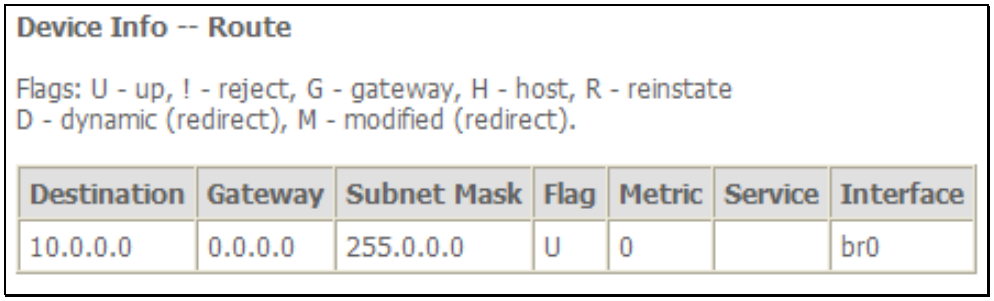
Route

To access the **Device Info – Route** window, click the **Route** button in the **Device Info** directory.

This read-only window displays routing info.



ARP

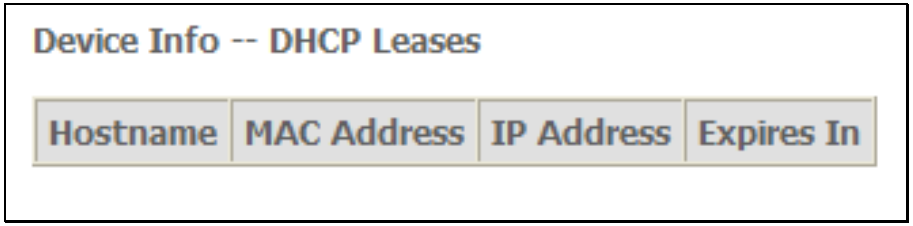
To access the **Device Info – ARP** window, click the **ARP** button in the **Device Info** directory.

This read-only window displays Address Resolution Protocol info.

DHCP

To access the **Device Info – DHCP Leases** window, click the **DHCP** button in the **Device Info** directory.

This read-only window displays DHCP lease info.



Advanced Setup

This chapter include the more advanced features used for network management and security as well as administrative tools to manage the Router, view status and other information used to examine performance and for troubleshooting.

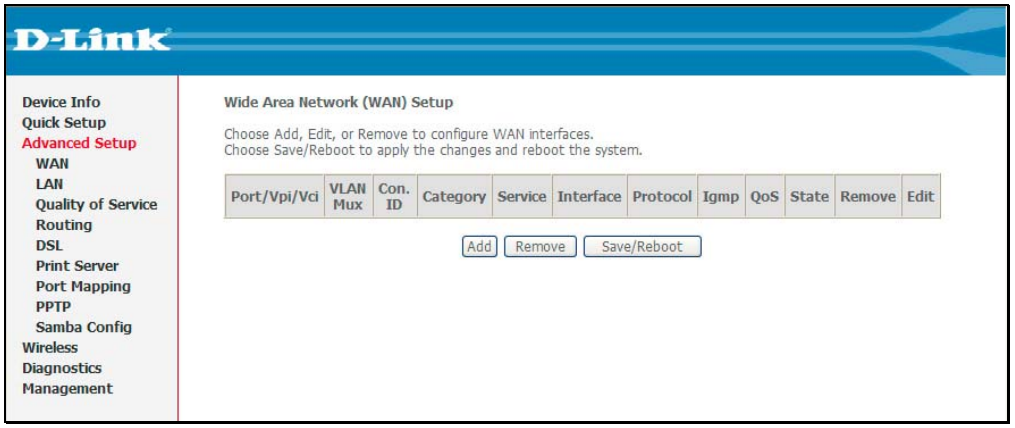
WAN

To access the **Wide Area Network (WAN) Setup** window, click the **WAN** button in the **Advanced Setup** directory.

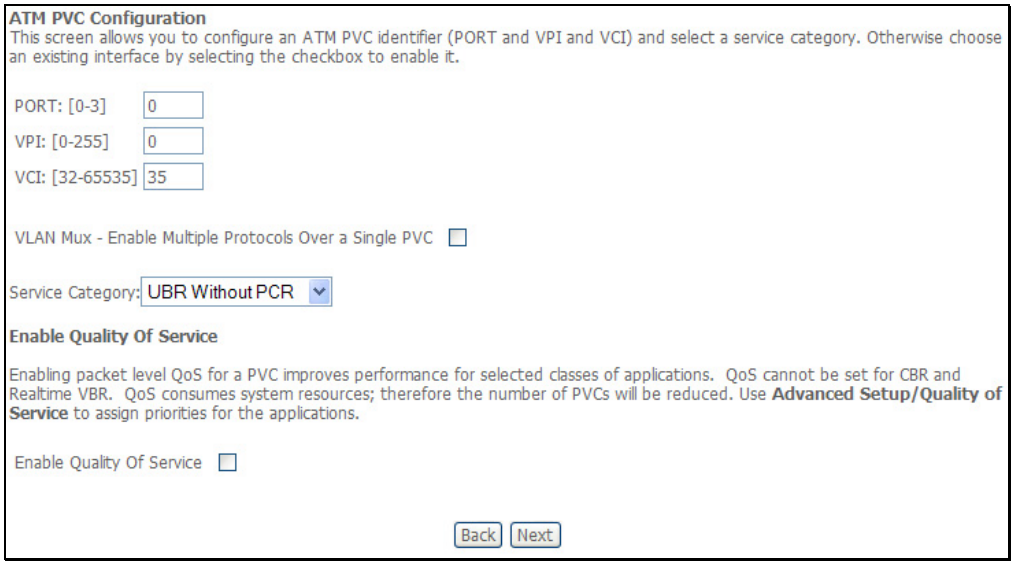
This window is used to configure the WAN interface. You can add, delete, and modify WAN interfaces on this window.

Once the desired changes to the WAN interface are complete, click the **Save/Reboot** button.

If you are setting up the WAN interface for the first time, click the **Add** button.



The **ATM PVC** Configuration window allows you to set up ATM PVC configuration. Enter a Port Identifier, Virtual Path Identifier, and Virtual Channel Identifier. The VPI and VCI values should be provided by your ISP. This window also allows you to enable QoS by ticking the Enable Quality of Service check box. Click the **Next** button to continue.



