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Leading Provider
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Zhone 6218-i3 4-Port Wi-Fi Ethernet Router

User Manual

Version 1.0

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General Information

The 4-Port Wireless Ethernet Router features 4 LAN ports for added convenience and accessibility.

Package Contents

Included in the package is one of each of the following—

- 4-Port Wireless Ethernet Router
- 12V 1.5A power adapter
- RJ-11 telephone cable
- RJ-45 Ethernet cable
- User Manual

Important Safety Instructions

- Place your router on a flat surface close to the cables in a location with sufficient ventilation.
- To prevent overheating, do not obstruct the ventilation openings of this equipment.
- Plug this equipment into a surge protector to reduce the risk of damage from power surges and lightning strikes.
- Operate this equipment only from an electrical outlet with the correct power source as indicated on the adapter.
- Do not open the cover of this equipment. Opening the cover will void any warranties on the equipment.
- Unplug equipment first before cleaning. A damp cloth can be used to clean the equipment. Do not use liquid / aerosol cleaners or magnetic / static cleaning devices.

Front Panel View

LED	Mode	Indication
Power	Solid	Router is powered on.
	No light	Router is not powered. Check if the router is plugged in and if the power switch is turned on.
Status	Solid	Connection established. The router is able to communicate with your ISP via ADSL.
	Flashing	The router is trying to connect to your ISP.
Link	Solid	ADSL is connected.
	No light	ADSL is not connected. The ALARM led will be red.
	Blinking	The router is connected to ADSL.
LAN1-LAN4	Solid	Router is connected to the LAN.
	No light	No connection to the LAN. Check if the LAN cable is connected to the router.
	Blinking	LAN traffic
AP	Solid	Wireless is enabled.
	No light	Wireless is disabled.
	Blinking	There is wireless traffic.

Back Panel View

***NOTE**: The below port descriptions are listed as they appear on the back panel from left to right.*

Port	Description
Power	Connects to a 15VAC 1A power adapter.
Reset / Default	***Restart***—press the button for less than 4 seconds. ***Default settings***—press the button for 4 seconds or longer.
LAN1-LAN4	RJ-45 connects the unit to an Ethernet device such as a PC or a switch.
Phone	RJ-11 cable connects to telephone (no external splitter necessary; unit has internal splitter).
Line	RJ-11 cable connects between telephone and the LINE port using a splitter (not included) if needed.

Installing the Router

Connect the ADSL Line and Telephone

- Connect one end of an RJ-11 cable from your ADSL connection and the other end to the LINE port of the router using a splitter if needed.

NOTE: See connections on the installation diagram.

Connect the PC to the Router

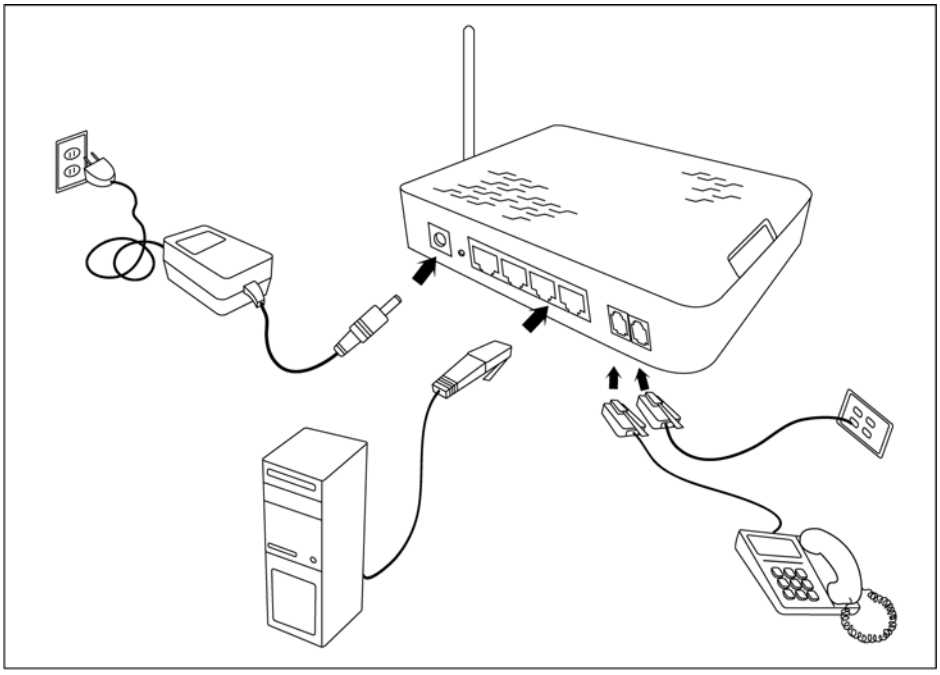
- To use the Ethernet connection, connect the Ethernet cable from the computer directly to the router.

- Connect one end of the Ethernet cable to one of the 4 ports labeled LAN (LAN1 – LAN4) on the back of the router and attach the other end to the Ethernet port of your computer.

Connect the Power Adapter

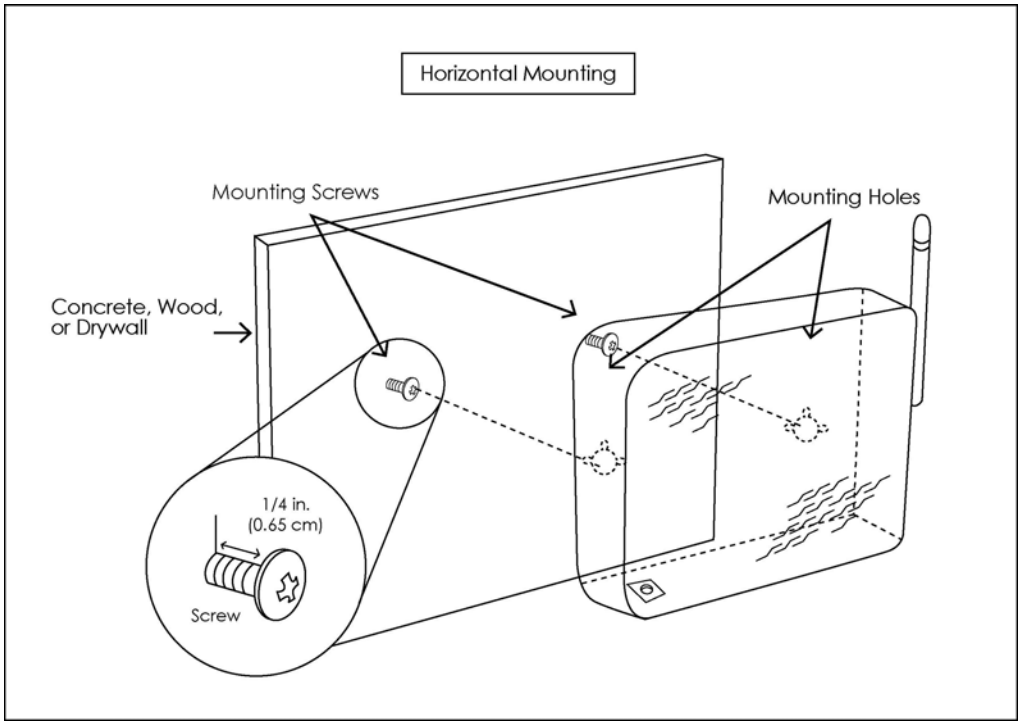
- Complete the process by connecting the AC power adapter to the POWER connector on the back of the device and plug the adapter into a wall outlet or power strip. Then turn on and boot up your PC and any LAN devices, such as hubs or switches, and any computers connected to them.

Installation Diagram



Mounting the Router

The router can be mounted on the wall with the screws provided. Mounting can be done on wall material including concrete, wood, or drywall. Select an appropriate location free from obstructions or any possible interference. Make sure the cables can be easily attached to the router without strain. The illustration below shows how to mount the router horizontally on a wall.



Configuring Your Computer

Prior to accessing the router through the LAN or the USB port, note the following necessary configurations—

- Your PC's TCP/IP address: **192.168.1.__**(the last number is any number between 2 and 254)
- The router's default IP address: **192.168.1.1**
- Subnet mask: **255.255.255.0**

Below are the procedures for configuring your computer. Follow the instructions for the operating system that you are using.

Windows 2000

1. In the Windows taskbar, click on the Start button and point to Settings, Control Panel, and Network and Dial-up Connections (in that order).
2. Click on Local Area Connection. When you have the Local Area Connection Status window open, click on **Properties**.
3. Listed in the window are the installed network components. If the list includes Internet Protocol (TCP/IP), then the protocol has already been enabled, and you can skip to Step 10.
4. If Internet Protocol (TCP/IP) does not appear as an installed component, then click on **Install**.
5. In the Select Network Component Type window, click on protocol and then the **Add** button.
6. Select Internet Protocol (TCP/IP) from the list and then click on **OK**.
7. If prompted to restart your computer with the new settings, click **OK**.
8. After your computer restarts, click on the Network and Dial-up Connections icon again, and right click on the Local Area Connection icon and then select Properties.
9. In the Local Area Connection Properties dialog box, select Internet Protocol (TCP/IP) and then click on **Properties**.
10. In the Internet Protocol (TCP/IP) Properties dialog box, click in the radio button labeled **Use the following IP address** and type 192.168.1.x (where x is any number between 2 and 254) and 255.255.255.0 in the IP address field and Subnet Mask field.
11. Click on **OK** twice to save your changes and then close the **Control Panel**.

Windows XP

1. In the Windows taskbar, click on the Start button and point to Settings and then click Network Connections.

2. In the Network Connections window, right click on the Local Area Connection icon and click on properties.

3. Listed in the Local Area Connection window are the installed network components. Make sure the box for Internet Protocol (TCP/IP) is checked and then click on **Properties**.

4. In the Internet Protocol (TCP/IP) Properties dialog box, click in the radio button labeled **Use the following IP address** and type 192.168.1.x (where x is any number between 2 and 254) and 255.255.255.0 in the IP address field and Subnet Mask field.

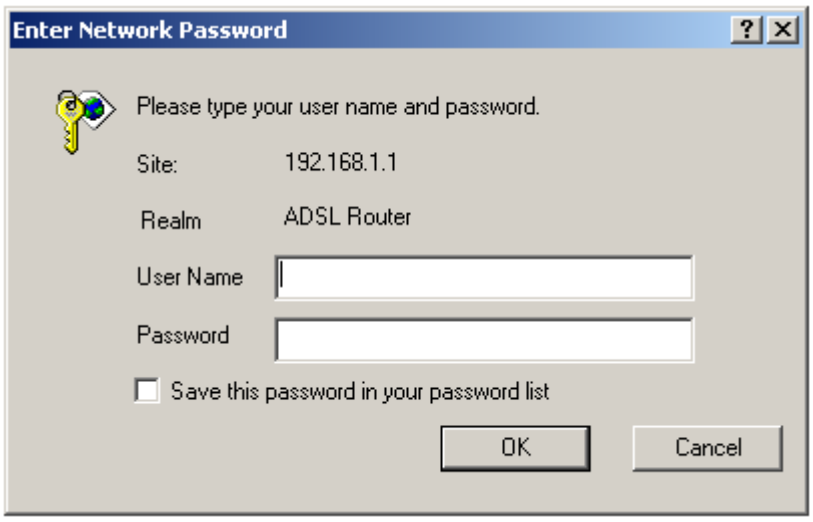
5. Click on **OK** twice to save your changes and then close the **Control Panel**.

