

Chapter 2

Connecting the FVS338 to the Internet

This section provides instructions for connecting the VPN firewall. Setting up VPN tunnels are covered in [Chapter 5, “Virtual Private Networking”](#):

1. **Connect the firewall physically to your network.** Connect the cables, turn on your router and wait for the Test LED to go out. Make sure your Ethernet and LAN LEDs are lit. (See the *FVS338 ProSafe VPN Firewall 50 Installation Guide* on your Resource CD.)
2. **Log in to the firewall.** After logging in, you are ready to set up and configure your firewall. You can also change your password and enable remote management at this time.
3. **Configure the Internet connections to your ISPs.** During this phase, you will connect to your ISPs. You can also program the WAN traffic meters at this time if desired.
4. **Configure the WAN mode.** Select either **Primary Broadband with Dialup as backup** or **Use only single WAN port**—and select the WAN port from the pull-down menu—either **Broadband** or **Dial-up**.
5. **Configure dynamic DNS on the WAN ports** (if needed). Configure your fully qualified domain names during this phase (if required).
6. **Configure the WAN options** (if needed). Optionally, you can enable each WAN port to respond to a ping. You can also change the factory default MTU size, port speed, and uplink bandwidth. However, these are advanced features and changing them is not usually required.

Connecting the VPN Firewall to Your Network

To physically connect your VPN firewall, refer to the *IFVS338 ProSafe VPN Firewall 50 Installation Guide* (a copy is also available on your Resource CD).

Logging in to the VPN Firewall



Note: To connect to the firewall, your computer needs to be configured to obtain an IP address automatically via DHCP.

To log in to the VPN firewall:

1. Open a Internet Explorer, Netscape® Navigator, or Firefox browser. In the browser window, enter **http://192.168.1.1** in the address field. The FVS338 login screen will display.



Figure 2-1

2. Enter **admin** for the User Name and **password** for the Password, both in lower case letters. The firewall user name and password are not the same as any user name or password you may use to log in to your Internet connection.
3. Click **Login**. The **Broadband ISP Settings** screen will display.



Note: You might want to enable remote management at this time so that you can log in remotely in the future to manage the firewall. See [“Enabling Remote Management Access” on page 6-9](#) for more information. Remote management enable is cleared with a factory default reset. If you enable remote management, you are strongly advised to change your password (see [“Changing Passwords and Settings” on page 6-7](#)).

Configuring your Internet Connection

You can configure both Broadband ISP Settings and Dialup ISP Settings from the WAN Settings menu.

To configure your Broadband ISP Settings:

1. Select **Network Configuration** from the main menu and **WAN Settings** from the submenu. The **Broadband ISP Settings** screen will display.

Figure 2-2

- Click **Auto Detect** at the bottom of the screen to automatically detect the type of Internet connection provided by your ISP. Auto Detect will probe for different connection methods and suggest one that your ISP will most likely support.

When Auto Detect successfully detects an active Internet service, it reports which connection type it discovered. The options are described in the following table.

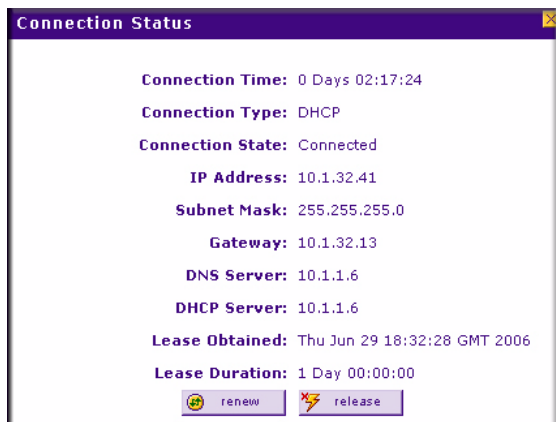
Table 2-1. Internet connection methods

Connection Method	Data Required
PPPoE	Login (Username, Password).
PPTP	Login (Username, Password), Local IP, and PPTP Server IP.
BigPond Cable	Login Username, Password), Account Name, and Server IP.

Table 2-1. Internet connection methods

Connection Method	Data Required
DHCP (Dynamic IP)	No data is required.
Fixed IP	IP address and related data supplied by your ISP.

- Click **Connection Status** at the top right of the screen to verify your Broadband connection status. Click **Connect** if connection not already present.

