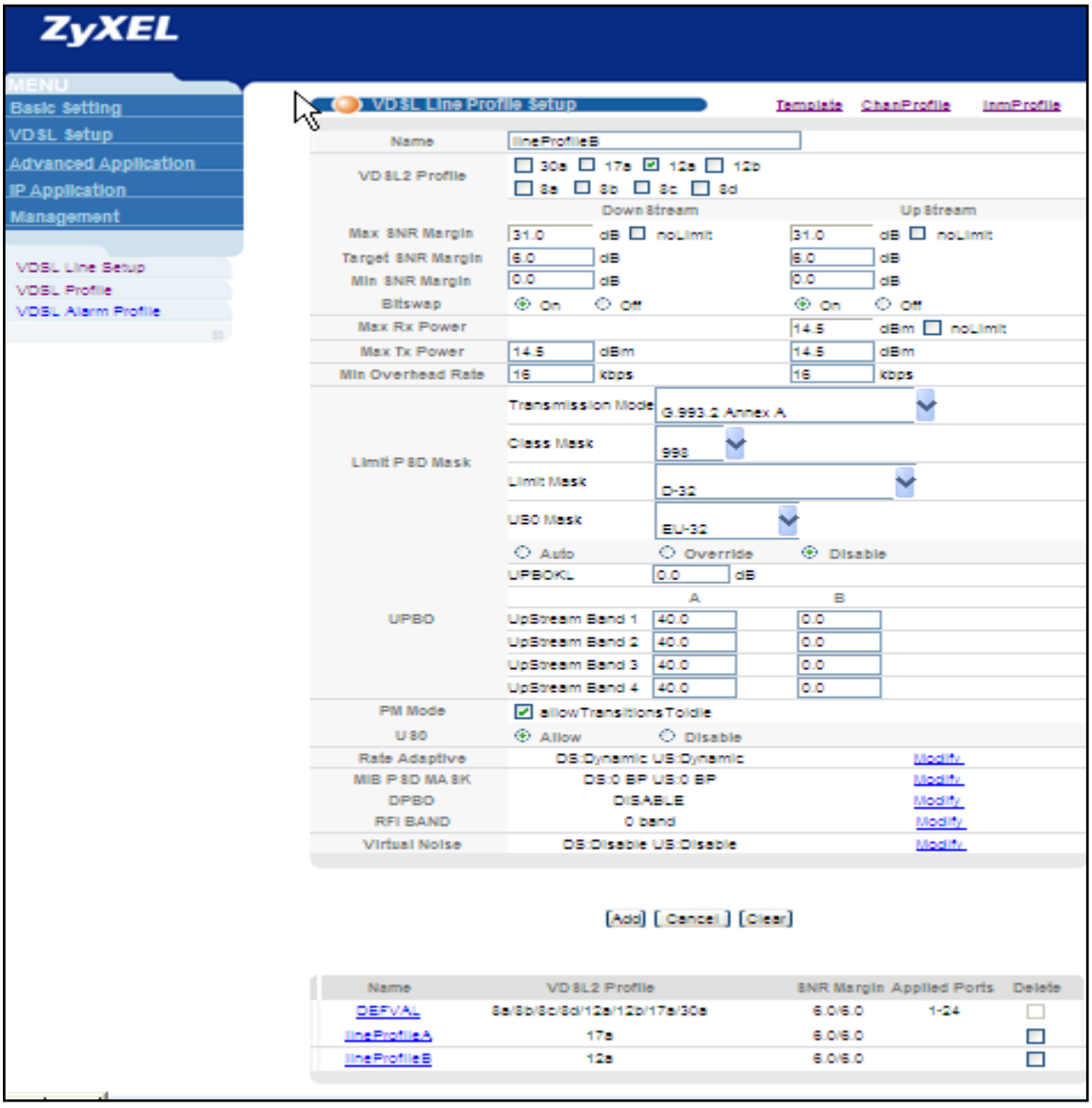
i. Go to **VDSL Setup > VDSL Profile > VDSL Template Setup**
j. Input the **Name**, e.g. “TemplateA”
k. Select “lineprofileA” to be the **Line Profile**
l. Select “ChannelprofileA” to be the **Channel Profile**
m. Click **Add**