Log in to the Router

This section will explain how to log in to your router using the following steps—

1. Launch your web browser.
2. Enter the URL http://192.168.1.1 in the address bar and press Enter.

A login screen like the one below will be displayed after you connect to the user interface.



3. Enter your user name and password, and then click on **OK** to display the user interface.

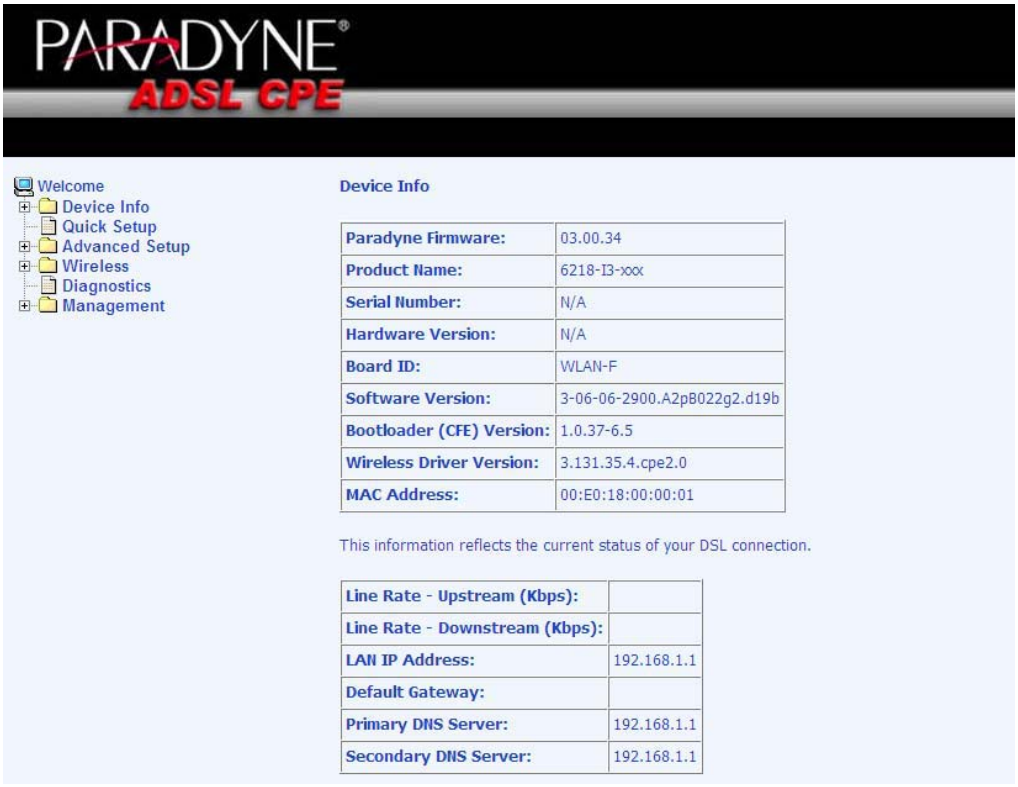
NOTE: *There are two default user name and password combinations. The* ***user / user*** *name and password combination can display device status, but cannot change or save configurations. The* ***admin / admin*** *combination can perform all functions. Passwords can be changed at any time.*

Device Info

This section describes the system information that can be accessed using the menu items under Device Info.

Summary

Access the general information of the router by clicking on "**Summary**" under "**Device Info**". It shows details of the router such as the version of the software, bootloader, LAN IP address, etc. It also displays the current status of your DSL connection as shown below—



WAN

Access the WAN status report from the router by clicking on **"WAN"** under **"Device Info"**. Below is how the screen will look once a WAN connection is set up.

VPI/VCI	Con. ID	Category	Service Name	Interface Name	Protocol	IGMP	QoS	State	Status	IP Address
0/35	1	UBR	br_0_35	nas_0_35	Bridge	N/A	Disabled	Enabled	ADSL Link Down	

Statistics

LAN Statistics

Access the LAN statistics from the router by clicking on the **"LAN"** item under **"Statistics"**

Interface	Received				Transmitted			
	Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
Ethernet	125677	1026	0	0	324581	1026	0	0
Wireless	0	0	0	0	5694	42	0	0

Reset Statistics

WAN Statistics

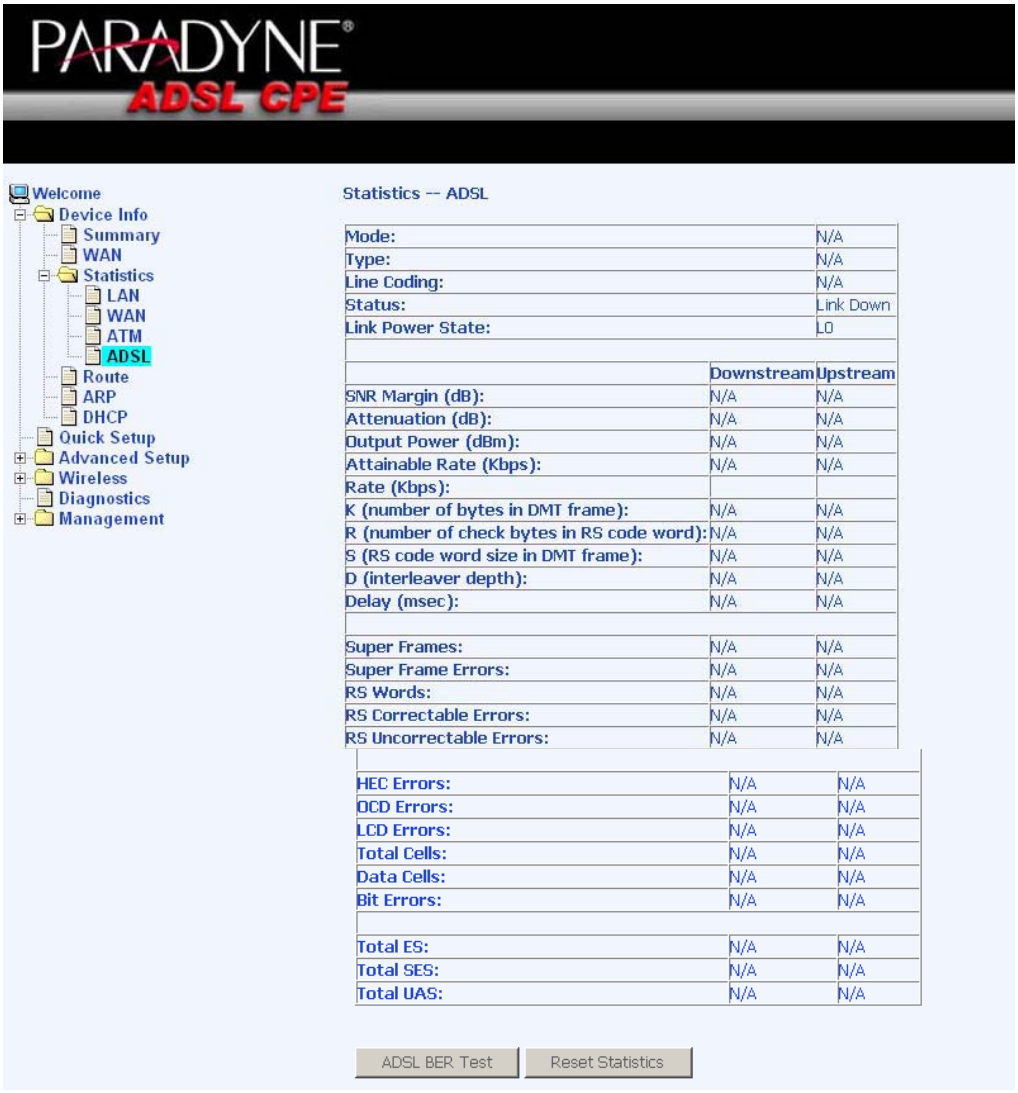
Access the WAN statistics from the router by clicking on the "**WAN**" item under "**Statistics**".

ATM Statistics

Access ATM statistics from the router by clicking on the "**ATM**" item under "**Statistics**".

ADSL Statistics

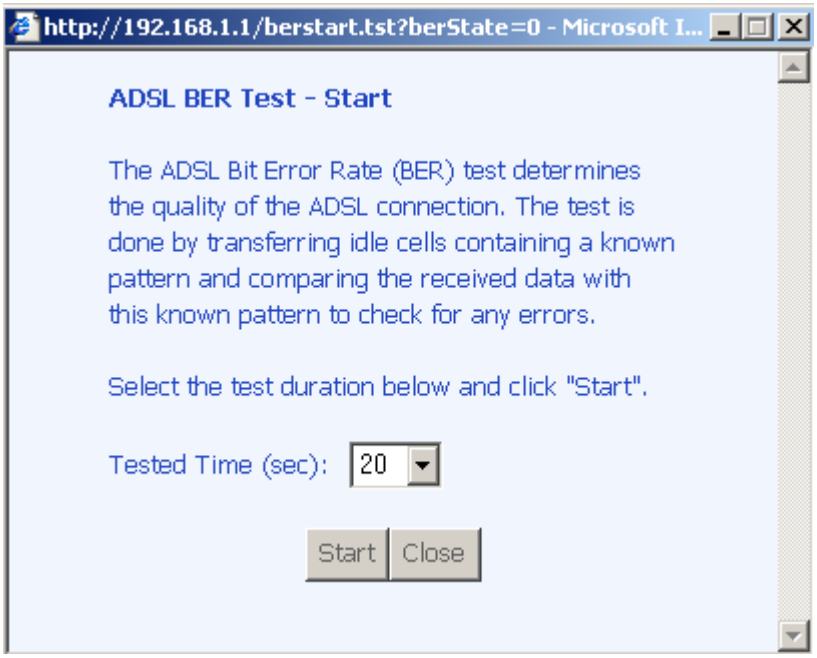
You can view ADSL statistics by clicking on the **"ADSL"** item under **"Statistics"**. Information contained in this screen is useful for troubleshooting and diagnostics of connection problems.



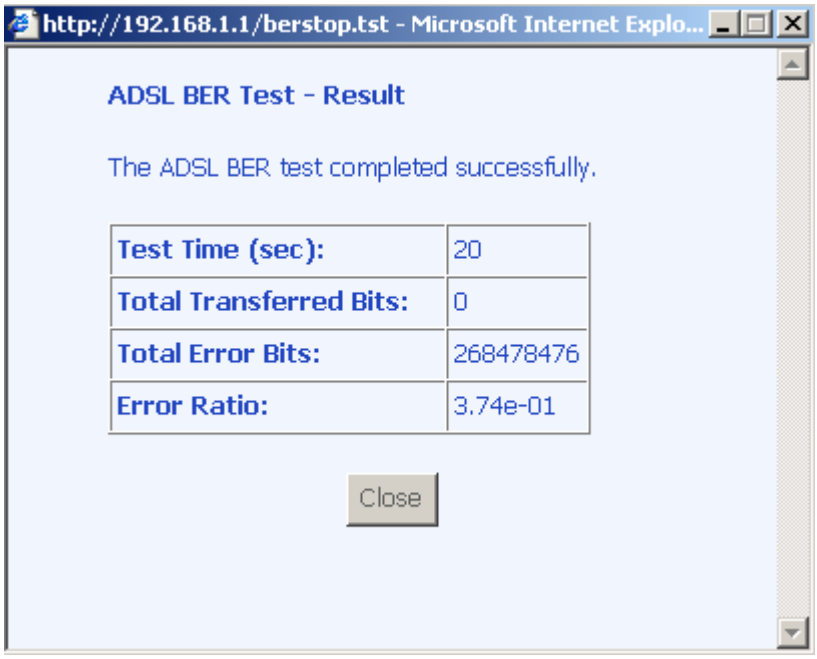
ADSL BER Test

A **Bit Error Rate Test (BER Test)** is a test that reflects the ratio of error bits to the total number transmitted.