**Figure 2-3**

If Auto Detect does not find a connection, you will be prompted to check the physical connection between your firewall and the cable or DSL line or to check your Router's MAC address (see [“Setting the Router's MAC Address \(Advanced Options\)”](#) on page 2-7).

- Set up the traffic meter for ISP1 if desired. See [“Programming the Traffic Meter \(if Desired\)”](#) on page 2-12.



Note: At this point in the configuration process, you are now connected to the Internet through the broadband Ethernet WAN. Optionally, you can continue with the configuration of the dialup ISP serial WAN interface.

The Dialup Settings screen will assist you in setting up the router to access the Internet connection using a dialup modem. Since the Dialup ISP Settings must be configured manually, you will need all of your ISP settings information before you begin.

To configure the Dialup ISP serial WAN port:

1. Select **Network Configuration** from the main menu, **WAN Settings** from the submenu and click the **Dialup ISP Settings** tab to display the Dialup settings screen.

Figure 2-4

2. Enter the following **Dialup Account** settings:
 - a. **Account/User name:** Enter the account name or the user name provided by your ISP. This name will be used to log in to the ISP server.
 - b. **Password:** The account password for the dialup ISP
 - c. **Telephone:** The telephone number or access number to dial for connectivity. Type in the number using the format described in your modem's user manual.
 - d. **Alternative Telephone:** An alternative number which will be dialed if the first is not available (optional).

3. Specify the method to use for your **Dial-up Connection Status**. The VPN firewall can automatically dial to the ISP when a connection is needed or can be configured to wait for manual intervention.:
 - a. Check the **Connect automatically disconnect after idle for ____ min.** radios box for the modem to connect automatically. Specify the idle minute amount. The router will connect whenever an outbound connection request is made from a computer on the LAN. The connection will be terminated if there is no data transfer during the specified time interval.
 - b. Check the **Connect and disconnect manually** radio box to disable auto dialing and allow manual control over connecting via dial-up. To connect manually, click the **DIAL-Up Status** link at the top and then click **Connect** or **Disconnect**.
4. Internet (IP Address). DialUp ISPs usually assign the IP address automatically when connecting.
 - a. The default setting of **Get Dynamically from ISP** will configure the router to accept the ISP assigned IP address.
 - b. If your ISP has assigned a static IP address, select the **Use Static IP Address** radio box and enter the IP address in the **IP Address** field.
5. Check the **Get Automatically From ISP** radio box to use ISP assigned DNS server addresses (default). To use different DNS addresses, check the **Use These DNS Servers** radio box and type in the DNS server IP addresses in the **Primary DNS Server** and **Secondary DNS Server** (optional) fields.
6. Click **Apply** to save your settings or **Cancel** to revert to the previous settings.
7. Enter any modem specific parameters to tune the router for different modems:
 - c. **Serial Line Speed:** Select the baud rate with which the serial port of the router and the modem connect. Available speeds range from 4.8Kbps to 460.8Kbps.
 - d. **Modem Type:** If your modem type is listed in the pull-down menu, select it. For most 56Kbps modems, the U.S. Robotics 56K FAX EXT PnP selection should work. If this does not work, select **User Defined Modem** and type in the Initial String for your modem. The Initial string is usually defined in the modem's user manual.
 - e. **Dial-up Type:** Check the **Tone** radio box if your phone line supports touch tone dialing; select **Pulse** for pulse mode dialing. Select **Other – use Dial String** to configure additional options such as Auto-Answer, etc. (consult your modem manual for dial strings).

Set up the traffic meter for the Dialup ISP if desired (see [“Programming the Traffic Meter \(if Desired\)”](#) on page 2-12).



Note: The response time of your serial port Internet connection will be slower than a broadband Internet connection.



Tip: If you experience connectivity problems with the Dialup ISP, try a different baud rate setting and ensure that the modem parameters you selected match the modem connected to the FVS338.

Setting the Router's MAC Address (Advanced Options)

Each computer or router on your network has a unique 48-bit local Ethernet address. This is also referred to as the computer's MAC (Media Access Control) address. The default is set to **Use Default Address**. If your ISP requires MAC authentication and another MAC address has been previously registered with your ISP, then you must enter that address.