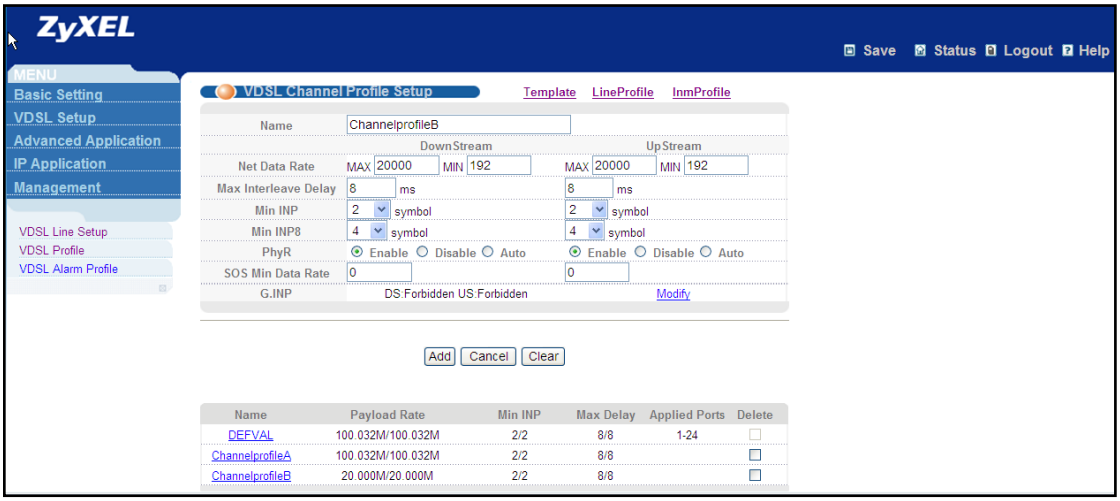
2. VDSL Profile Configuration for Secondary Template

a. Go to **VDSL Setup > VDSL Profile > Line Profile**

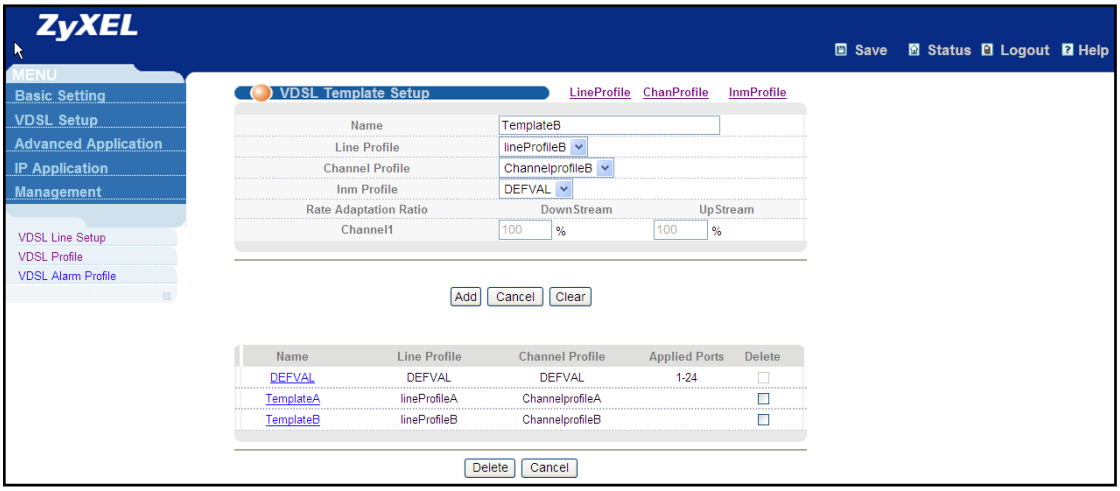
b. Input the **Name**, e.g. “lineprofileB”
c. Select the **VDSL2 Profile** to be “12a”
d. Click **Add**



e. Go to **VDSL Setup > VDSL Profile > Channel Profile**
f. Input the **Name**, e.g. “ChannelprofileB”
g. Input the **Downstream Max Net Data Rate** to be “20000”
h. Input the **Upstream Max Net Data Rate** to be “20000”
i. Select the **PhyR** to be “enabled”
j. Click **Add**