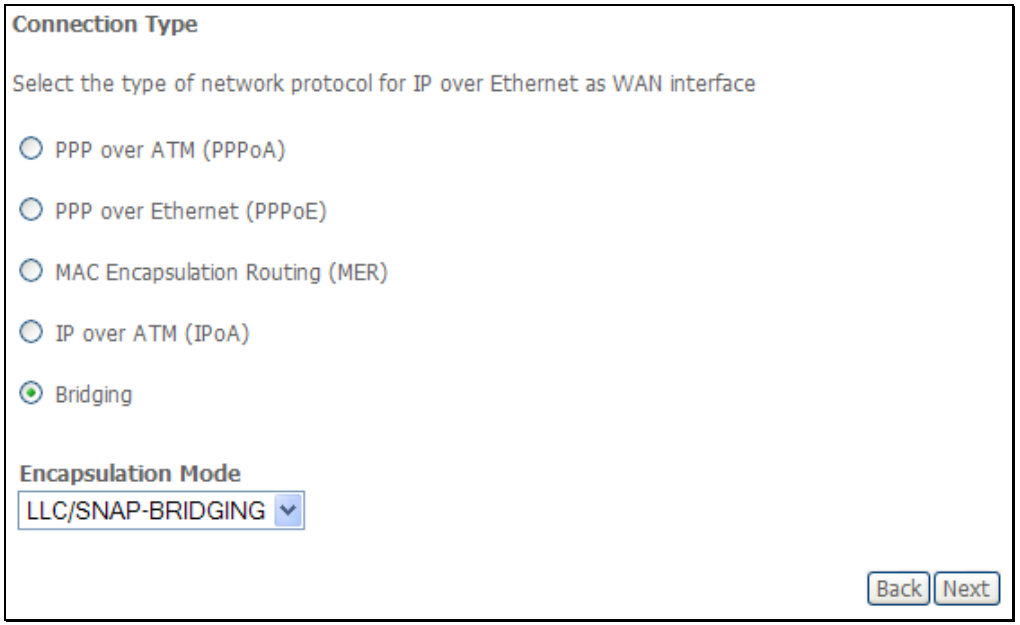
This window allows you to select the appropriate connection type. The choices include PPP over ATM (PPPoA), PPP over Ethernet (PPPoE), MAC Encapsulation Routing (MER), IP over ATM (IPoA), and Bridging (default).

This window also allows you to use the drop-down menu to select the desired Encapsulation Mode. Click the **Next** button to continue.

For further information about each of the five connection types available on the Router, please go to the Quick Setup section earlier in this manual as all of the windows are identical.

If the connection type of WAN interface is in Bridging, **Security IP Filtering** with the **MAC Filtering** and **Parental Control** sub-menus will appear in the **Advanced Setup** directory.

If the connection type of WAN Interface is not in Bridging, **NAT** and **Security** with **IP Filtering** and **Parental Control** will appear in the **Advanced Setup** directory.

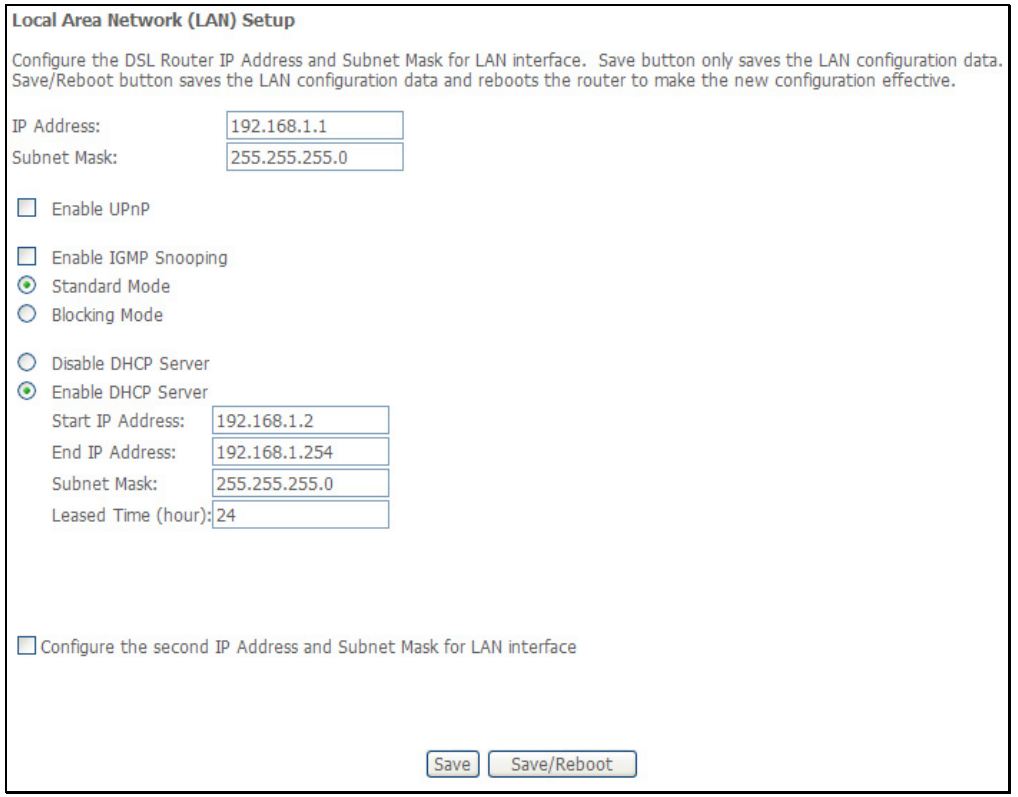


LAN

You can configure the LAN IP address to suit your preference. Many users will find it convenient to use the default settings together with DHCP service to manage the IP settings for their private network. The IP address of the Router is the base address used for DHCP. In order to use the Router for DHCP on your LAN, the IP address pool used for DHCP must be compatible with the IP address of the Router. The IP addresses available in the DHCP IP address pool will change automatically if you change the IP address of the Router.

To access the **Local Area Network (LAN) Setup** window, click the **LAN** button in the **Advanced Setup** directory.

This window allows you to set up a LAN interface. When you are finished, click either the **Save** or **Save/Reboot** button.



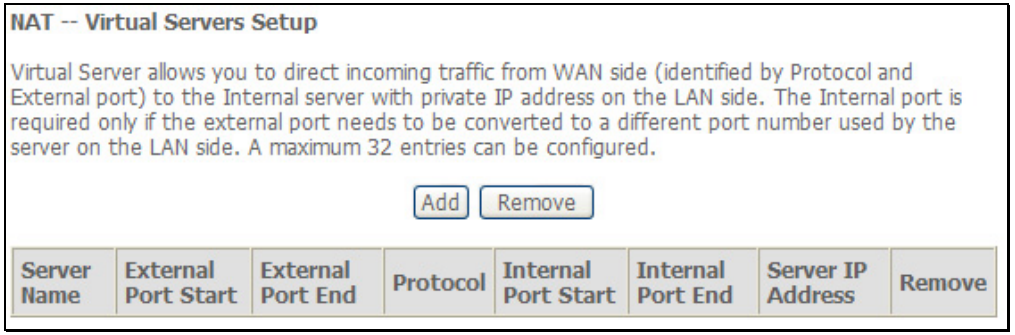
NAT

To access the **Network Address Translation (NAT) Setup** window, click the **NAT** button in the **Advanced Setup** directory. The **NAT** button appears when configuring WAN interface in PPPoA, PPPoE, MER or IPoA.