To change the router's default MAC Address:

1. Select **Network Configuration** from the main menu, **Broadband ISP Settings** from the submenu and click the **Advanced** link. Check the radio box for either:
 - a. **Use This computer's MAC** address, if this is the address your ISP expects, or
 - b. **Use this MAC Address** and enter the MAC address that your ISP expects.

The format for the MAC address is XX:XX:XX:XX:XX:XX where X is a number from 0 to 9 (inclusive) or an alphabetical letter between A and F (inclusive).

2. Click **Apply** to save your settings or **Cancel** to revert to the previous settings

You may also change the default MTU Size and Port Speed for the Broadband link on this screen, based on the following criteria:

- **MTU Size.** The standard MTU (Maximum Transmit Unit) value for Ethernet networks is either 1500 Bytes or 1492 Bytes for PPPoE connections. Some ISPs may ask you to reduce the MTU, but this is rarely required, and should not be done unless required by your ISP.
- **Port Speed.** In most cases, your router can automatically determine the connection speed of the Internet (WAN) port. If you cannot establish an Internet connection and the Internet LED blinks continuously, you may need to manually select the port speed.

This could occur on some older broadband modems. If you know that the Ethernet port on your broadband modem supports 100BaseT, select 100BaseT; otherwise, select 10BaseT. Use the half-duplex settings if full-duplex modes do not work.

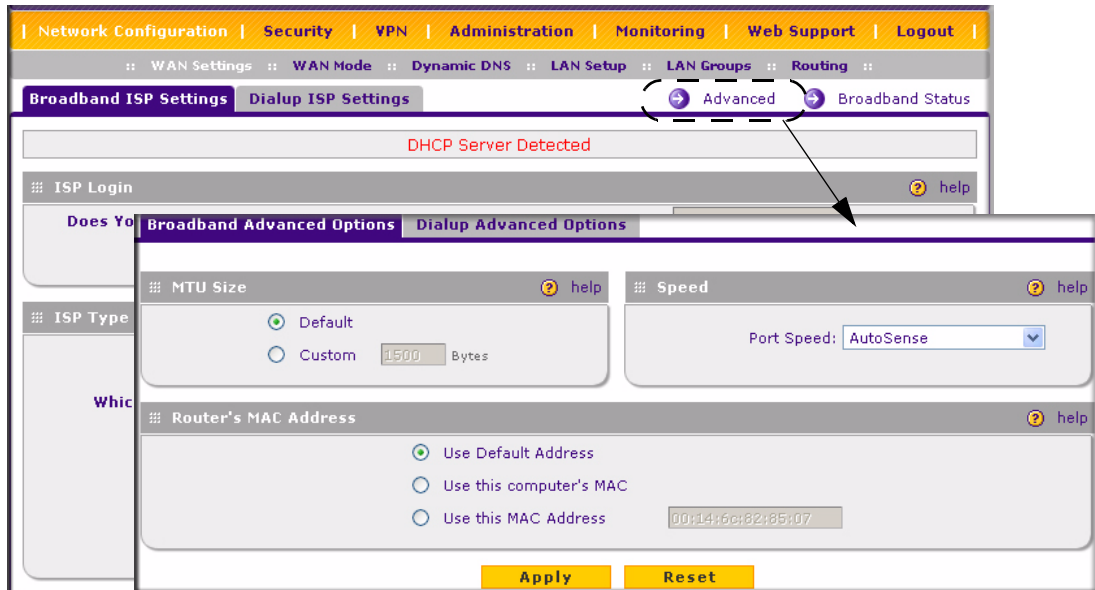
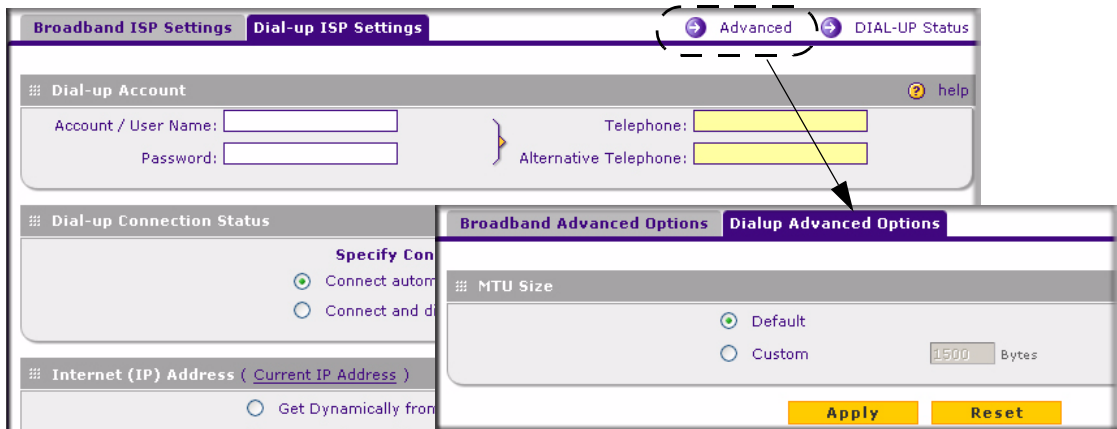