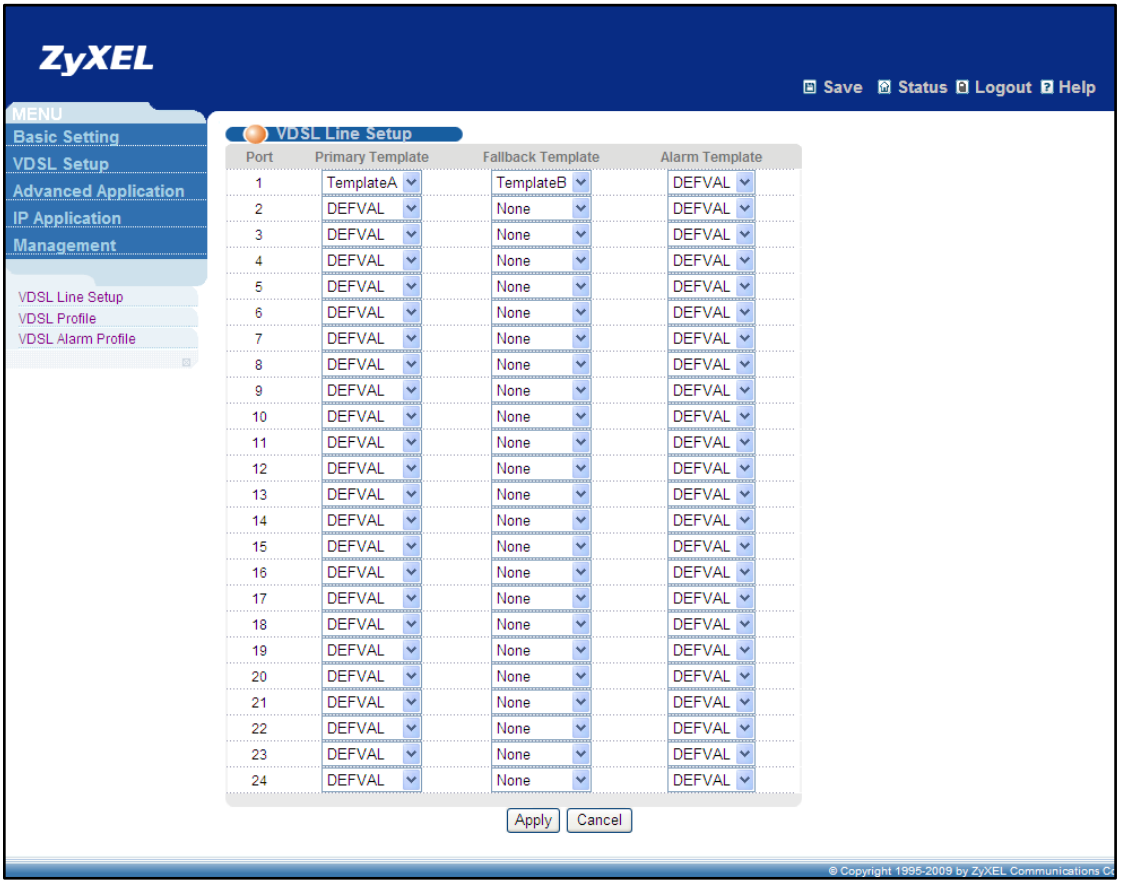


k. Go to **VDSL Setup > VDSL Profile > VDSL Template Setup**
l. Input the **Name**, e.g. “TemplateB”
m. Select “lineprofileB” to be the **Line Profile**
n. Select “ChannelprofileB” to be the **Channel Profile**
o. Click **Add**



3. VDSL Line Setup Configuration

a. Go to **VDSL Setup > VDSL Line Setup**
b. Select “TemplateA” to be the **Primary Template**
c. Select “TemplateB” to be the **Fallback Template**
d. Click **Add**



ADSL Fallback application 7

The Switch can connect to both VDSL and ADSL CPEs and/or CPEs that have both VDSL and ADSL support. When a port is connected to an ADSL CPE and VDSL connection cannot be established, the Switch tries using the ADSL standards you specified in the **VDSL profile > LineProfile** screen and the PVCs you configured in the **ADSL Fallback** screens for that port to make an ADSL connection.