If you click on the **ADSL BER Test** button at the bottom of the ADSL Statistics page, the following pop-up screen will appear allowing you to set the tested time and to begin the test.



Below is an ADSL BER Test result screen displaying information about the test and the error bits and ratio.

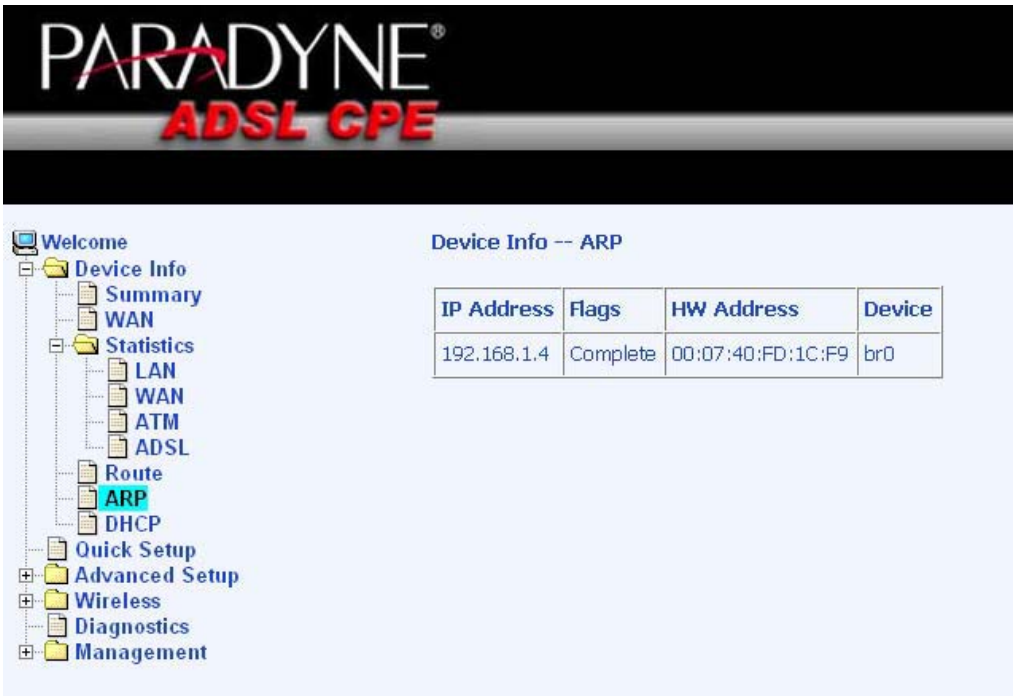

http://192.168.1.1/berstop.tst - Microsoft Internet Explo...
ADSL BER Test - Result
The ADSL BER test completed successfully.
Test Time (sec): 20
Total Transferred Bits: 0
Total Error Bits: 268478476
Error Ratio: 3.74e-01
Close

Route

Access the routing status report from the router by clicking on the **"Route"** item under **"Device Info"**.

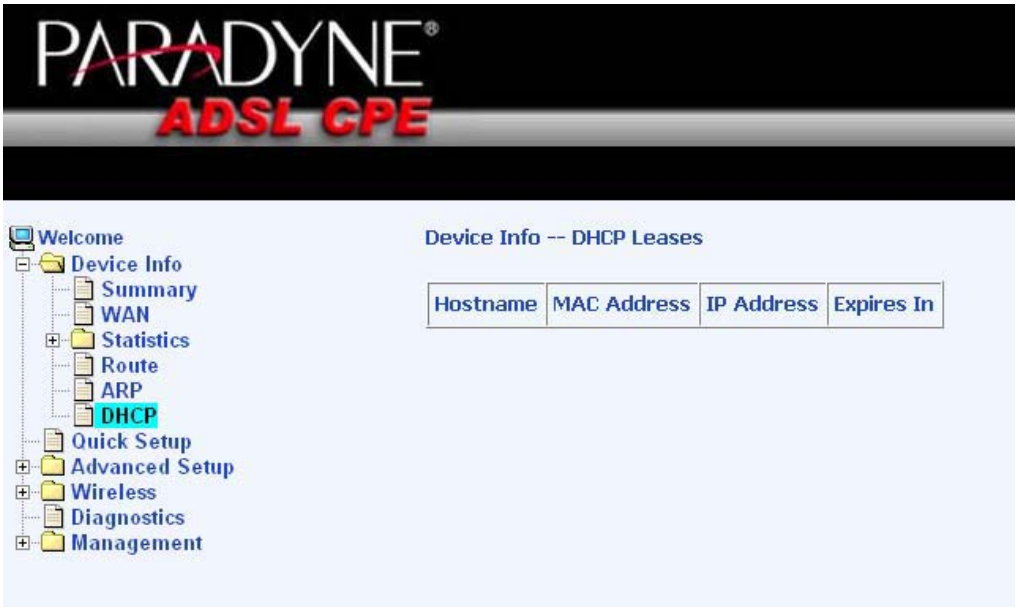
ARP

Access the ARP status report from the router by clicking on the **"ARP"** item under **"Device Info"**. ARP (Address Resolution Protocol) maps the IP address to the physical address, labeled *HW Address* (the MAC address) and helps to identify computers on the LAN.



DHCP

Access the DHCP Leases screen by clicking **"DHCP"** under **"Statistics"**. This shows the computers, identified by the hostname and MAC address that have acquired IP addresses by the DHCP server with the time that the lease for the IP address is up.



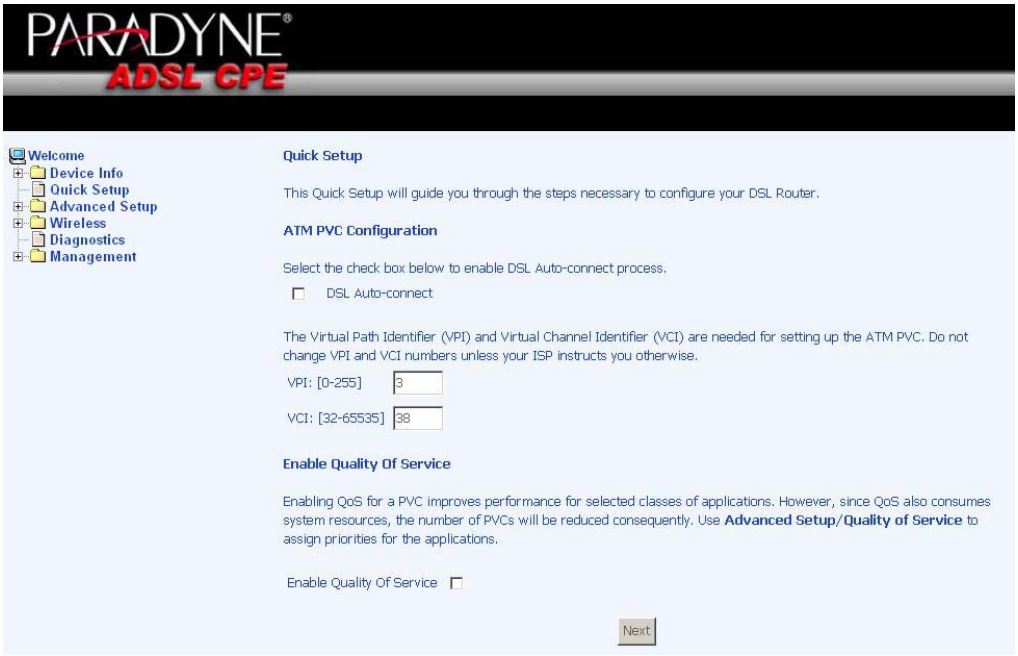
Quick Setup

This section will explain how to quickly configure the router for the sole purpose of connecting to the Internet.

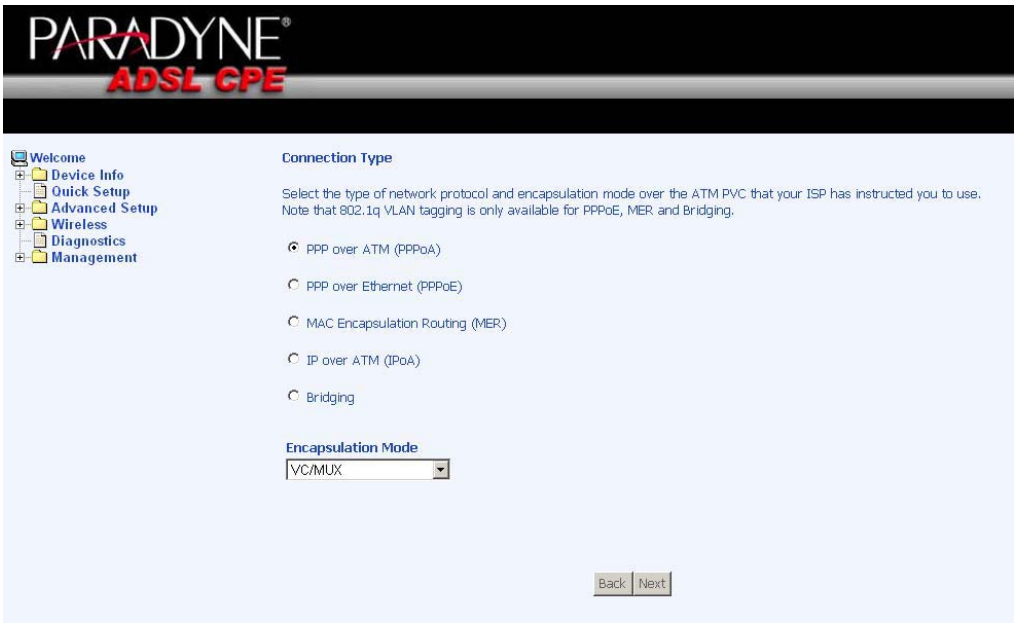
ATM PVC Configuration

To enable the auto-connect process, click on the box labeled DSL Auto-connect, a process that will automatically detect the first usable PVC and automatically detect PPPoE, PPPoA, and Bridge Protocol (with DHCP Server available). To continue, click on the **Next** button.