Figure 2-5

You can also change the standard MTU (Maximum Transmit Unit) value for dialup modems from the **Dialup ISP Settings** screen. The standard value is 576 bytes, but some ISPs may require that you reduce the MTU. However, this is rarely required, and should not be done unless specifically required by the ISP,

To change the MTU value for your dialup modem:

1. Select **Network Configuration** from the main menu, **WAN Settings** from the submenu and the **Dialup ISP Settings** tab. Click the **Advanced** link on the **Dialup ISP Settings** screen.
2. Select the Custom radio box and enter the MTU value, in bytes.
3. Click **Apply** to save your settings.

**Figure 2-6**

Manually Configuring Your Internet Connection

If you know your Broadband ISP connection type, you can bypass the Auto Detect feature and connect your router manually. Ensure that you have all of the relevant connection information such as IP Addresses, account information, type of ISP connection, etc., before you begin. Unless your ISP automatically assigns your configuration automatically via DHCP, you will need the configuration parameters from your ISP

Broadband ISP Settings | **Dialup ISP Settings** | **Advanced** | **Broadband Status**

ISP Login help

Does Your Internet Connection Require a Login?

☒ Yes ☐ No

Login:

Password:

ISP Type help

Which type of ISP connection do you use?

☐ Austria (PPTP)

☒ Other (PPPoE)

☐ BigPond Cable

Account Name:

Domain Name:

Login Server:

Idle Timeout: ☐ Keep Connected ☒ Idle Time: Minutes

My IP Address: ...

Server IP Address: ...

Internet (IP) Address **Current IP Address** help

☐ Get Dynamically from ISP

☒ Use Static IP Address

IP Address: ...

IP Subnet Mask: ...

Gateway IP Address: ...

Domain Name Server (DNS) Servers help

☐ Get Automatically from ISP

☒ Use These DNS Servers

Primary DNS Server: ...

Secondary DNS Server: ...

Apply **Reset** **Test** **Auto Detect**

Figure 2-7

To manually configure your WAN1 ISP settings:

1. **Does your Internet connection require a login?** If you need to enter login information every time you connect to the Internet through your ISP, select Yes. Otherwise, select No.
2. **What type of IPS connection do you use?** If your connection is PPPoE, PPTP or BigPond Cable, then you must login. Check the Yes radio box. The text box fields that require data entry will be highlighted, based on the connection that you selected. If your ISP has not assigned any login information, then choose the No radio box and skip this section. For example:
 - **Austria (PPTP):** If your ISP is Austria Telecom or any other ISP that uses PPTP for login, select this. Then, fill in the following highlighted fields:
 - **Account Name** (also known as Host Name or System Name): Enter the valid account name for the PPTP connection (usually your email “ID” assigned by your ISP). Some ISPs require entering your full email address here.