Virtual Servers

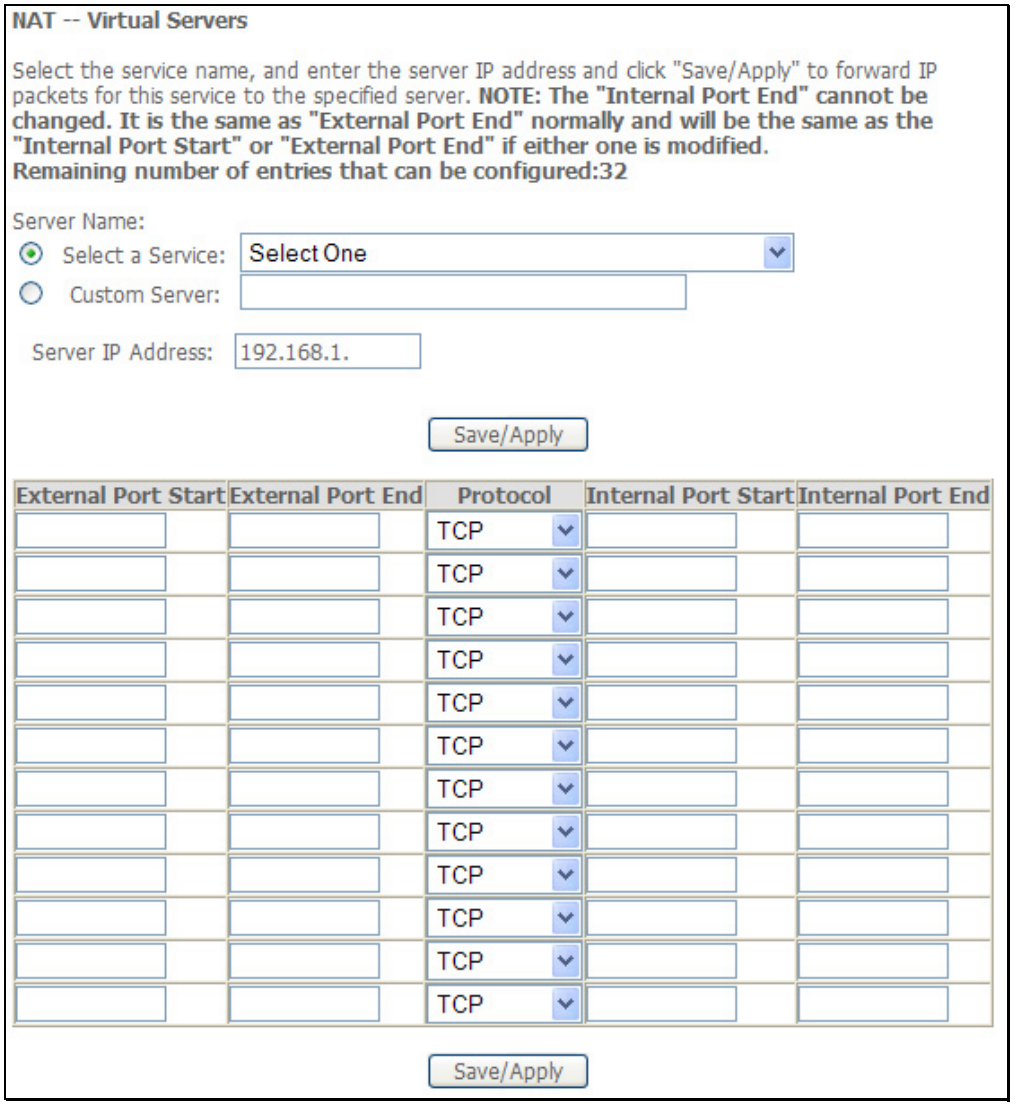
This window is used to configure virtual server. You can add, delete, and modify virtual server on this window.

If you are setting up the virtual server, click the **Add** button.



You can configure the service settings on this window by clicking the **Select a Service** radio button and then using the drop-down list to choose an existing service, or by clicking the **Custom Server** radio button and entering your own Application Rule in the field provided.

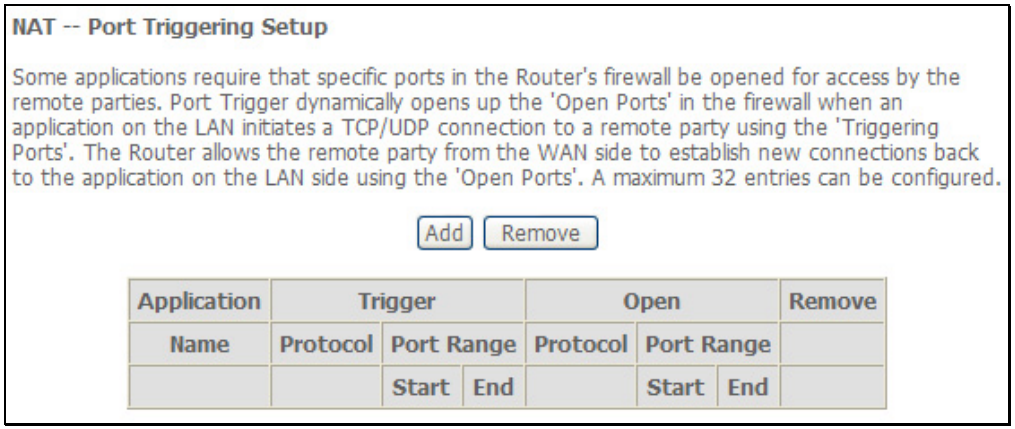
Click **Save/Apply** when you are finished with the virtual server configuration.



Port Triggering

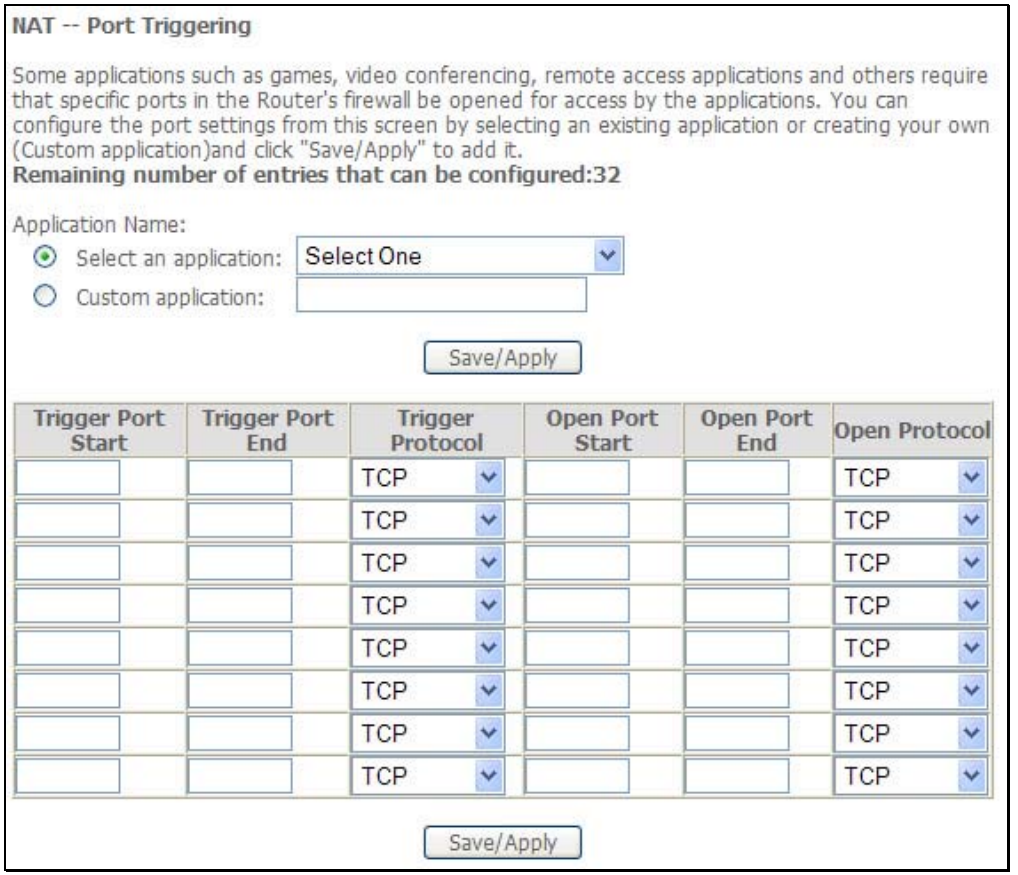
Some applications require that the remote parties open specific ports in the Router's firewall for access. Port Trigger dynamically opens the Open Ports in the firewall when an application on the LAN initiates a TCP/UDP connection to a remote party using Trigger Ports. The Router allows the remote party form the WAN side to establish new connections back to the application on the LAN side using the Open Ports.
Applications such as games, video conferencing, and other remote access applications require that specific ports in the Router's firewall be opened for access by applications.