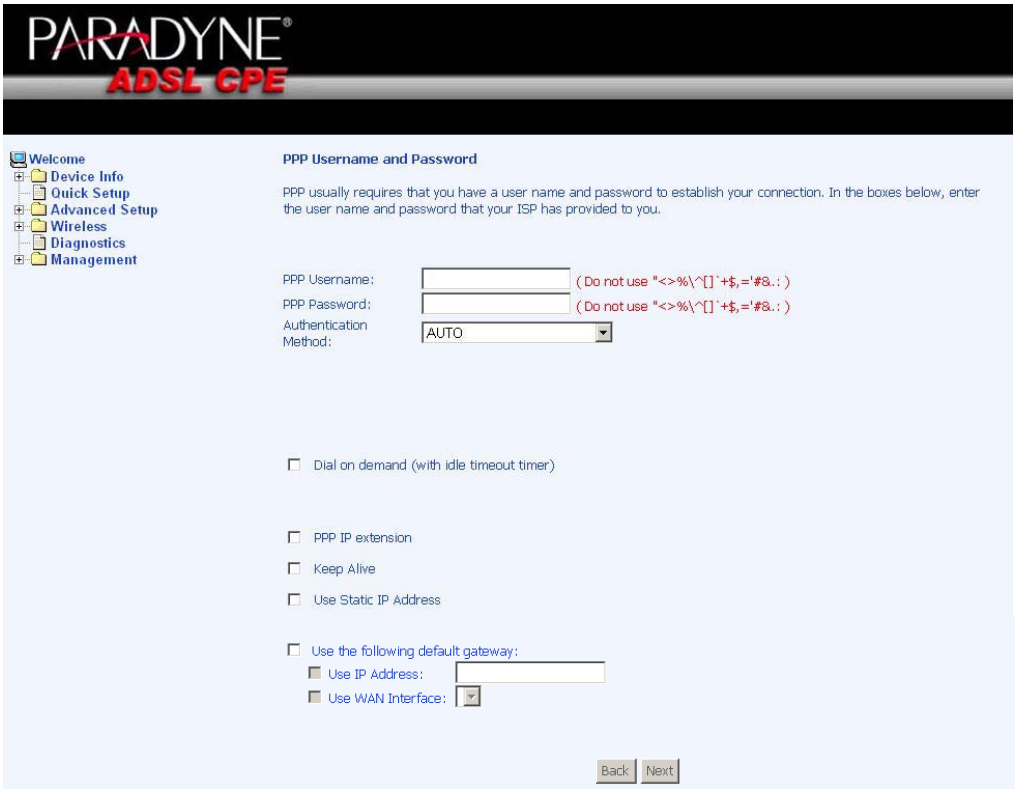
If you uncheck the *DSL Auto-connect* box, the resulting screen is seen below. Enter the VPI / VCI as indicated by your ISP and decide whether or not to enable quality of service and click on **Next**.



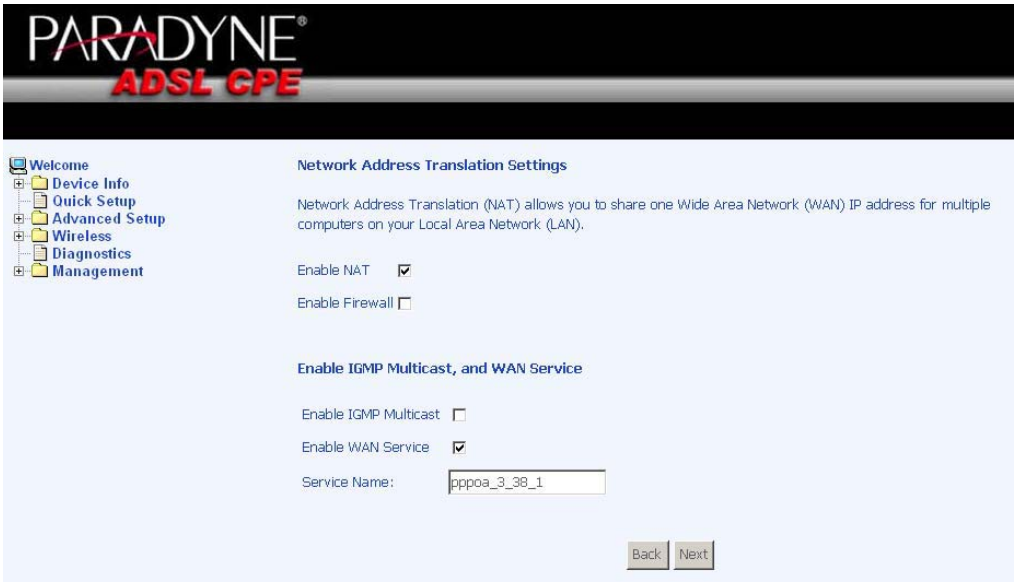
Following is the Connection Type screen where you select the type of network protocol and encapsulation mode over the ATM PVC that your ISP has instructed you to use. The following is a PPPoA example. Click on **Next** to continue.



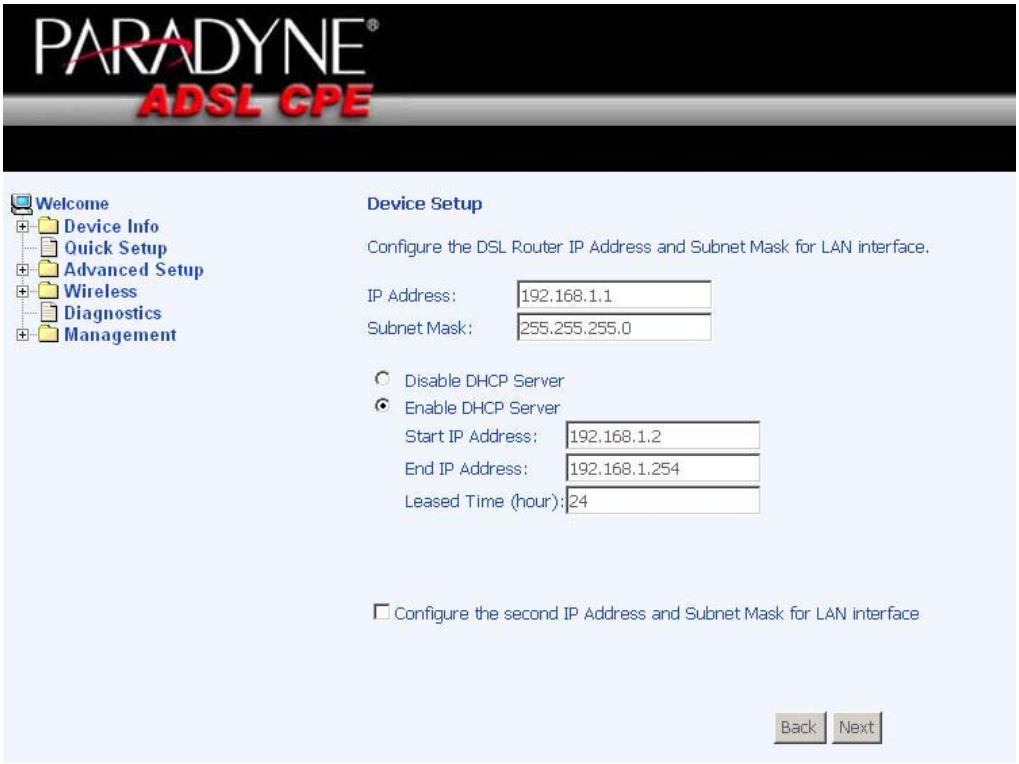
Enter the PPP username and password as given by your ISP. Then decide if you will be using any features such as *dial on demand, PPP IP extension, keep alive* and then click on **Next**.



The next step is to configure the Network Address Translation (NAT) settings. For the example, NAT will be enabled. The remaining fields are left as default and then click on **Next** to continue.

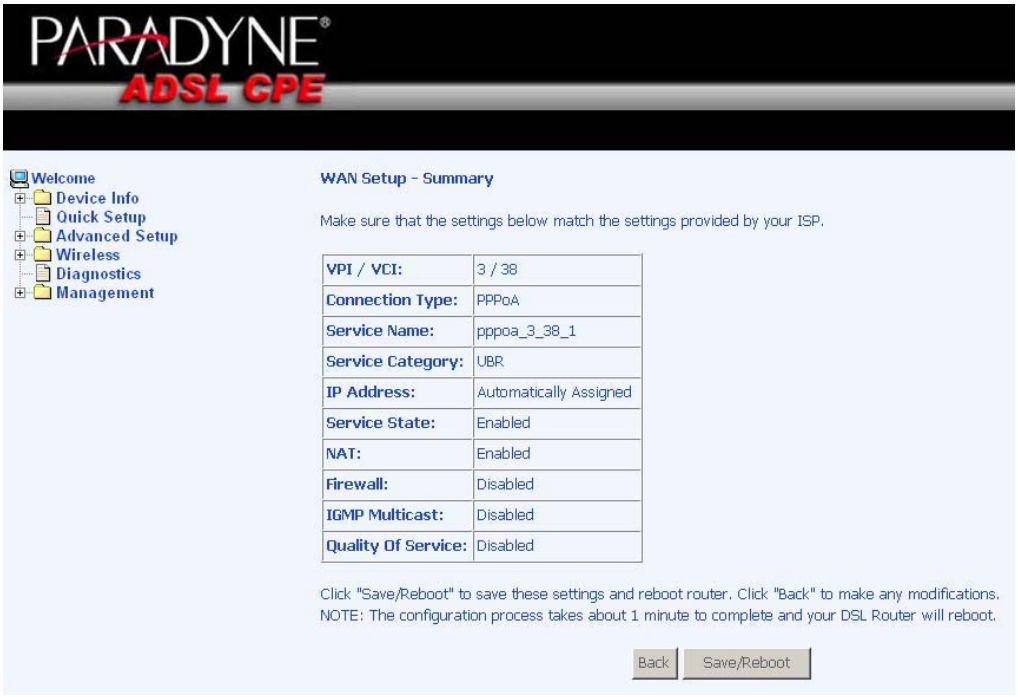


You can configure the DSL Router IP address and Subnet Mask for the LAN interface to correspond to your LAN's IP Subnet. If you want the DHCP server to automatically assign IP addresses, then enable the DHCP server and enter the range of IP addresses that the DHCP server can assign to your computers. Disable the DHCP server if you would like to manually assign IP addresses. Click on **Next** to continue.



The next screen allows you to enable or disable the router's wireless option. Also be sure to enter the SSID and click on **Next** to continue.

After all of the WAN configurations have been made, the *WAN Setup Summary* screen displays all WAN settings that you have made. Check that the settings are correct before clicking on the **Save / Reboot** button. Clicking on **Save / Reboot** will save your settings and restart your router.