- **Domain Name:** Your domain name or workgroup name assigned by your ISP, or your ISPs domain name. You may leave this field blank.
 - **Idle Timeout:** Check the Keep Connected radio box to keep the connection always on. To logout after the connection is idle for a period of time, select Idle Time and enter the number of minutes to wait before disconnecting in the timeout field. This is useful if your ISP charges you based on the amount of time you have logged in.
 - **My IP Address:** IP address assigned by the ISP to make the connection with the ISP server.
 - **Server IP Address:** IP address of the PPTP server.
 - **Other (PPPoE):** If you have installed login software such as WinPoET or Enternet, then your connection type is PPPoE. Select this connection and configure the following fields:
 - **Account Name:** Valid account name for the PPPoE connection
 - **Domain Name:** Name of your ISPs domain or your domain name if your ISP has assigned one. You may leave this field blank.
 - **Idle Timeout:** Select Keep Connected, to keep the connection always on. To logout after the connection is idle for a period of time, select Idle Time and enter the number of minutes to wait before disconnecting, in the timeout field.
 - **BigPond Cable:** If your ISP is Telstra BigPond Cable, select this option and fill in the Login Server and Idle Timeout fields. The Login Server is the IP address of the local BigPond Login Server in your area. You can find login server information at <http://www.netgear.com.sg/support/bigpond.asp>
3. If your ISP has assigned a fixed (static or permanent) IP address, select the **Use Static IP Address** radio box and fill in the following fields:
- a. **IP Address:** Static IP address assigned to you. This will identify the router to your ISP.
 - b. **Subnet Mask:** This is usually provided by the ISP or your network administrator.
 - c. **Gateway IP Address:** IP address of the ISP's gateway. This is usually provided by the ISP or your network administrator.

If your ISP has not assigned a Static IP address, select the **Get dynamically from ISP** radio box. The ISP will automatically assign an IP address to the router using DHCP network protocol.

4. If your ISP has not assigned any Domain Name Servers (DNS) addresses, select the **Get dynamically from ISP** radio box. If your ISP has assigned DNS addresses, select the **Use these DNS Servers** radio box. Ensure that you fill in valid DNS server IP addresses in the fields. Incorrect DNS entries may cause connectivity issues.



Note: Domain name servers (DNS) convert Internet names such as www.google.com, www.netgear.com, etc. to Internet addresses called IP addresses. Incorrect settings here will result in connectivity problems.

5. Click **Apply** to save the settings or click **Cancel** to revert to the previous settings.
6. Click **Test** to try and connect to the NETGEAR Web site. If you connect successfully and your settings work, then you may click Logout or go on and configure additional settings.

You can also click on the **Broadband Status** link or the **Current IP Address** link to check on connection status and current IP address.

Programming the Traffic Meter (if Desired)

The traffic meter is useful when an ISP charges by traffic volume over a given period of time or if you want to look at traffic types over a period of time.

To enable the traffic meter:

1. From the primary menu, select **Monitoring**, and then select **Traffic Meter** from the secondary menu. The **Broadband Traffic Meter** screen will display. Fill out the information described in [Table 2-2](#).
2. Click **Apply** to apply the settings or click **Cancel** to return to the previous settings.
3. Select the **Dialup Traffic Meter** tab and repeat steps 1 through 3 to set the Traffic Meter the the Dialup port (if required).

Network Configuration | Security | VPN | Administration | Monitoring | Web Support | Logout

Router Status :: Traffic Meter :: Diagnostics :: Firewall Logs & E-mail :: VPN Logs ::

Broadband Traffic Meter | Dialup Traffic Meter | Traffic by Protocol

Enable Traffic Meter help

Do you want to enable Traffic Metering on Broadband?

☐ Yes ☒ No

☐ No Limit
☐ Download only
☐ Both Directions

Monthly Limit: 0 (MB)
☐ Increase this month limit by: 0 (MB)
This month limit: 0(MB)

Traffic Counter help

☐ Restart Traffic Counter Now
☒ Restart Traffic Counter at Specific Time
12:00 PM on the 1st day of Month.
☐ Send e-mail report before restarting counter

When Limit is reached help

☒ Block All Traffic
☐ Block All Traffic Except E-Mail
☐ Send e-mail alert

Internet Traffic Statistics

Start Date / Time:
Outgoing Traffic Volume: (MB)
Incoming Traffic Volume: (MB)
Total Traffic Volume: (MB)
Average per day:
% of Standard Limit:
% of this Month's Limit:

Apply Reset

Start
Date:
End Date:

Protocol	Incoming Traffic		Outgoing Traffic	
	Total (MB)	MB Per Day	Total (MB)	MB Per Day
Email	0	0	0	0
HTTP	0	0	0	0
Others	0	0	0	0
Total	0	0	0	0

refresh

Figure 2-8

Table 2-2. Traffic Meter Settings

Parameter	Description
Enable Traffic Meter	Check this if you wish to record the volume of Internet traffic passing through the Router's Broadband or Dialup port. Broadband or Dialup can be selected by clicking the appropriate tap; the entire configuration is specific to each interface. • No Limit - If this is selected specified restriction will not be applied when traffic limit is reached. • Download only - If this is selected the specified restriction will be applied to the incoming traffic only • Both Directions - If this is selected the specified restriction will be applied to both incoming and outgoing traffic only
Enable Monthly Limit	Use this if your ISP charges for additional traffic. If enabled, enter the monthly volume limit and select the desired behavior when the limit is reached. Note: Both incoming and outgoing traffic are included in the limit.
Increase this month's limit	Use this to temporarily increase the Traffic Limit if you have reached the monthly limit, but need to continue accessing the Internet. Check the checkbox and enter the desired increase. (The checkbox will automatically be cleared when saved so the increase is only applied once.)
This month's limit	This displays the limit for the current month.
Restart traffic counter	This determines when the traffic counter restarts. Choose the desired time and day of the month.
Restart Counter at a Specific Time	Check this radio button to restart the Traffic Counter at a specific time and day of the month. Fill in the time fields and select AM or PM and the day of the month from the pull-down menus.
Send E-mail Report before restarting counter	If checked, an E-mail report will be sent immediately before restarting the counter. You must configure the E-mail screen in order for this function to work (see "E-Mail Notifications of Event Logs and Alerts" on page 4-27).
When limit is reached	Select the desired option: • Block all traffic – all access to and from the Internet will be blocked. • Block all traffic except E-mail – Only E-mail traffic will be allowed. All other traffic will be blocked. • If using this option, you may also select the Send E-mail alert option. You must configure the E-mail screen in order for this function to work.
Internet Traffic Statistics	This displays statistics on Internet Traffic via the WAN port. If you have not enabled the Traffic Meter, these statistics are not available.
Traffic by Protocol	Click this link if you want to know more details of the Internet Traffic. The volume of traffic for each protocol will be displayed in a sub-window. Traffic counters are updated in MBytes scale, counter starts only when traffic passed is at least 1MB.

Configuring the WAN Mode

The **WAN Mode** screen allows you to configure how your router uses your external Internet connections; for example, your WAN port or dialup modem connections.

- **NAT.** NAT is the technology which allows all PCs on your LAN to share a single Internet IP address. Viewed from the Internet, the WAN port on the VPN firewall is configured with a single IP address—the “public” address. PCs on your LAN can use any “private” IP address range, and these IP addresses are not visible from the Internet.
 - The Router uses NAT to select the correct PC (on your LAN) to receive any incoming data and hides internal IP addresses from computers on the Internet.
 - If you only have a single Internet IP address, you **MUST** use NAT.

NAT is the default setting. Select NAT if your ISP has assigned only one IP address to you. The computers that connect through the router must then be assigned IP addresses from a private subnet (for example: 192.168.1.0).

- **Classical Routing.** In this mode, the Router performs Routing, but without NAT. To gain Internet access, each PC on your LAN must have a valid Internet IP address.

If your ISP has allocated many IP addresses to you, and you have assigned one of these addresses to each PC, you can choose Classical Routing. Or, you can use Classical Routing for routing private IP addresses within a campus environment. Otherwise, selecting this method will not allow Internet access through this Router.



Note: The router will delete all inbound firewall rules when switching between NAT and Classical Routing.

To configure the WAN Mode:

1. Select **Network Configuration** from the main menu and **WAN Mode** from the submenu. The **WAN Mode** screen will display.
2. Check either the **NAT** or **Classical Routing** radio box. NAT is the default.
3. Select the **Port Mode**. The Port Mode settings allow you to configure your router to use only one WAN port or to select the Dialup port as a backup.
 - If you are connected to only one ISP, then check the **Use only single WAN port** and select the WAN port that is connected to your ISP from the pull down menu.

- If you have both ISP links connected for Internet connectivity, check the **Primary Broadband with Dialup as backup** for auto-rollover.
4. The WAN Failure Detection Method must be configured to notify the router of a link failure if you are using Dialup as a backup to engage auto-rollover. The router checks the connection of the primary link at regular intervals to detect its status. Check the radio box of one the following methods to detect link failure:
- Select **DNS lookup using configured DNS Servers** to detect failure of the Broadband link, using the DNS servers configured in the **Broadband ISP Settings** screen.
 - Select **DNS lookup using this DNS Server** and enter the IP address of the DNS server to specify a DNS server for detecting WAN failure
 - Select **Ping to this IP address** and enter an IP address to detect WAN failure by pinging to an IP address. Ensure that this destination host is reliable.