Click the **Add** button to configure port triggering.



You can configure the port settings on this window by clicking the **Select an application** radio button and then using the drop-down list to choose an existing application, or by clicking the **Custom application** radio button and entering your own Application Rule in the field provided.

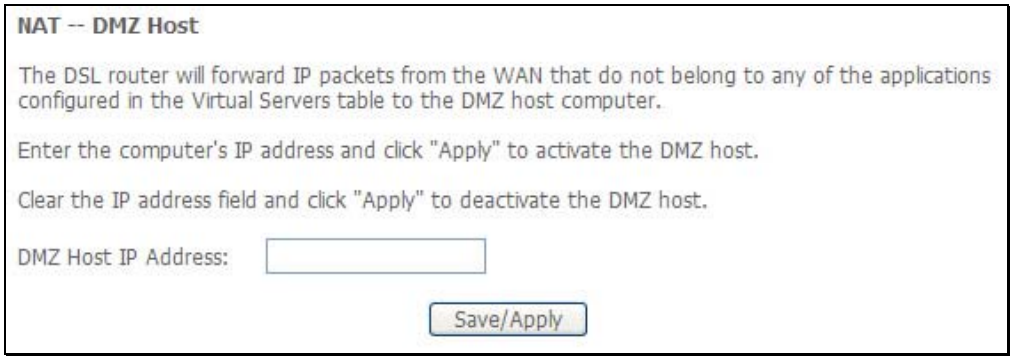
Click **Save/Apply** when you are finished with the port setting configuration. The new Application Rule will appear in the Port Triggering table.



DMZ Host

Since some applications are not compatible with NAT, the Router supports use of a DMZ IP address for a single host on the LAN. This IP address is not protected by NAT and will therefore be visible to agents on the Internet with the right type of software. Keep in mind that any client PC in the DMZ will be exposed to various types of security risks. If you use the DMZ, take measures (such as client-based virus protection) to protect the remaining client PCs on your LAN from possible contamination through the DMZ.

To designate a DMZ IP address, type in the IP Address of the server or device on your LAN, and click the **Save/Apply** button.



Security

To access the **Security** window, click the **Security** button in the **Advanced Setup** directory. The **Security** button appears after configuring WAN interface.

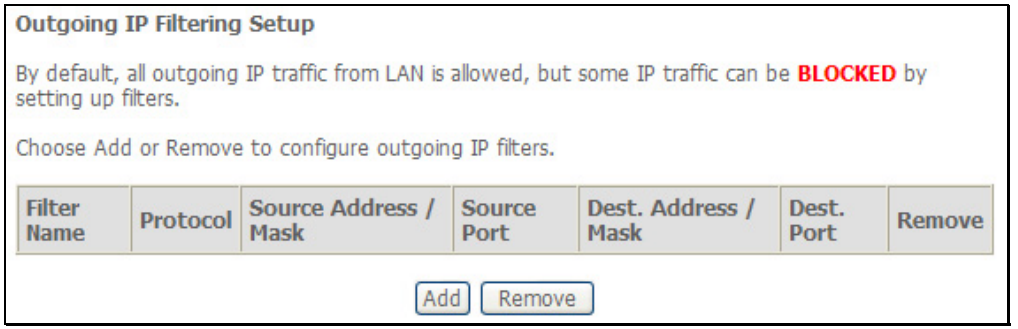
IP Filtering

The **IP Filtering** button appears when configuring WAN interface in PPPoA, PPPoE, MER or IPoA.

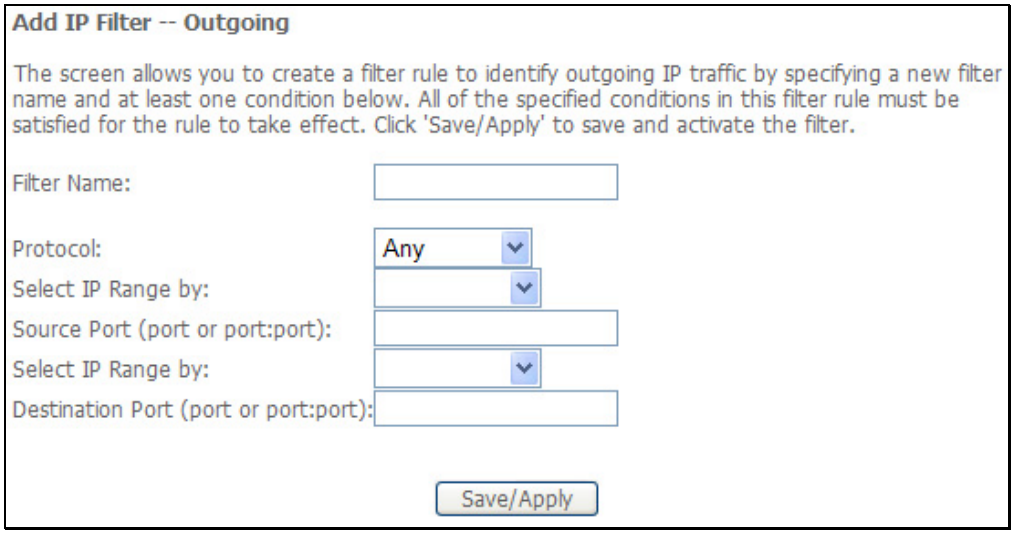
IP Filtering - Outgoing

This window allows you to create a filter rule to block outgoing IP traffic by specifying a filter name and at least one condition on this window. All of the specified conditions in this filter rule must be satisfied for the rule to take effect. Filters are used to allow or deny LAN or WAN users from accessing the Internet or your internal network.

If you are setting up the outgoing IP filtering, click the **Add** button.



Enter the information in the section. Explanations of parameters are described below. Click the **Save/Apply** button to add the entry in the Active Outbound IP Filtering table.