PARADYNE
ADSL CPE
Welcome
Device Info
Quick Setup
Advanced Setup
Wireless
Diagnostics
Management
WAN Setup - Summary
Make sure that the settings below match the settings provided by your ISP.
VPI / VCI: 3 / 38
Connection Type: PPPoA
Service Name: pppoa_3_38_1
Service Category: UBR
IP Address: Automatically Assigned
Service State: Enabled
NAT: Enabled
Firewall: Disabled
IGMP Multicast: Disabled
Quality Of Service: Disabled
Click "Save/Reboot" to save these settings and reboot router. Click "Back" to make any modifications.
NOTE: The configuration process takes about 1 minute to complete and your DSL Router will reboot.
Back
Save/Reboot

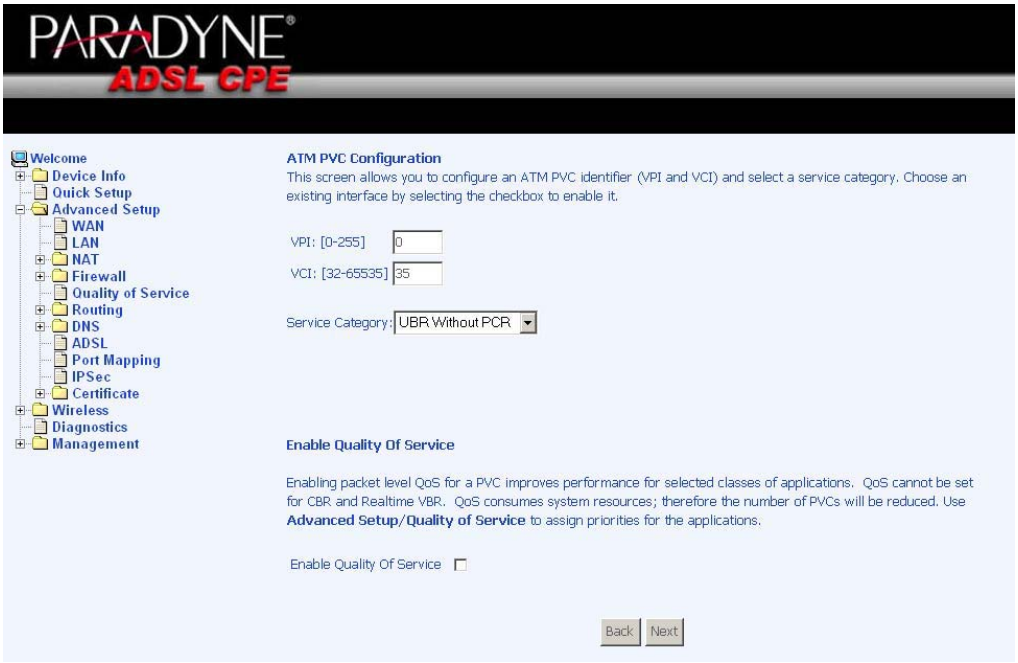
Advanced Setup

This section of the setup is an advanced version of the quick setup. If you want to make specific configurations to your router such as firewall, port mapping, quality of service, DNS, etc., consider going through this advanced setup for a more comprehensive configuration.

WAN

Configure the WAN settings as provided by your ISP.

Click on the **Add** button if you want to add a new connection for the WAN interface. The ATM PVC Configuration screen follows as seen below. The ATM PVC Configuration screen allows you to configure an ATM PVC identifier (VPI and VCI) and select a service category.



Find out the following values from your ISP before you change them.

- **VPI**: Virtual Path Identifier. The valid range is 0 to 255.
- **VCI**: Virtual Channel Identifier. The valid range is 32 to 65535.
- **Service Category**: Five classes of traffic are listed—

    - **UBR Without PCR** *(Unspecified Bit Rate without Peak Cell Rate)*—UBR service is suitable for applications that can tolerate variable delays and some cell losses. Applications suitable for UBR service include text/data/image transfer, messaging, distribution, and retrieval and also for remote terminal applications such as telecommuting.

    - **UBR With PCR** *(Unspecified Bit Rate with Peak Cell Rate)*--

    - **CBR** *(Constant Bit Rate)*—used by applications that require a fixed data rate that is continuously available during the connection time. It is commonly used for uncompressed audio and video information such as videoconferencing, interactive audio (telephony), audio / video distribution (e.g. television, distance learning, and pay-per-view), and audio / video retrieval (e.g. video-on-demand and audio library).

    - **Non Realtime VBR** *(Non-Real-time Variable Bit Rate)*—can be used for data transfers that have critical response-time requirements such as airline reservations, banking transactions, and process monitoring.

    - **Realtime VBR** *(Real-time Variable Bit Rate)*—used by time-sensitive applications such as real-time video. Rt-VBR service allows the network more flexibility than CBR.

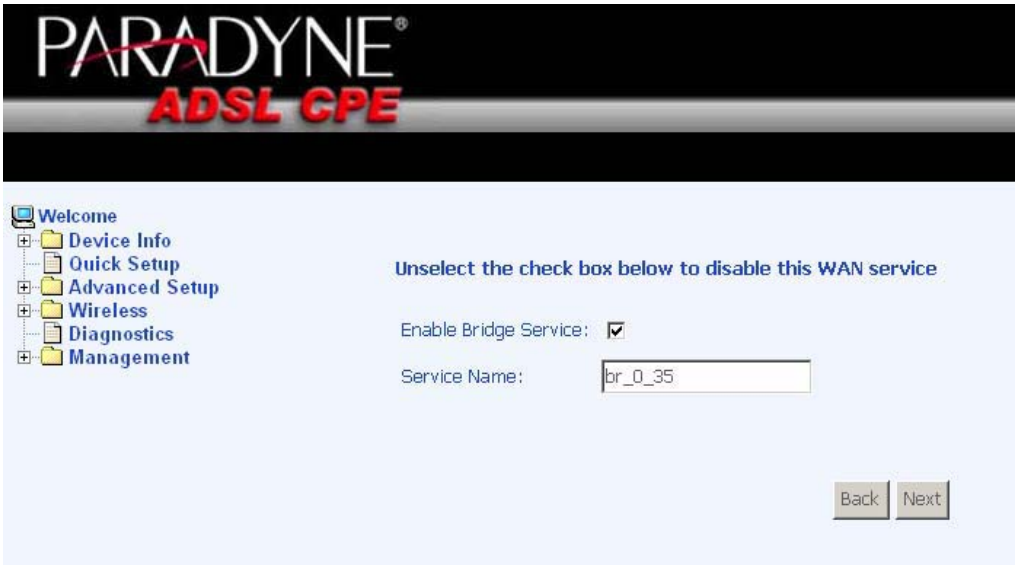
Connection Type

This screen shows the below types of network protocols and encapsulation modes—

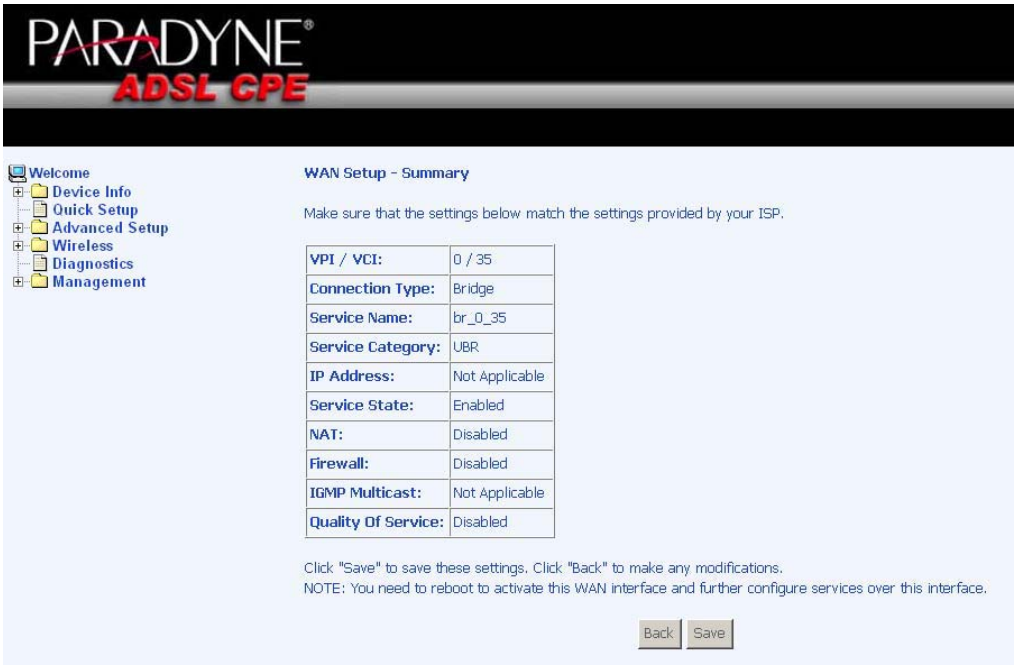
- PPP over ATM (PPPoA)
- PPP over Ethernet (PPPoE)
- MAC Encapsulation Routing (MER)
- IP over ATM (IpoA)
- Bridging

Select the mode that your ISP has instructed you to use and click on **Next**.

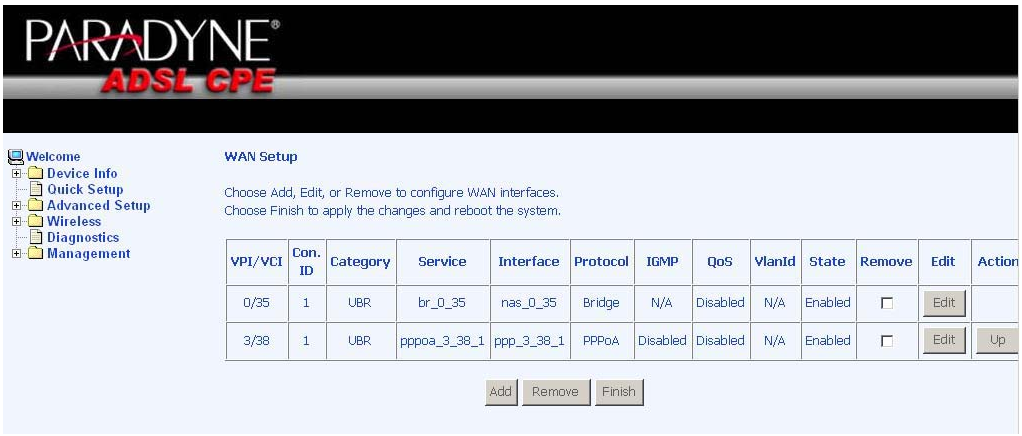
After you click on **Next**, the below screen appears allowing you disable the bridge service if desired.



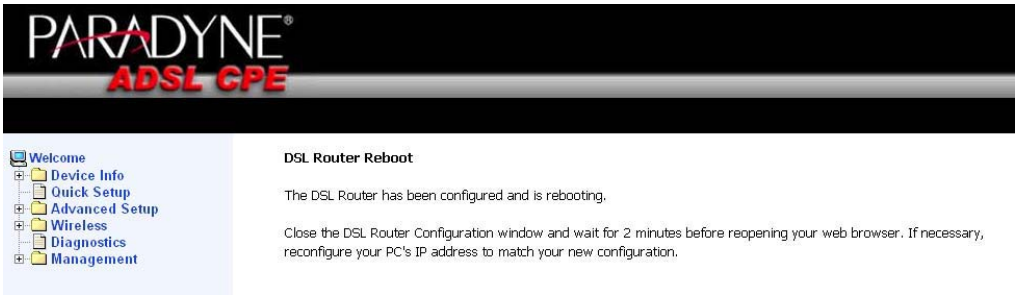
When the settings are complete, the next screen shows a **WAN Setup - Summary** screen displaying the WAN configurations made. Click on **Save** to save the settings.



After the settings are saved, the below screen will follow displaying the WAN settings that you made with the option to **Add** or **Remove** any of the connections that you have made. When satisfied with the settings click on the **Finish** button.