How to enable ADSL Fallback function

Step 1. VDSL Setup →VDSL Profile→VDSL Line Profile Setup.

Step 2. Type name. Ex.adsltest.

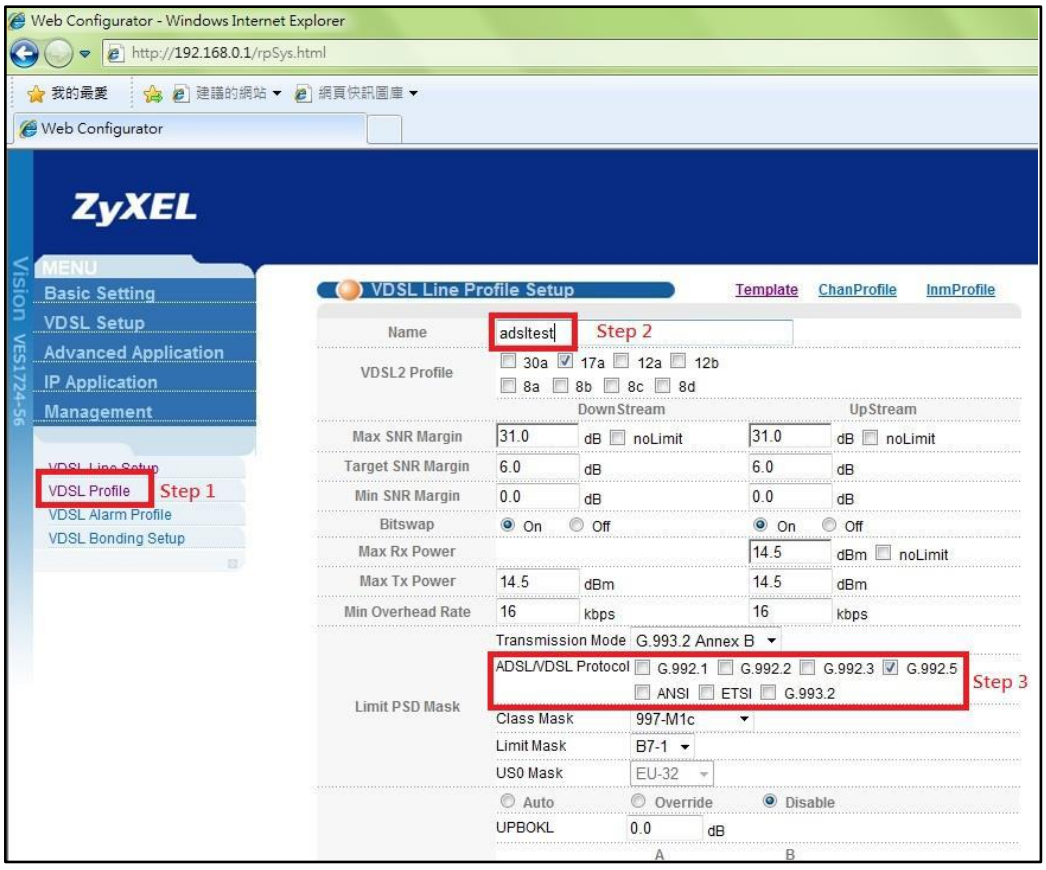
Step 3. Select ADSL/VDSL Protocol.Ex. G992.5(ADSL2+)and click “Add”buttonafter finishing setting.