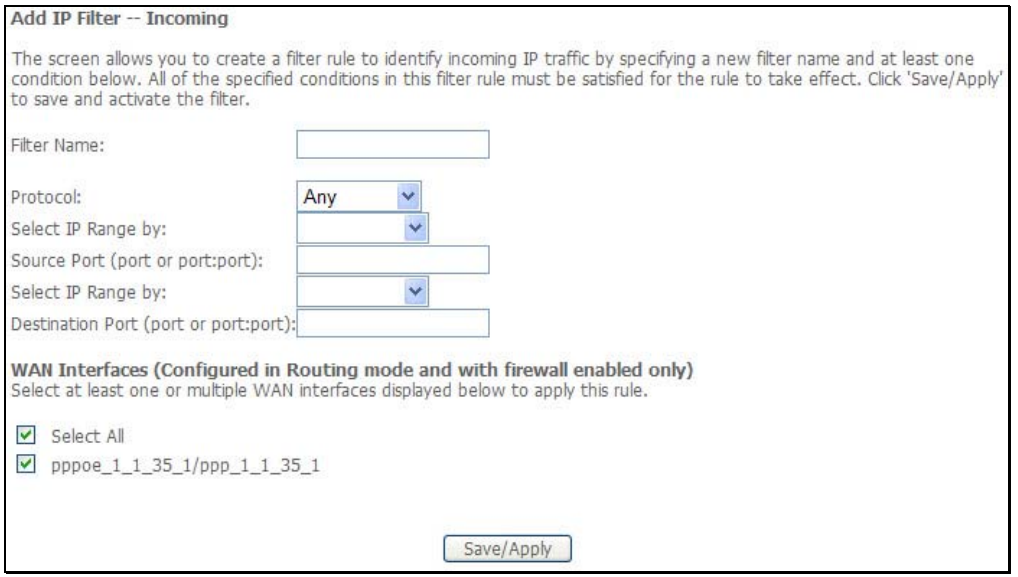
Filters Parameter	Description	
Filter Name	Enter a name for the new filter.	
Protocol	Select the transport protocol (Any, TCP/UDP, TCP, UDP or ICMP) that will be used for the filter rule.	
Select IP Range by	Select either **IP address** or **Netmask** to show different items.	
	Source IP Address	Enter the start and end IP address for the range of IP addresses which you are creating the filter rule.
	Source IP Address & Source Subnet Mask	This is the IP address and their associated subnets for which you are creating the filter rule.
Source Port	The Source Port is the TCP/UDP port on either the LAN or WAN depending on if you are configuring an Outbound or Inbound Filter rule.	
Destination Port	The Destination Port is the TCP/UDP port on either the LAN or WAN depending on if you are configuring an Outbound or Inbound Filter rule.	

IP Filtering – Incoming

The Inbound Filter allows you to create a filter rule to allow incoming IP traffic by specifying a filter name and at least one condition on this window. All of the specified conditions in this filter rule must be satisfied for the rule to take effect. By default, all incoming IP traffic from the Internet is blocked when the firewall is enabled.

If you are setting up the incoming IP filtering, click the **Add** button.

Enter the information in the section. Explanations of parameters are described below. Click the **Save/Apply** button to add the entry in the Active Inbound IP Filtering table.



Filters Parameter	Description	
Filter Name	Enter a name for the new filter.	
Protocol	Select the transport protocol (Any, TCP/UDP, TCP, UDP or ICMP) that will be used for the filter rule.	
Select IP Range by	Select either **IP address** or **Netmask** to show different items.	
	Source IP Address	Enter the start and end IP address for the range of IP addresses which you are creating the filter rule.
	Source IP Address & Source Subnet Mask	This is the IP address and their associated subnets for which you are creating the filter rule.
Source Port	The Source Port is the TCP/UDP port on either the LAN or WAN depending on if you are configuring an Outbound or Inbound Filter rule.	
Destination Port	The Destination Port is the TCP/UDP port on either the LAN or WAN depending on if you are configuring an Outbound or Inbound Filter rule.	

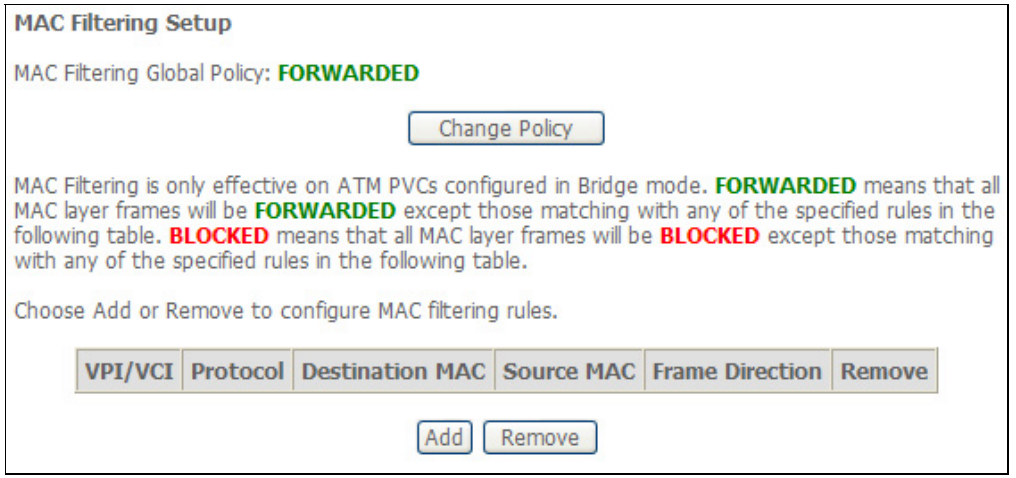
MAC Filtering

The **MAC Filtering** button appears when configuring WAN interface in Bridging.

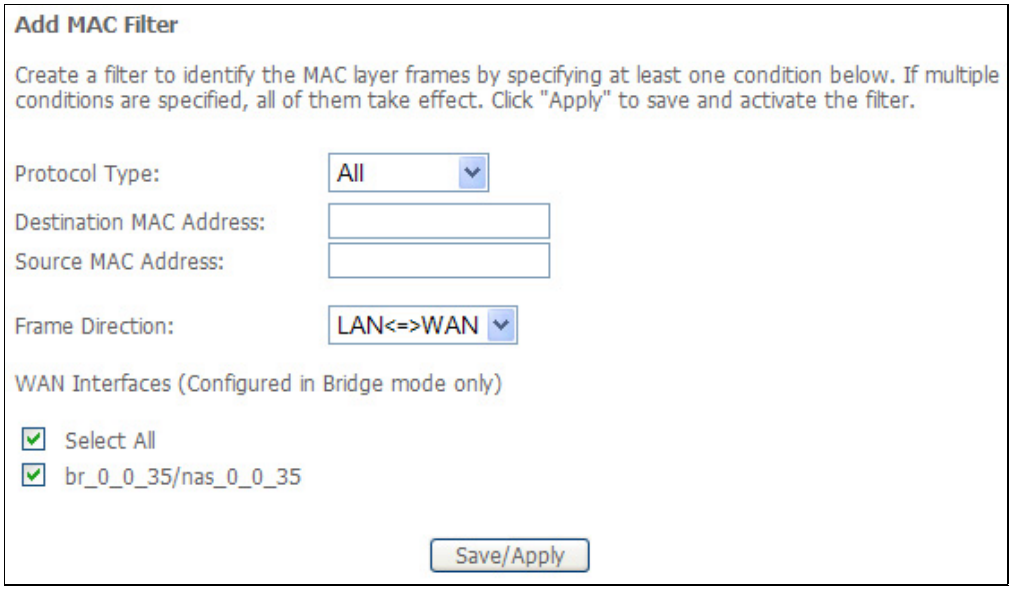
MAC filtering are used to block or allow various types of packets through the WAN/LAN interface. This may be done for security or to improve network efficiency. The rules are configured for individual devices based on MAC address. Filter rules can be set up for source, destination or both. You can set up filter rules and disable the entire set of rules without loosing the rules that have been configured.