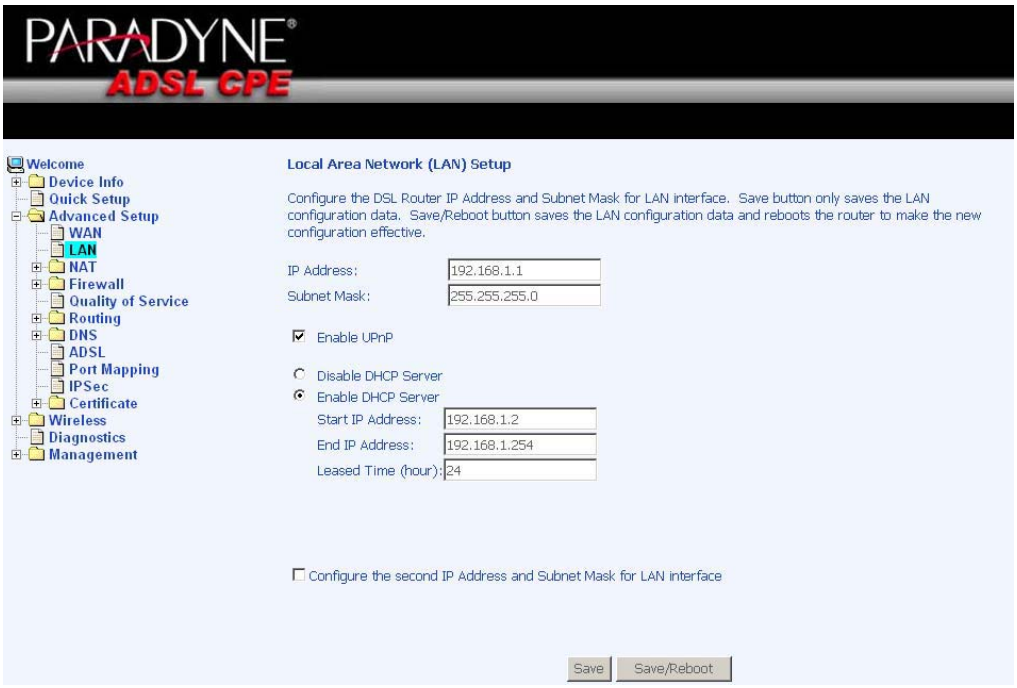


After selecting the **Finish** button, the below screen will appear. At this point, the router will reboot to save the changes made.



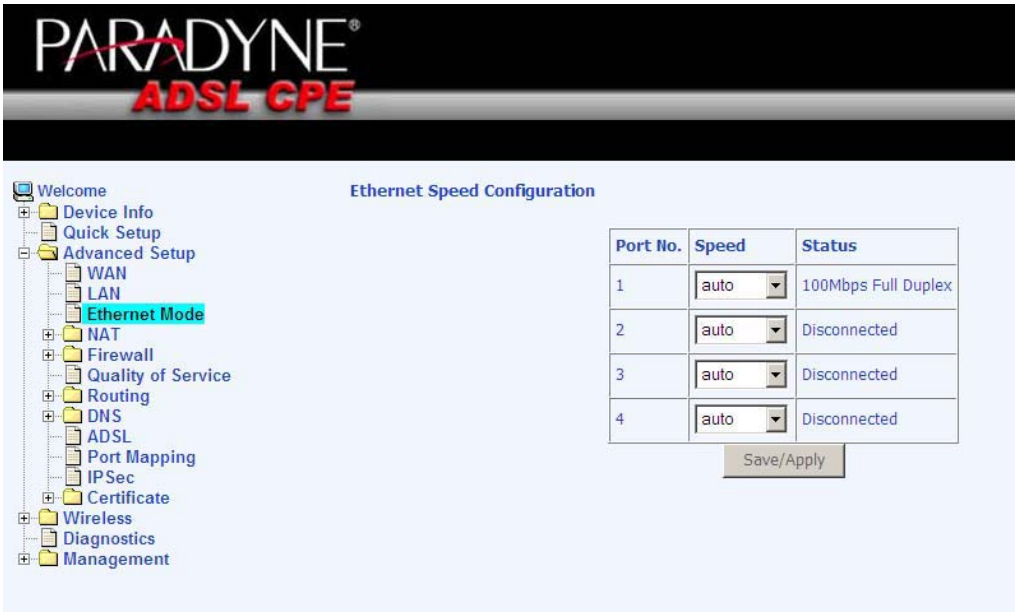
LAN Local Area Network (LAN) Setup

You can configure the DSL Router IP address and Subnet Mask for the LAN interface to correspond to your LAN's IP Subnet. If you want the DHCP server to automatically assign IP addresses, then enable the DHCP server and enter the range of IP addresses that the DHCP server can assign to your computers. Disable the DHCP server if you would like to manually assign IP addresses. Click on **Next** to continue. The **Save** button only saves the LAN configuration data, but does not apply the configurations. Select the **Save/Reboot** button to save the LAN configuration data and reboot the router and apply the new configurations.



Ethernet Mode

Ethernet mode allows you to select the speed of your Ethernet connection. Modes include—auto, 100 full, 100 half, 10 full and 10 half. If you select "auto" then the router will use the common mode that all the connected interfaces can operate at.

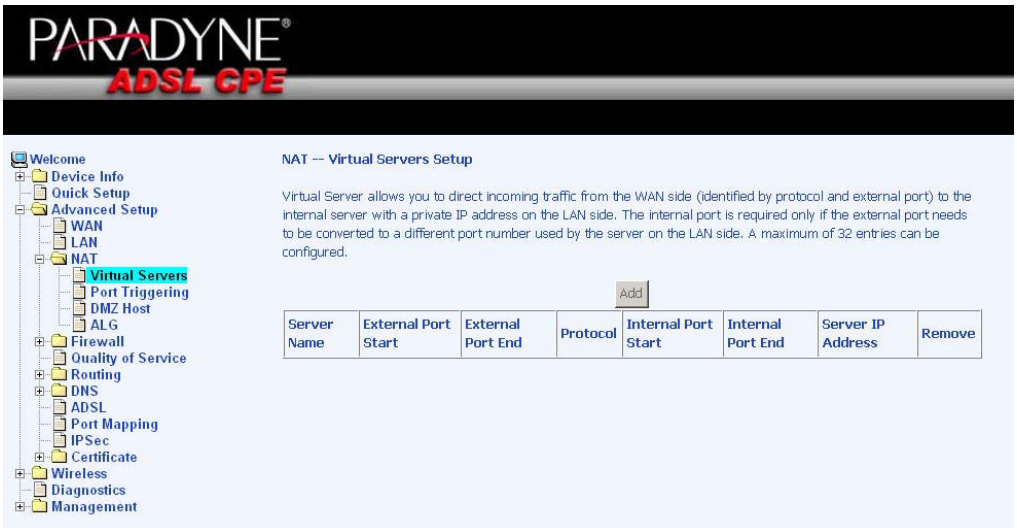


NAT

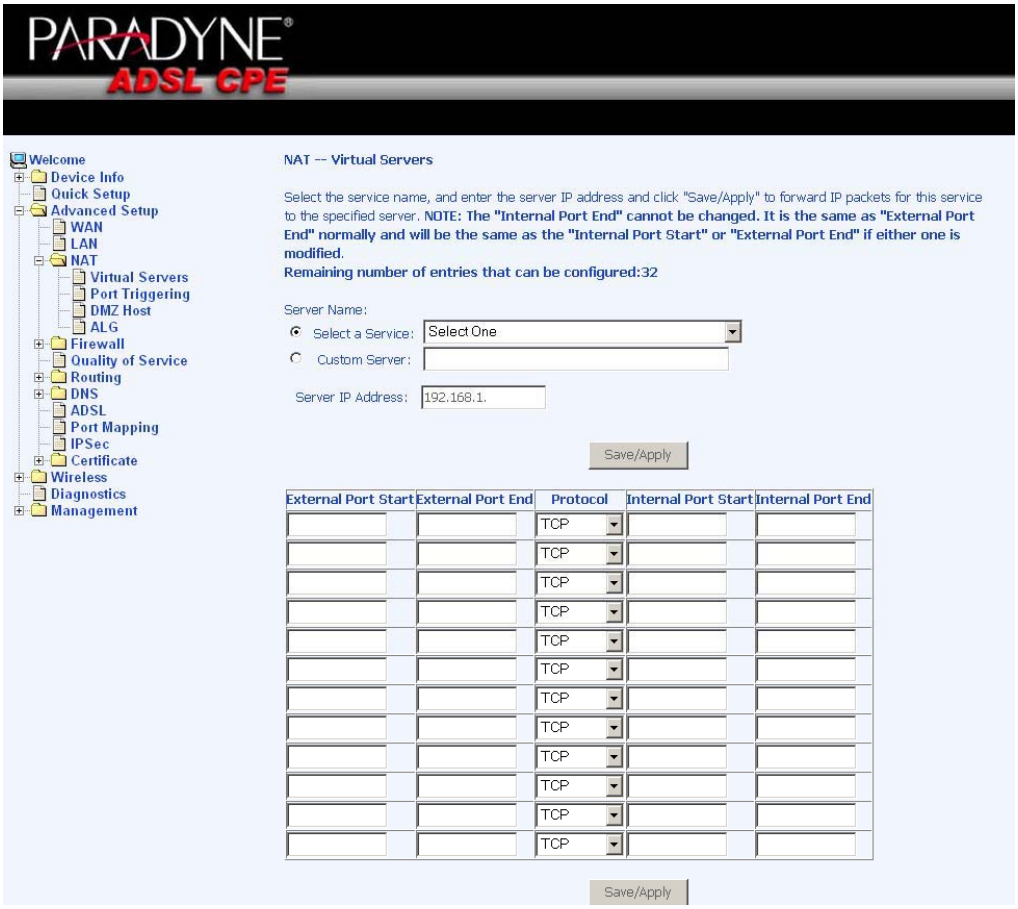
If you enable NAT (Network Address Translation), you can configure the Virtual Server, Port Triggering, and DMZ Host.

Virtual Servers

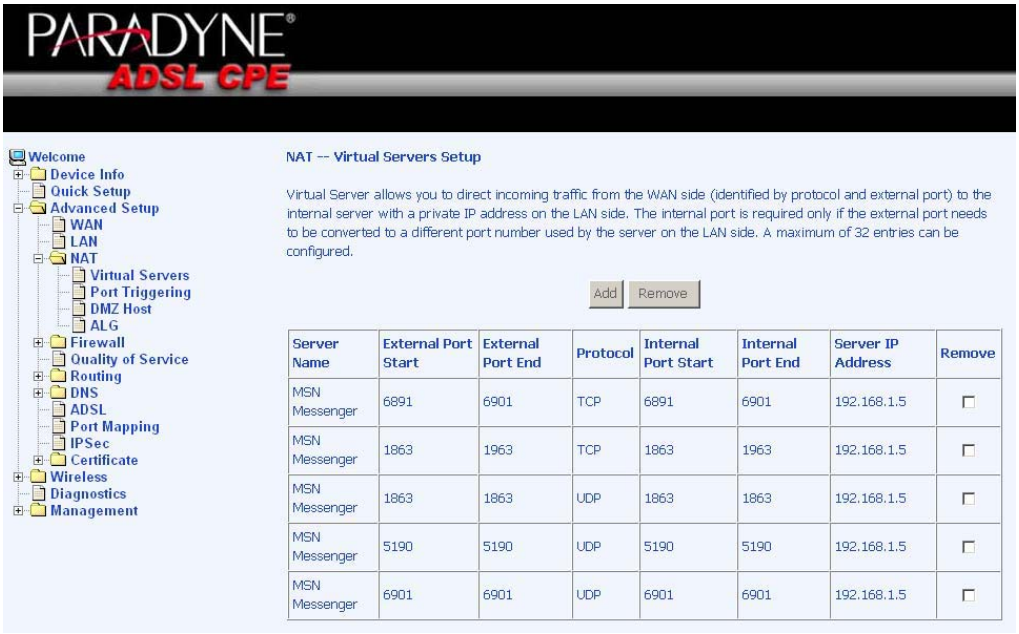
A virtual server allows you to direct incoming traffic from the WAN side to a specific IP address on the LAN side. The following figure shows the screen that allows you to configure your virtual server(s). Click on the **Add** button to configure a virtual server.