PS.G992.1→ADSL G.dmt

G992.2→ADSL G.lite

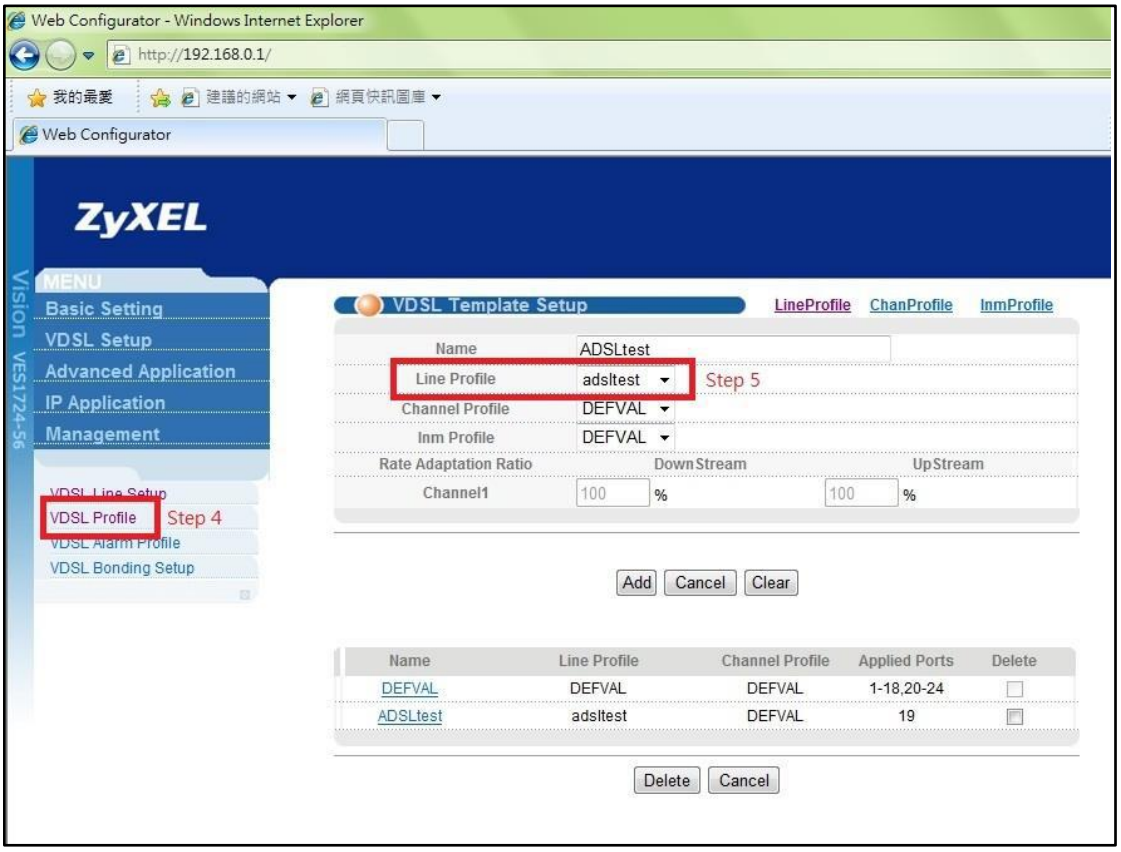
G993.2→ADSL2

G993.2→VDSL2



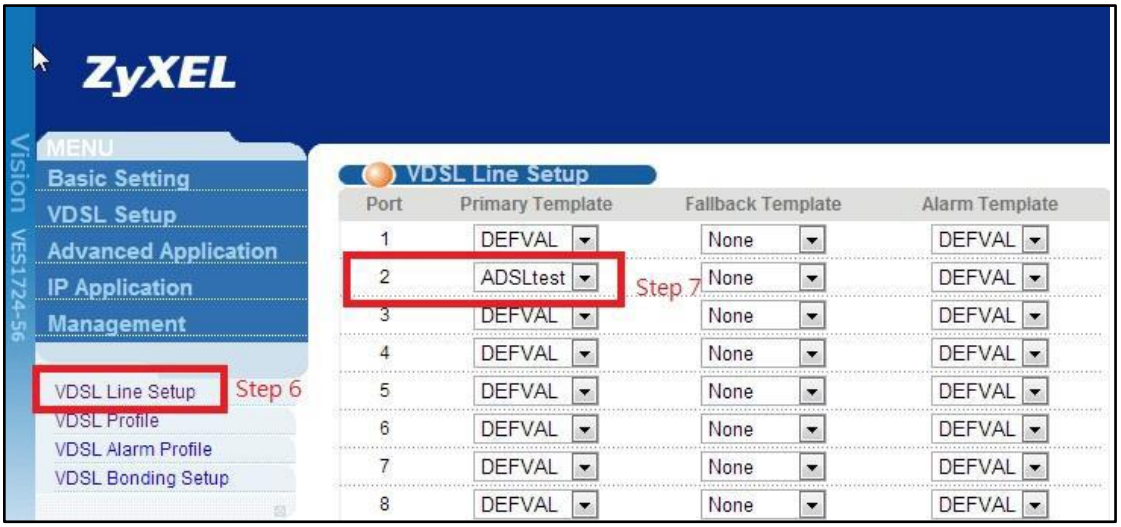
Step 4. VDSL Setup →VDSL Line Setup→VDSL Template.