Click **Change Policy** to configure the global policy as **Forwarded** or **Blocked**.

If you are setting up the MAC filtering, click the **Add** button.



Select a protocol (All, PPPoE, IPv4, IPv6, Apple Talk, IPX, NetBEUI or IGMP) in the **Protocol Type** list, type in a Destination MAC, a Source MAC or both in the entry fields. Select a direction (LAN=>WAN, WAN=>LAN, or LAN<=>WAN) in the **Frame Direction** list. Click the **Save/Apply** button to add the entry in the Active Bridge Filters table.

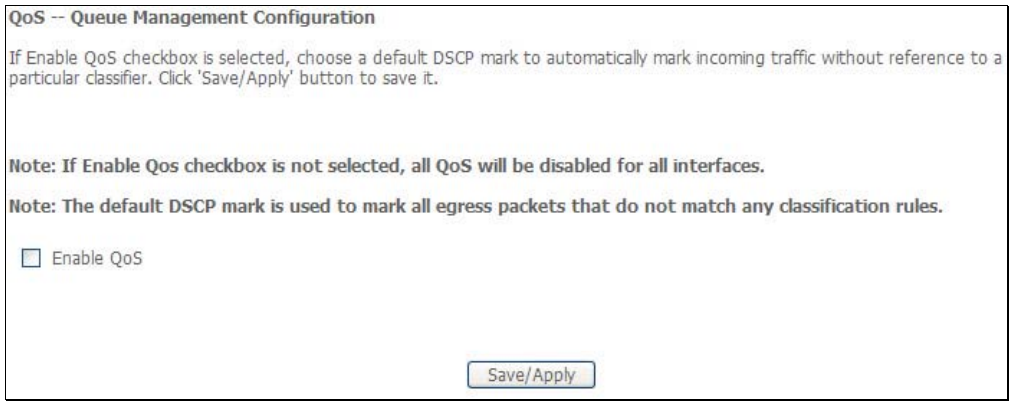


Quality of Service

QoS or Quality of Service allows your Router to help prioritize the data packet flow in your Router and network. This is very important for time sensitive applications such as VoIP where it may help prevent dropped calls. Large amounts of non-critical data can be scaled so as not to affect these prioritized sensitive real-time programs.

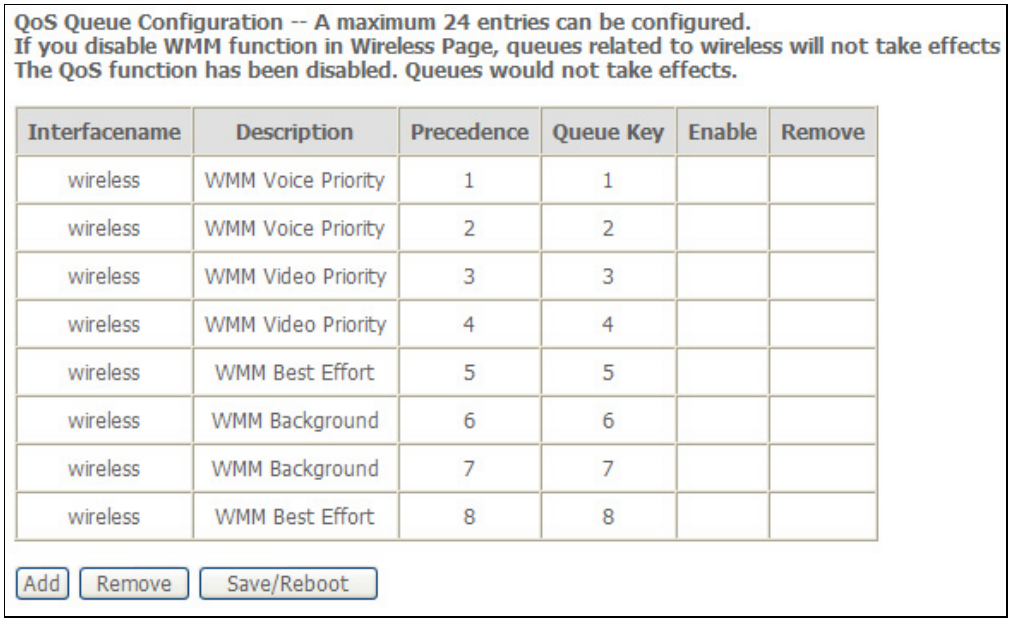
To access the **QoS – Queue Management Configuration** window, click the **Quality of Service** button in the **Advanced Setup** directory.

This window allows you to set up QoS on the Router. When you are finished, click on the **Save/Apply** button.



Queue Config

Click the **Add** button to add a QoS Queue Configuration table entry.



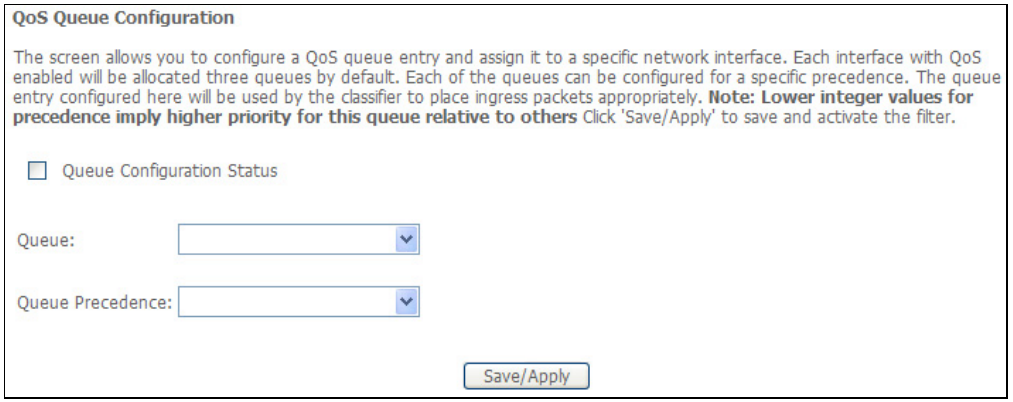
QoS Queue Configuration -- A maximum 24 entries can be configured.
If you disable WMM function in Wireless Page, queues related to wireless will not take effects
The QoS function has been disabled. Queues would not take effects.

Interfacename	Description	Precedence	Queue Key	Enable	Remove
wireless	WMM Voice Priority	1	1		
wireless	WMM Voice Priority	2	2		
wireless	WMM Video Priority	3	3		
wireless	WMM Video Priority	4	4		
wireless	WMM Best Effort	5	5		
wireless	WMM Background	6	6		
wireless	WMM Background	7	7		
wireless	WMM Best Effort	8	8		

Add Remove Save/Reboot

This window allows you to configure a QoS queue entry and assign it a specific network interface.

Click the **Save/Apply** button to save and activate the filter.