Select the virtual server from the drop-down list and complete the server IP address, then click on the **Save / Apply** button.

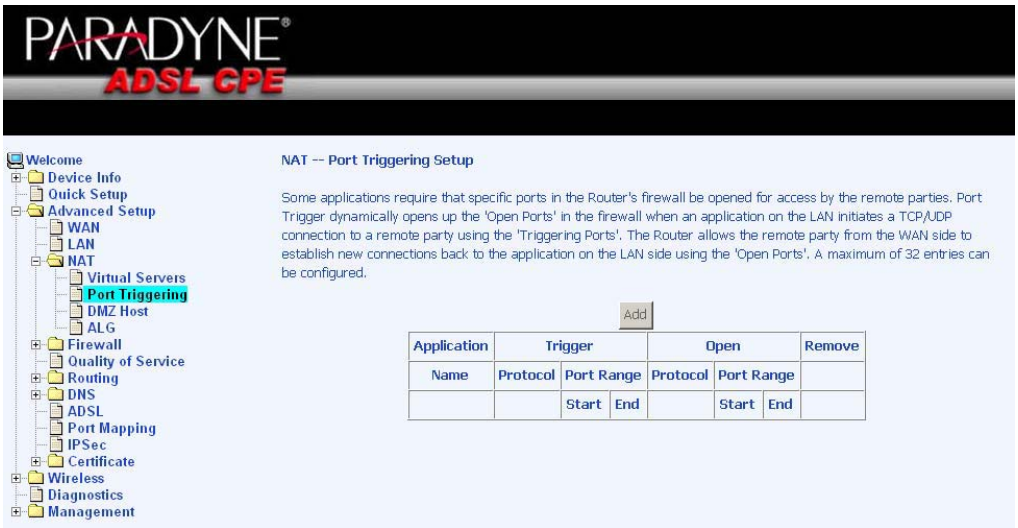


The following screen appears after you save your selection. To add additional virtual servers, click on the **Add** button. If you need to remove any of the server names, select the check box and click on the **Remove** button.

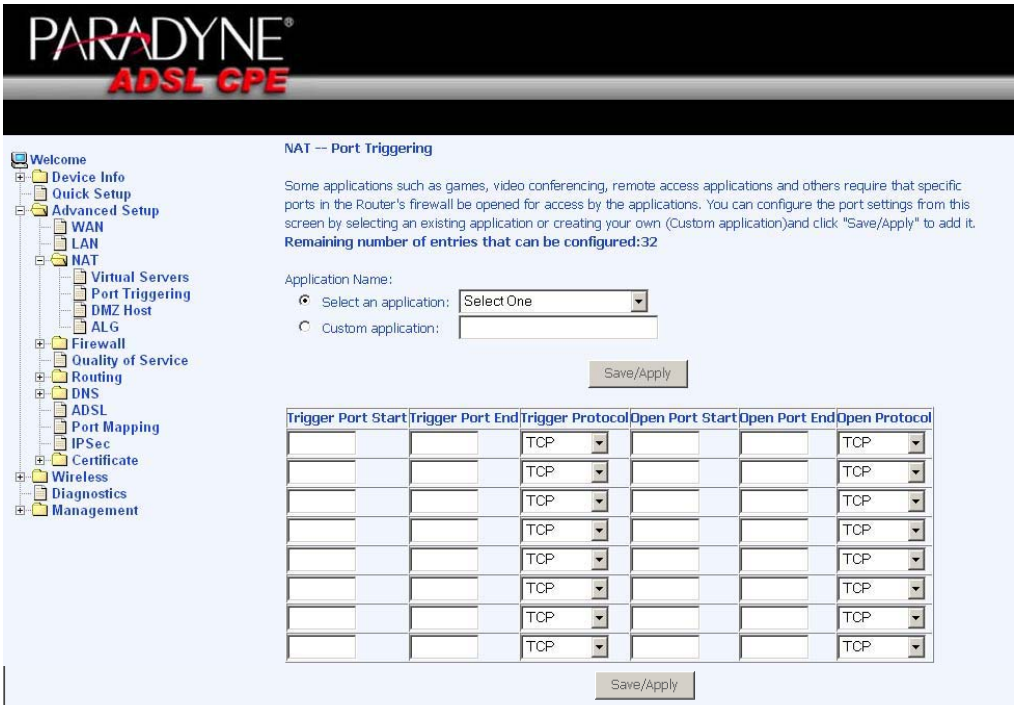


Port Triggering

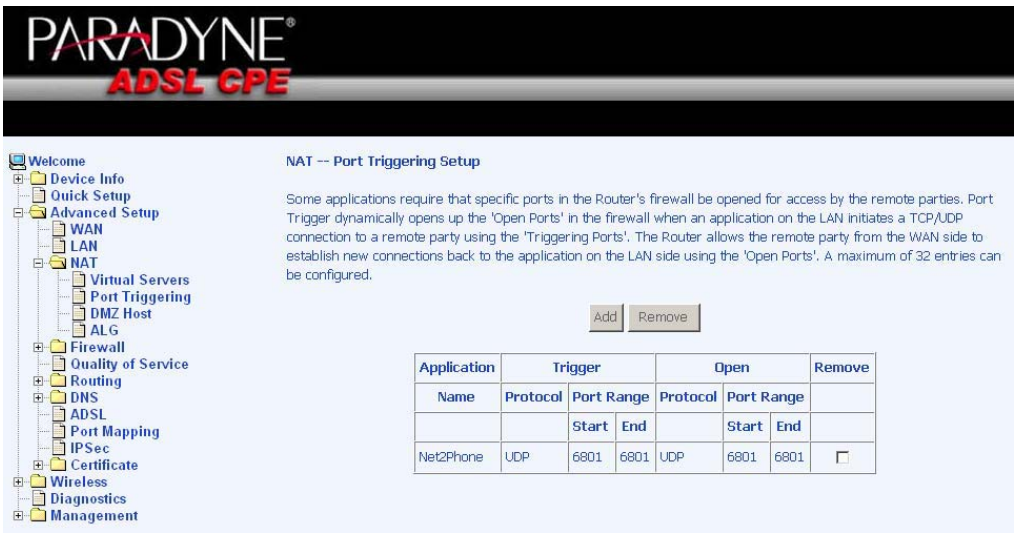
Click on the **Add** button to add Port Triggering to your Internet application.



The below screen appears when you click on **Add** allowing you to select the application that you want to set the port settings for. After a selection has been made, click on the **Save / Apply** button.

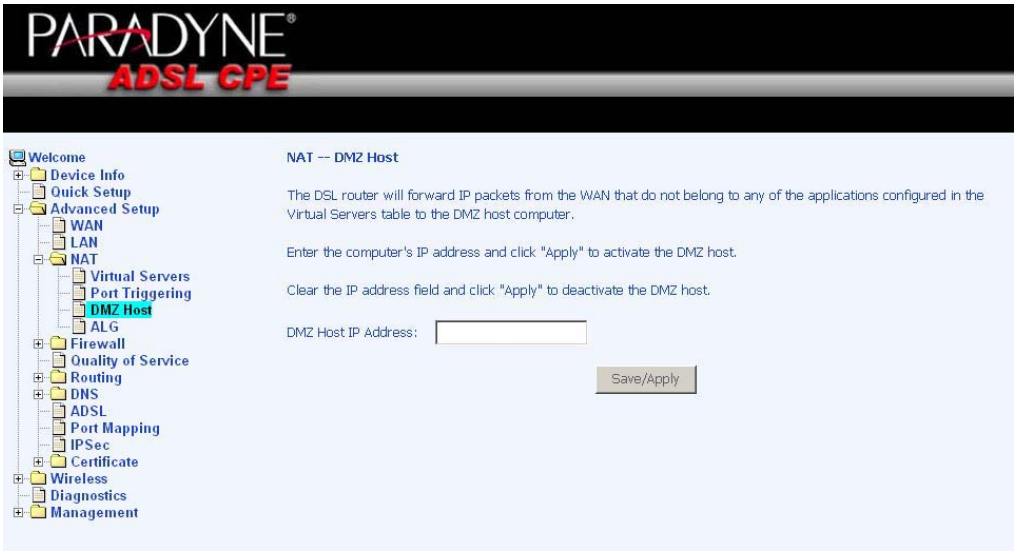


The below screen appears after you save your selections. You will be able to add or remove selections made by clicking on the **Add** and **Remove** buttons.



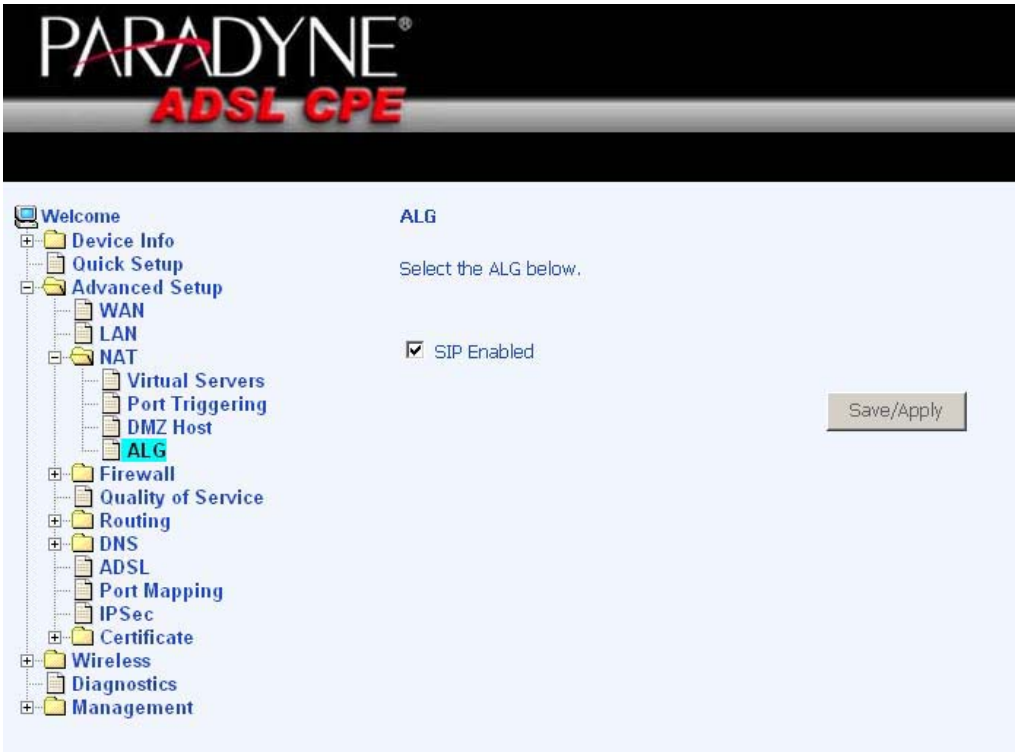
DMZ Host

You can define the IP address of the DMZ Host on this screen. Enter the IP address and click on **Save / Apply**.



ALG

ALG, Application Layer Gateway can be used to allow firewall traversal with SIP. To enable voice packets to successfully pass through firewalls and NATs, click on the *SIP enabled* checkbox.