Step 5. Apply Line Profile (We Just setup in **Step1~3**), and click “add” button.



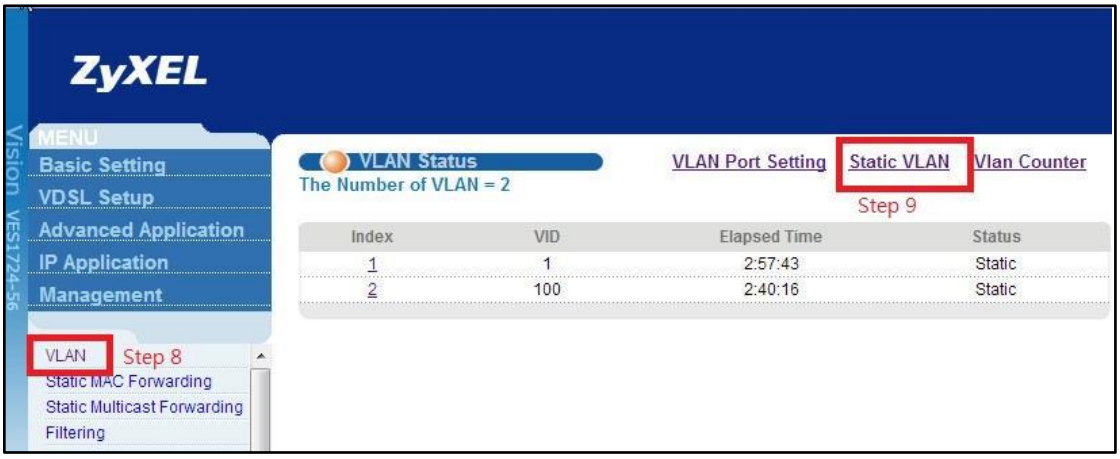
Step 6. VDSL Setup → VDSL Line Setup.

Step 7. Select the Port we used(ex. Port 2)and apply the template profile we just setup in Step 4~5.

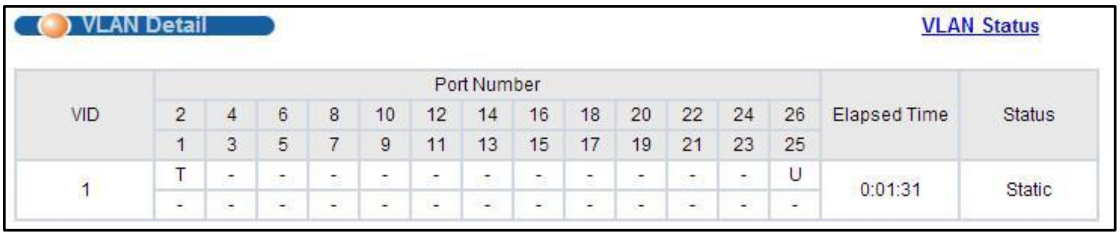


Step 8. Advanced Application →VLAN

Step 9. Select Static VLAN

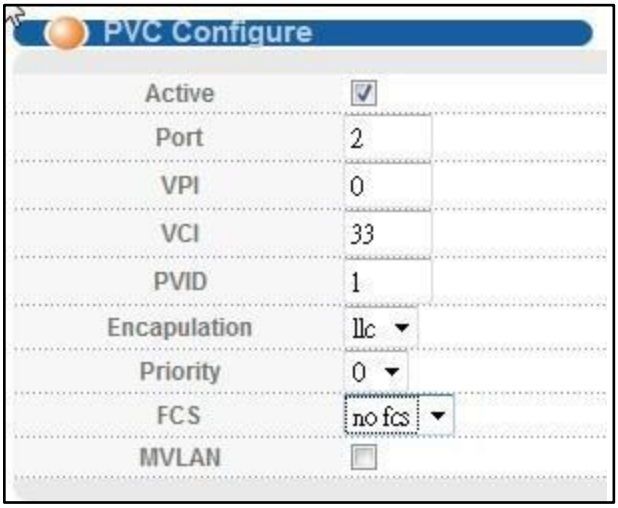


Step 10. Select VLAN 1 and check the TX tagging box which port we want to enable. And uncheck the TX tagging box in 26port, and the VLAN Detail show as below



Step 11. Advanced Application →ADSL fallback

Step 12. Set PVC Configureas follows.