QoS Queue Configuration

The screen allows you to configure a QoS queue entry and assign it to a specific network interface. Each interface with QoS enabled will be allocated three queues by default. Each of the queues can be configured for a specific precedence. The queue entry configured here will be used by the classifier to place ingress packets appropriately. **Note: Lower integer values for precedence imply higher priority for this queue relative to others** Click 'Save/Apply' to save and activate the filter.

Queue Configuration Status

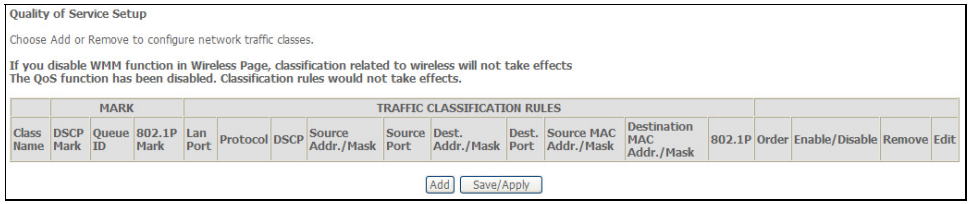
Queue:

Queue Precedence:

Save/Apply

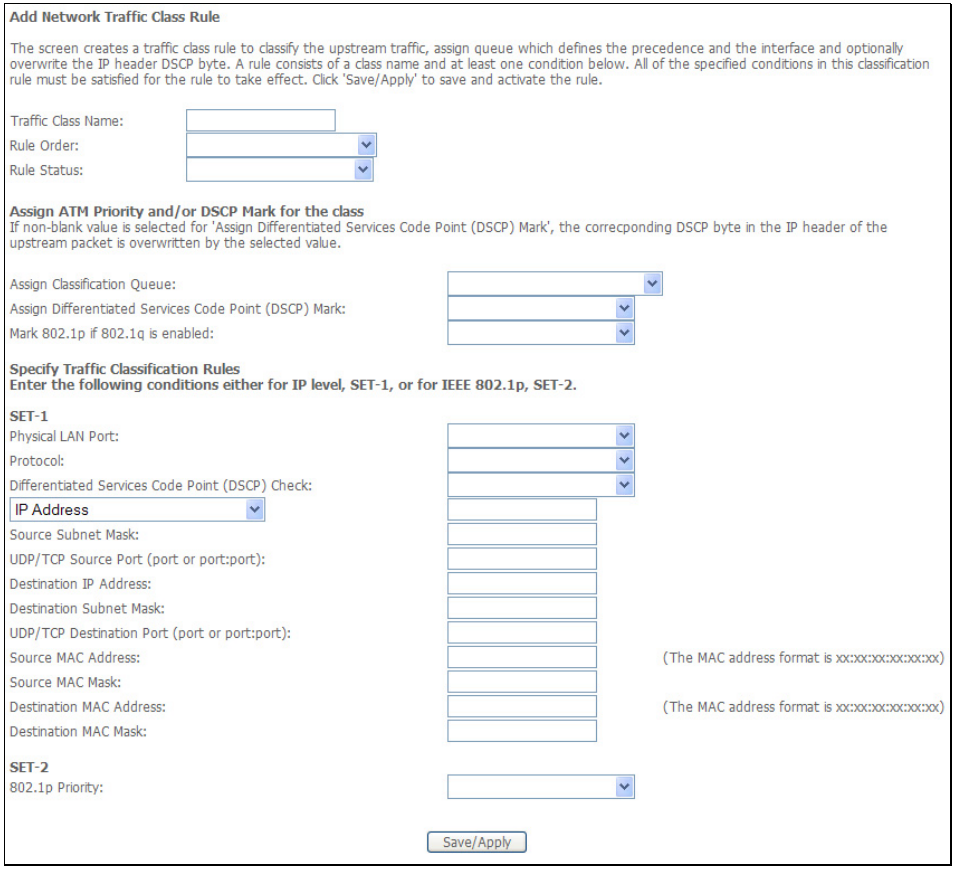
QoS Classification

Choose **Add** or **Remove** to configure network traffic classes.



Use this window to create a traffic class rule to classify the upstream traffic, assign a queue that defines the precedence and the interface, and optionally overwrite the IP header DSCP byte. A rule consists of a class name and at least one condition. Please remember that all of the specified conditions on this window must be met for the rule to take effect.

Click the **Save/Apply** button to save and activate this rule.

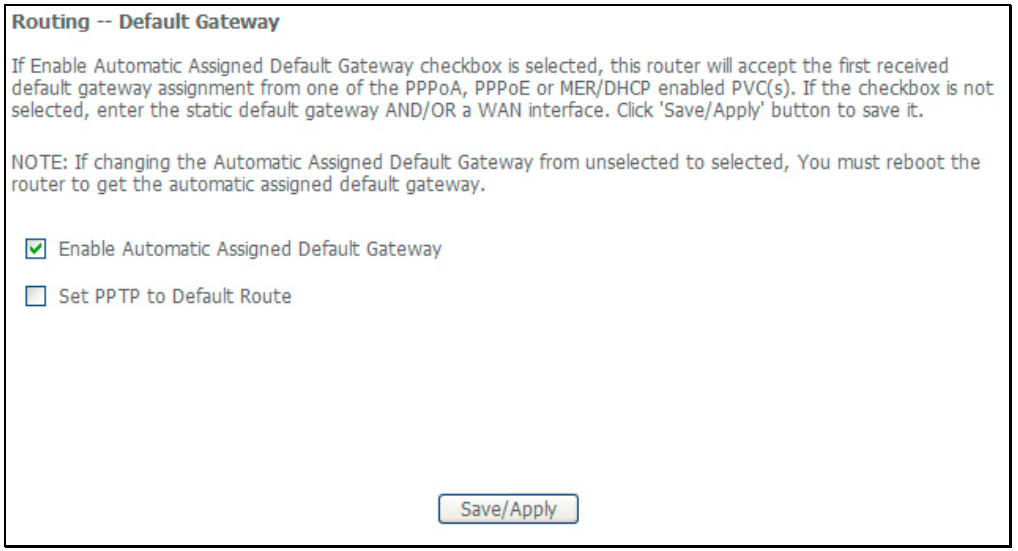


Routing

To access the **Routing** windows, click the **Routing** button in the **Advanced Setup** directory.

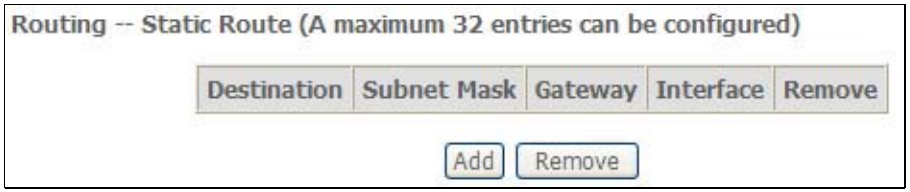
Default Gateway

If the **Enable Automatic Assigned Default Gateway** checkbox is ticked, the Router will accept the first default gateway assignment received from one of the enabled PPPoA, PPPoE, or MER/DHCP enabled PVC(s). If this checkbox is not ticked, enter the static default gateway and/or a WAN interface. Click the **Save/Apply** button when you are finished.