If a failure is detected on the primary broadband connection, the secondary dialup connection connects to the Internet. When the primary connection is detected as back online, the secondary dialup connection disconnects.

5. Enter a **Test Period**, in seconds, to tell the router how often it should run the configured detection method. The default is 30 seconds.
6. Enter the number of router failures that should occur before the router rolls-over to the Dialup port. The default is 4.
7. Enter **Apply** to save your settings or **Cancel** to revert to the previous settings.

Configuring Dynamic DNS (If Needed)



Note: If your ISP assigns a private WAN IP address such as 192.168.x.x or 10.x.x.x, the dynamic DNS service will not be available since private addresses cannot be routed on the Internet.

Dynamic DNS (DDNS) is an Internet service that allows routers with varying public IP addresses to be located using Internet domain names. To use DDNS, you must setup an account with a DDNS provider such as DynDNS.org, TZO.com or Iego.net.

Once you have registered your domain name to their IP address, all FQDN traffic will be directed to your frequently-changing IP address. (For rollover mode, you will need a fully qualified domain name to implement features such as exposed hosts and virtual private networks regardless of whether you have a fixed or dynamic IP address.)

This router firmware includes software that notifies dynamic DNS servers of changes in the WAN IP address, so that the services running on this network can be accessed by others on the Internet. After you have configured your account information in the firewall, whenever your ISP-assigned IP address changes, your firewall will automatically contact your dynamic DNS service provider, log in to your account, and register your new IP address.

To configure a Dynamic DNS address:

1. Select **Network Configuration** from the main menu and **Dynamic DNS** from the submenu. The **Dynamic DNS Configuration** screen displays. The **WAN Mode** section displays the currently configured WAN Mode: Single Port or Auto-Rollover.

The screenshot shows the 'Dynamic DNS Configuration' web page. At the top, there's a navigation bar with links: Network Configuration, Security, VPN, Administration, Monitoring, Web Support, and Logout. Below this is a sub-menu bar with links: WAN Settings, WAN Mode, Dynamic DNS, LAN Setup, LAN Groups, and Routing. The 'Dynamic DNS' link is highlighted. The main content area has a 'Dynamic DNS Configuration' header with sub-links: DynDNS Information, TZO Information, and Iego Registration. The 'WAN Mode' section shows 'Current WAN Mode: Auto Rollover with Primary Broadband'. Below this, there are two sections: 'Broadband (DDNS Status: service is not enabled!)' and 'Dial-up (DDNS Status: service is not enabled!)'. Each section has a 'Select the Dynamic DNS Service?' dropdown menu with options: None (selected), DynDNS.org, TZO.com, and Iego.net. To the right of each dropdown are input fields for 'Host and Domain Name:', 'User Name:', and 'Password:'. There are also checkboxes for 'Use wildcards' and 'Update every 30 days'. At the bottom, there are 'Apply' and 'Reset' buttons.

Figure 2-9

If you have configured Single Port, choose a DNS service provider, then fill out the DDNS section for that port. If you have enabled Auto-Rollover, choose a service provider and complete both sections. (Only those options that match the configured WAN Mode will be accessible.)

2. Check the Dynamic DNS Service radio box you want to enable. The fields corresponding to the selection you have selected will be highlighted. Each DNS service provider requires its own parameters.
3. Access the Web site of one of the DDNS service providers and set up an account. A link to each DDNS provider is opposite the DNS Configuration screen name.
4. After setting up your account, return to the Dynamic DNS Configuration screen and fill in the required fields for the DDNS service you selected:
 - a. In the Host and Domain Name field, enter the entire FQDN name that your dynamic DNS service provider gave you (for example: <yourname>.dyndns.org).
 - b. Enter the User Name, User email Address, or Account Name requested by the DDNS Service to identify you when logging into your DDNS account.
 - c. Enter the Password, or User Key, for your DDNS account.
 - d. If your dynamic DNS provider allows the use of wild cards in resolving your URL, you may check the **Use wildcards** radio box to activate this feature.

For example, the wildcard feature will cause *.yourhost.dyndns.org to be aliased to the same IP address as yourhost.dyndns.org
5. Click **Apply** to save your configuration or click **Cancel** your settings and revert to the previous settings.