Frequently Asked Questions

1. What is the default setting of the IP parameters?

IP address: 192.168.1.1
Subnet: 255.255.255.0

2. What is the default login Name and Password of the Web Configurator?

ID: admin
Password: 1234

3. How to access my VES through the console port?

Connect the male 9-pin end of the console cable to the console port of the switch. Connect the female end to a serial port (COM1, COM2 or other COM port) of your computer. Launch a terminal emulation software configured to the follow settings:
Terminal emulation: VT100
Baud rate: 115200 bps
Data bits: 8
Parity: none
Stop bit: 1
Flow control: none

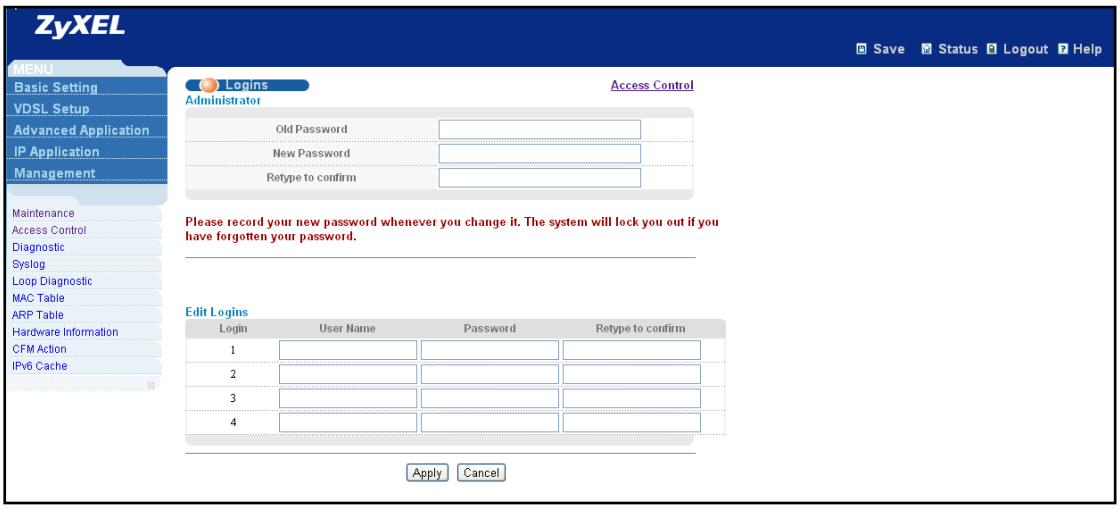
4. What is default login password for console, telnet, and FTP?

Password: 1234

5. How to change the password?

You can only change the administrator login password in the web configurator. After you log in for the first time, it is recommended you change the default administrator password.

In the Web Configurator: Click **Management > Access Control > Logins** to display the configuration screen as shown. Then change the password by settings the password fields.



6. How to access the Command Line Interface (CLI)?

There are two ways to access the Command Line Interface: through the console port or Telnet. If you want to access through the console port, Refer to the “How to access the VES through the console port?” section for more information.

7. If I forgot the password, how to reset the password to default?

If you have changed and forgotten the password, you will need to reload the factory default configuration. Note that your entire previous configuration will be lost.

a. Connect the console cable to your computer and launch a terminal emulation software.
b. Restart the VES, and press any key to enter the debug mode at the “Press any key to enter Debug Mode within 3 seconds” prompt.
c. Enter “atlc”.
d. When the “starting XMODEM upload” message displays, start XMODEM upload

of the default configuration (rom) file to the VES.