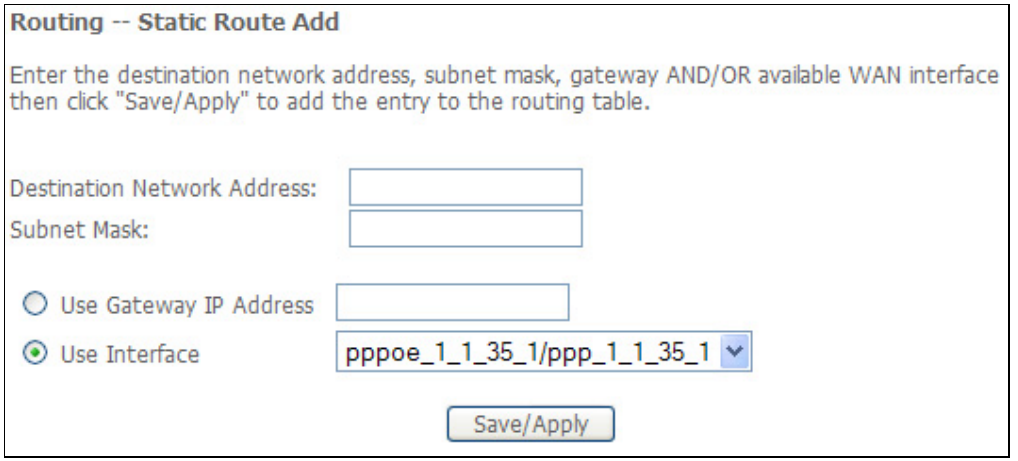
Static Route

Click the **Add** button on the **Routing – Static Route** window to access the following window displayed on the next page.



Enter the static routing information for an entry to the routing table.

Click the **Save/Apply** button when you are finished.



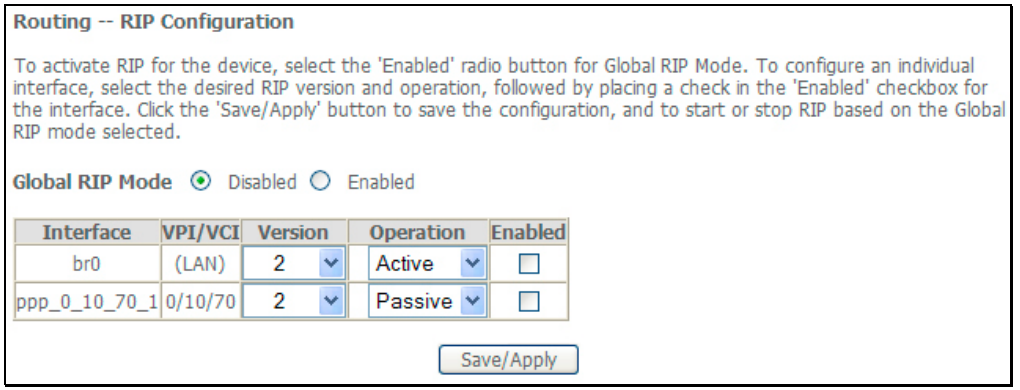
RIP

The **RIP** button appears when configuring WAN interface in **Advanced Setup** -> **WAN** -> **Routing**.

The Router supports both RIP-1 and RIP-2 exchanges with other routers.

Click the **Enabled** radio button in **Global RIP Mode** to active the function.

You can also configure individual interface in the table below.



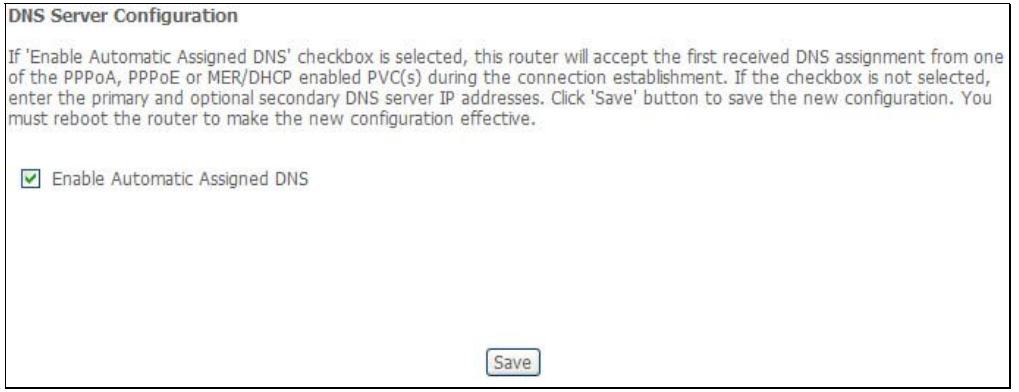
DNS

To access the **DNS** windows, click the **DNS** button in the **Advanced Setup** directory. The **NAT** button appears when configuring WAN interface in PPPoA, PPPoE, MER or IPoA.

DNS Server

If you have not been given specific DNS server IP addresses or if the Router is not pre-configured with DNS server information, tick the **Enable Automatic Assigned DNS** checkbox. Auto discovery DNS instructs the Router to automatically obtain the DNS IP address from the ISP through DHCP. If your WAN connection uses a Static IP address, auto discovery for DNS cannot be used.

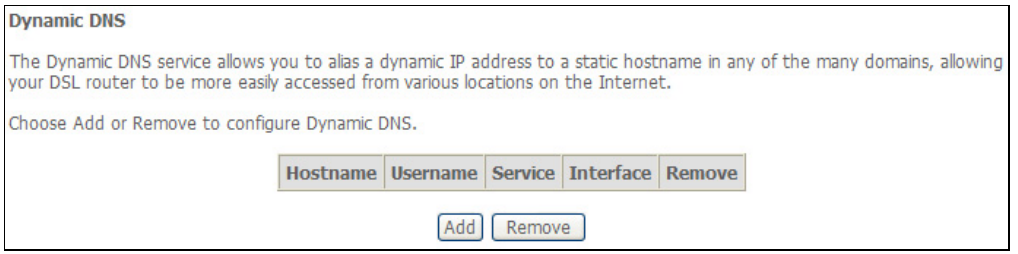
If you have DNS IP addresses provided by your ISP, deselect the **Enable Automatic Assigned DNS** checkbox and enter these IP addresses in the available entry fields for the Primary DNS Server and the Secondary DNS Server. Click the **Save** button when you are finished.



Dynamic DNS

The Router supports Dynamic DNS (Dynamic Domain Name Service). The Dynamic DNS service allows a dynamic public IP address to be associated with a static host name in any of the many domains, allowing access to a specified host from various locations on the Internet. This is enabled to allow remote access to a host by clicking a hyperlinked URL in the form hostname.dyndns.org, Many ISPs assign public IP addresses using DHCP, this can make it difficult to locate a specific host on the LAN using standard DNS. If for example you are running a public web server or VPN server on your LAN, this ensures that the host can be located from the Internet if the public IP address changes. DDNS requires that an account be setup with one of the supported DDNS providers.

Click **Add** to see the Add DDNS Settings section.



Enter the required DDNS information, click the **Save/Apply** button to save the information.

Note

DDNS requires that an account be setup with one of the supported DDNS servers prior to engaging it on the Router. This function will not work without an accepted account with a DDNS server.