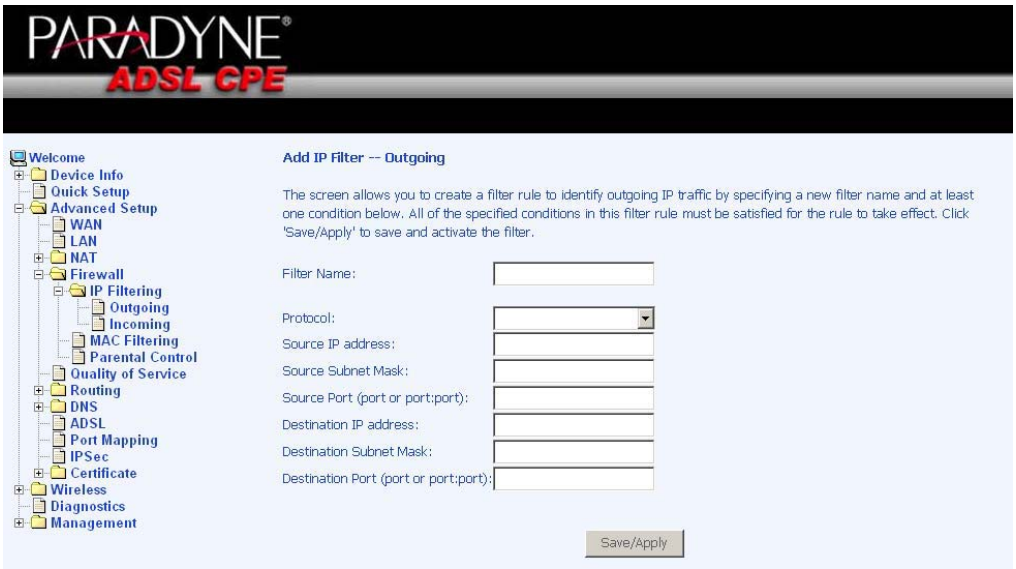


Firewall

IP Filtering—Outgoing

The outgoing filter will block the LAN traffic from entering the WAN side. Click on the **Add** button to create filters.

The below screen will appear when you click on **Add**. Input the filter name, source information (from the LAN side), and destination information (from the WAN side). Then click on **Save / Apply**.



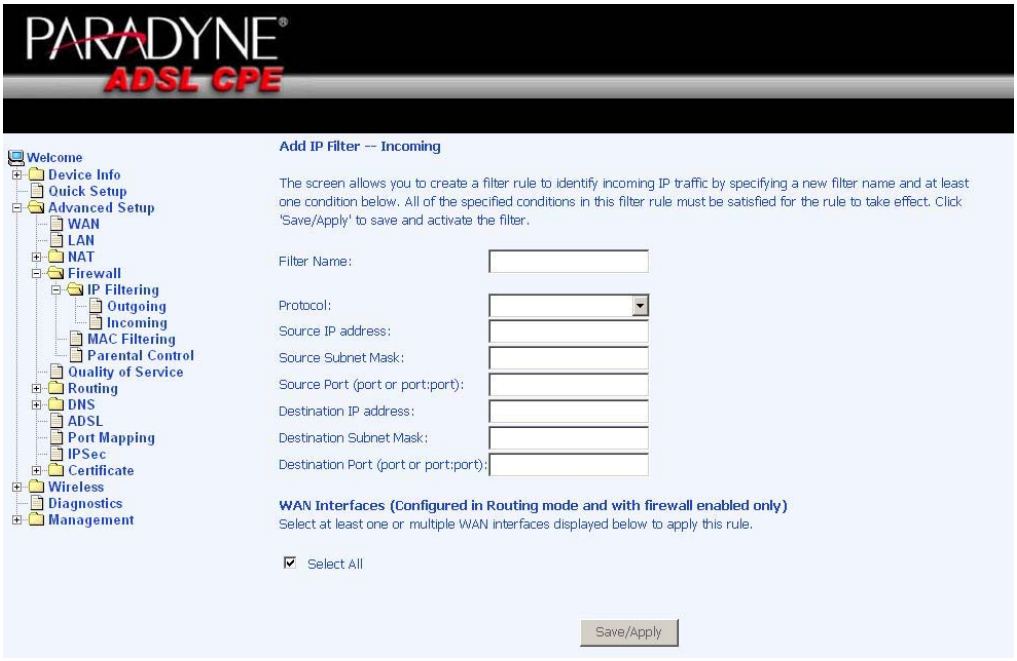
The following screen appears when you **Save / Apply** the IP filter. The screen lists the IP filters that were added from the previous screen. To change your settings, click on the **Add** or **Remove** buttons. The Remove button appears only when you have an existing IP filter already set up.

IP Filtering—Incoming

Incoming IP filter filters the WAN traffic to the LAN side. Click on the **Add** button to add incoming filter settings.

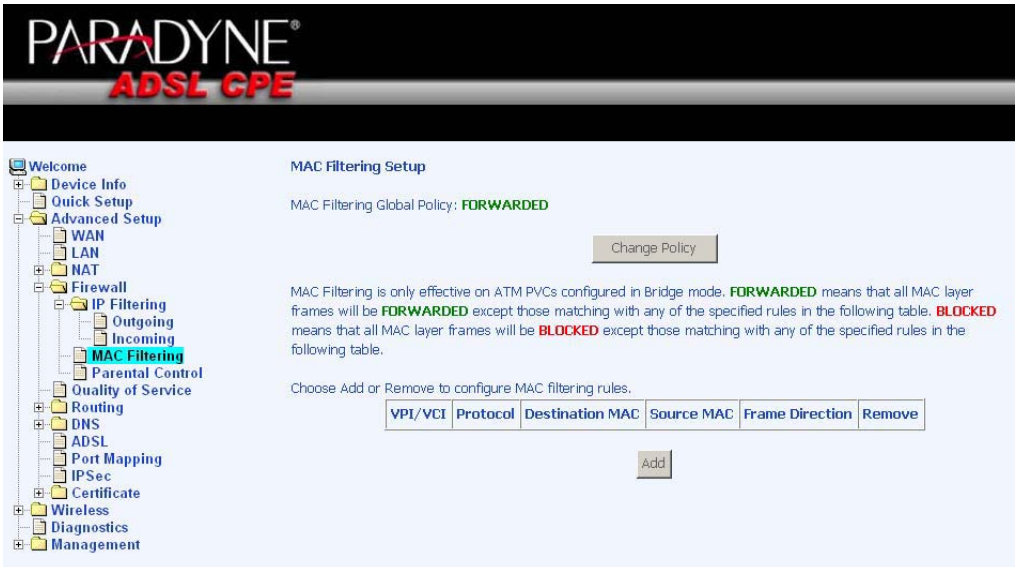
Enter a filter name, information about the source address (from the WAN side), and information about the destination address (to the LAN side). Select the protocol and WAN interface, then click on **Save/Apply** to add the setting.

You can view and delete the incoming filter settings from this screen.



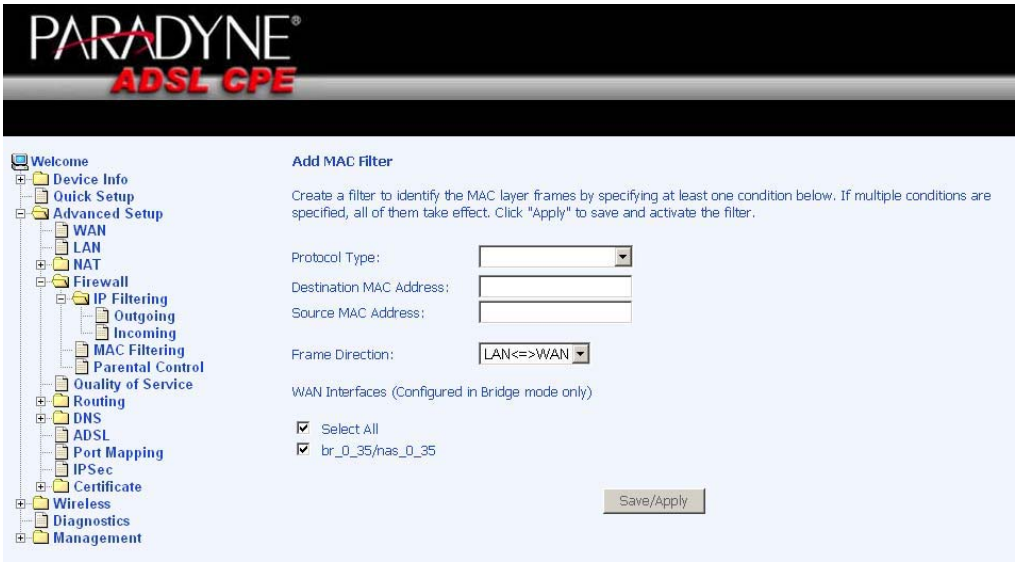
MAC Filtering

MAC filtering can forward or block traffic by MAC address. You can change the policy or add settings to the MAC filtering table using the MAC Filtering Setup screen.



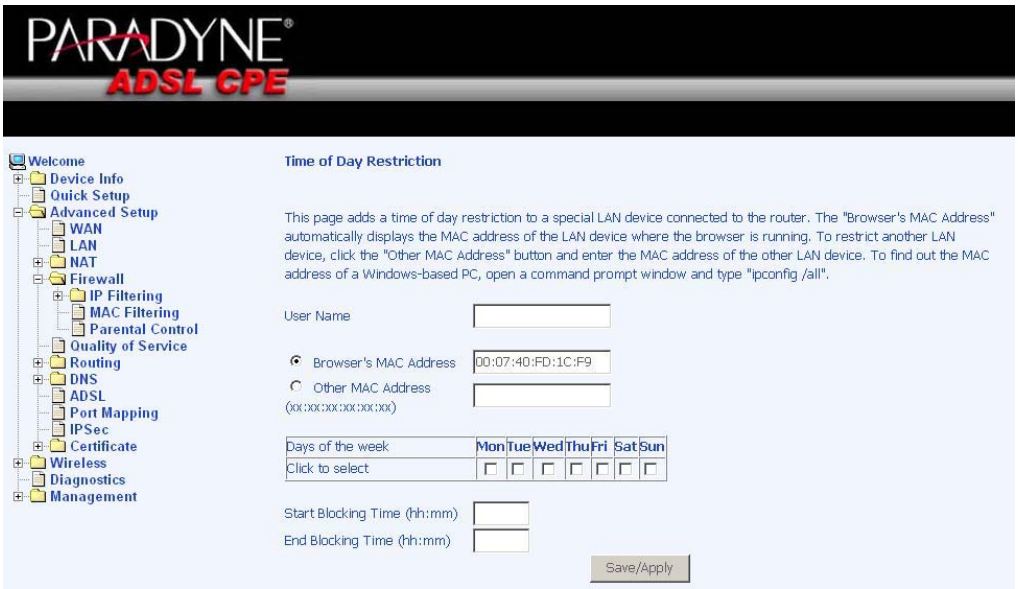
If you click on **Change Policy**, a confirmation dialog allows you to verify your change.

If you want to add a setting to the MAC filtering table, enter the Source and Destination MAC address, and select protocol type, frame direction, and WAN interface. Then click on **Save / Apply** to save it.



After you save the settings, a screen showing the settings will appear. On this screen you will be able to view and delete MAC filtering rules.

Parental Control

In a home setting, parents can also restrict the day of the week certain computers can access the router. Click on **Add** to set up the restrictions.

After you click you **Add**, you will see the below screen. You will be able to enter the MAC address of the PC that you wish to place on a time of day restriction. Click on **Save / Apply** to save the settings and to continue.