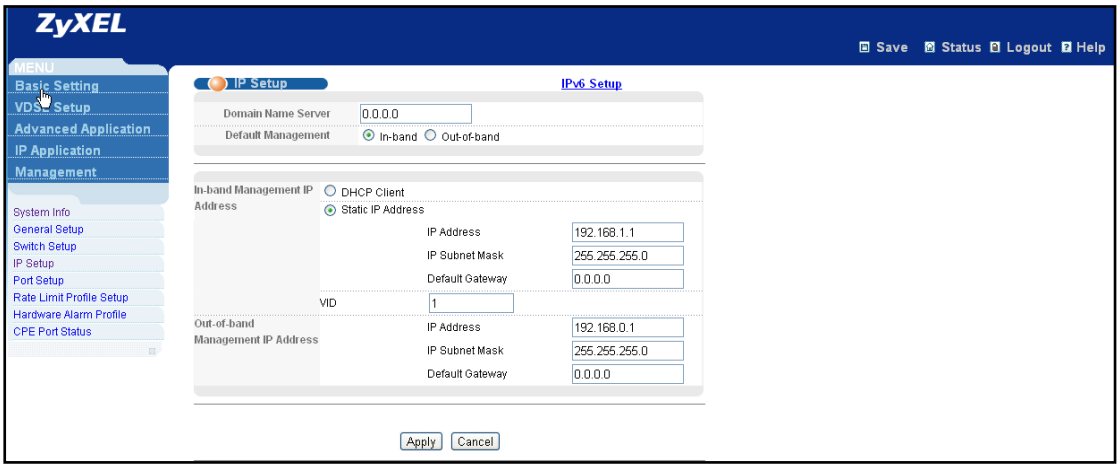
e. After the file upload process is complete, enter “atgo” to exit from the debug mode.

f. The system will automatically restart. Wait until the system has restarted before you log in again. The default IP address is 192.168.1.1 and the default password is 1234.

8. How do I configure an IP address?

Using the Web Configurator

Click **Basic Setting > IP Setup** in the navigation panel to display the configuration screen.



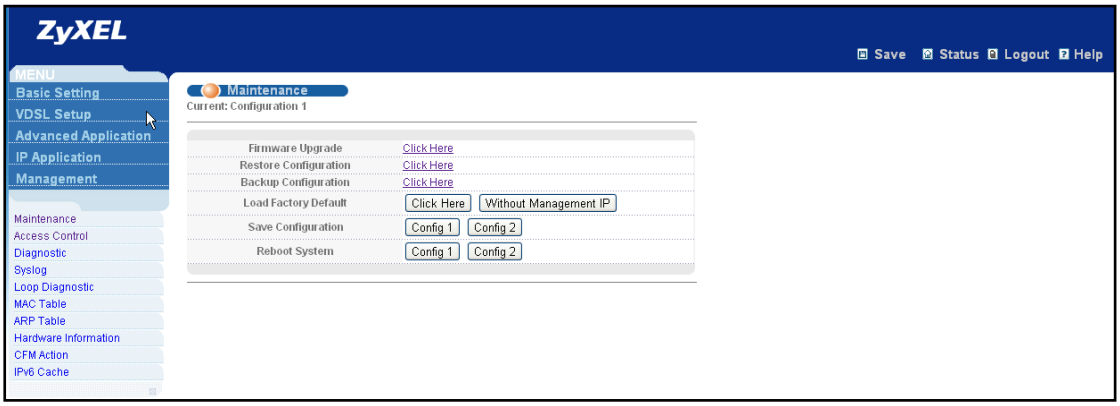
9. Is Online Help available on the Web Configurator?

Yes. You can click on the Help link in any web configurator screen to display the help content for that screen.

10. How to restart device from the Web Configurator?

a. Click **Management > Maintenance** in the navigation panel to display the screen as shown.

b. Click the **Config1** or **Config 2** button next to **Reboot System**.



11. How to check the current running firmware version?

Access the console and enter the “show system-information” command. This will display the firmware version the switch is currently using.

12. Is the mini GBIC transceiver hot-swappable?

Yes, it is hot-swappable. You can change transceivers while the switch is operating.

13. What is "Dual-Personality interface" on a VDSL Switch?

Dual-Personality GbE interface means that one 1000Base-T Copper port and one SFP port shares the same physical interface. Only one of them can be used at a time. Dual-Personality interface is also known as a "Combo Port".

14. Can I enable MVR and IGMP snooping at the same time?

Yes