verizon

VERSALINK™ WIRELESS GATEWAY (MODEL 327W)

USER GUIDE

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1. PRODUCT DESCRIPTION

The Verizon® VersaLink™ Wireless Gateway provides reliable, high-speed, Internet access to your existing small office phone line and is capable of data rates hundreds of times faster than a traditional analog modem. But unlike analog modems, the VersaLink Gateway allows you to use the same phone line for simultaneous voice/fax communications and high-speed Internet access, eliminating the need for dedicated phone lines for voice and data needs. In addition, VersaLink supports a variety of networking interfaces such as Wireless 802.11b/g, ADSL, Ethernet and the following optional features:

- UPLINK/E1: Alternate WAN uplink port
- Layer w/2 QOS with VLAN tagging
- HotSpot
- Simultaneous public/private network support

Hereafter, the Verizon® VersaLink™ Wireless Gateway will be referred to as "VersaLink," "Router," or "Modem."

2. SAFETY INSTRUCTIONS

- Never install any telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch non-insulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.

⚠ **WARNING** ⚠

Risk of electric shock. Voltages up to 140 Vdc (with reference to ground) may be present on telecommunications circuits.

3. REGULATORY INFORMATION

3.1 FCC Compliance Note

(FCC ID: CH8D90327WXXX-06)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the Federal Communication Commission (FCC) Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to a different circuit from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

WARNING: While this device is in operation, a separation distance of at least 20 cm (8 inches) must be maintained between the radiating antenna and users exposed to the transmitter in order to meet the FCC RF exposure guidelines. Making changes to the antenna or the device is not permitted. Doing so may result in the installed system exceeding RF exposure requirements. This device must not be co-located or operated in conjunction with any other antenna or radio transmitter. Installers and end users must follow the installation instructions provided in this guide.

Modifications made to the product, unless expressly approved, could void the users' rights to operate the equipment.

PART 68 – COMPLIANCE REGISTRATION

This equipment is designated to connect to the telephone network or premises wiring using a compatible modular jack that is Part 68 compliant. A FCC compliant telephone cord and modular plug is provided with the equipment. See the Installation Information section of this User Guide for details.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instruction for details.

If this terminal equipment (Model 327W) causes harm to the telephone network, the telephone company may request you to disconnect the equipment until the problem is resolved. The telephone company will notify you in advance if temporary discontinuance of service is required. If advance notification is not practical, the telephone company will notify you as soon as possible. You will be advised of your right to file a complaint with the FCC if you believe such action is necessary. If you experience trouble with this equipment (Model 327W), do not try to repair the equipment yourself. The equipment cannot be repaired in the field. Contact Verizon for instructions.

The telephone company may make changes to their facilities, equipment, operations, or procedures that could affect the operation of this equipment. If this happens, the telephone company will provide advance notice in order for you to make the modifications necessary to maintain uninterrupted service.

If your home has specially wired alarm equipment connected to the telephone line, ensure that the installation of this equipment (Model 327W) does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

This equipment cannot be used on public coin phone service provided by the telephone company. Connection of this equipment to party line service is subject to state tariffs.

3.2 Canada Certification Notice

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operations and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The department does not guarantee the equipment will operate to the user's satisfaction.

This equipment meets the applicable Industry Canada Terminal Equipment Technical Specification. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment. The Ringer Equivalence Number (REN) is 0.0. The Ringer Equivalence Number that is assigned to each piece of terminal equipment provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed five.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local Telecommunication Company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Connection to a party line service is subject to state tariffs. Contact the state public utility commission, public service commission, or corporation commission for information.

If your home has specially wired alarm equipment connected to the telephone line, ensure that the installation of this equipment (Model 327W) does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

If you experience trouble with this equipment (Model 327W), do not try to repair the equipment yourself. The equipment cannot be repaired in the field and must be returned to the manufacturer. Repairs to certified equipment should be coordinated by a representative, and designated by the supplier. Contact Verizon for instructions.

The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed five.

Users should ensure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal, metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

⚠ CAUTION ⚠

Users should not attempt to make such connections themselves, but should contact the appropriate electrical inspection authority, or electrician, as appropriate.

4. NETWORKING REQUIREMENTS

The following system specifications are required for optimum performance of the Router via 10/100 Base-T Ethernet or USB installations.

Connection Type	Minimum System Requirements
ETHERNET (UPLINK/E1, E2, E3, E4)	• Pentium® or equivalent class machines or higher • Microsoft® Windows® (Vista™, XP, 2000, ME, NT 4.0, 98 SE) Macintosh® OS X, or Linux installed • 64 MB RAM (128 MB recommended) • 10 MB of free hard drive space • 10/100 Base-T Network Interface Card (NIC) • Internet Explorer 5.5 or later or Netscape Navigator 7.x or later • Computer Operating System CD-ROM on hand
WIRELESS IEEE 802.11b/g	• Pentium® or equivalent class or higher machines • Microsoft® Windows® (Vista™,XP, 2000, ME, NT 4.0, 98 SE) or Macintosh® OS X installed • 64 MB RAM (128 MB recommended) • 10 MB of free hard drive space • Internet Explorer 5.5 or Netscape Navigator 7.x or later • An available IEEE 802.11b/g PC adapter • Computer Operating System CD-ROM on hand

5. HARDWARE FEATURES

5.1 LED Indicators

This section explains the LED States and Descriptions. LED indicators are used to verify the unit's operation and status.

LED States and Descriptions

LED	State	Description
POWER	**Solid Green**	Router power is ON.
	OFF	Router power is OFF.
	Solid Red	POST (Power On Self Test), Failure (not bootable) or Device Malfunction. Note: The Power LED should be red no longer than two seconds after the power on self test passes.
E1, E2, E3, E4 (Ethernet LAN)	**Solid Green**	Powered device is connected to the associated port (includes devices with wake-on LAN capability where slight voltage is supplied to an Ethernet connection). Note: When using the optional uplink port (E1), Ethernet LAN connection is limited to E2, E3, and E4.
	Flashing Green	10/100 Base-T LAN activity is present (traffic in either direction)
	OFF	Router power is OFF, no cable or no powered device is connected to the associated port.
WIRELESS	**Solid Green**	Link Established.
	Flashing Green	Wireless LAN activity is present (traffic in either direction).
	OFF	Router power is OFF or No Link.
DSL	**Solid Green**	Good DSL link.
	Flashing Green	DSL attempting to sync.
	Solid Amber	Modem is in safeboot mode.
	OFF	Router power is OFF.
INTERNET	**Solid Green**	Internet link established. With DSL up, the Router has a WAN IP address from IPCP or DHCP; or a static IP is configured; or PPP negotiation has successfully completed (if used) and no traffic is detected.
	Flashing Green	IP connection established and IP Traffic is passing through device (in either direction). Note: If the IP or PPP session is dropped due to an idle timeout, the light will remain solid green, if an ADSL connection is still present. If the session is dropped for any other reason, the light is turned OFF. The light will turn red when it attempts to reconnect and DHCP or PPP fails).
	Solid Red	Device attempted to become IP connected and failed (no DHCP response, no PPP response, PPP authentication failed, no IP address from IPCP, etc.).
	OFF	Router power is OFF, Router is in Bridge Mode, or the ADSL connection is not present.

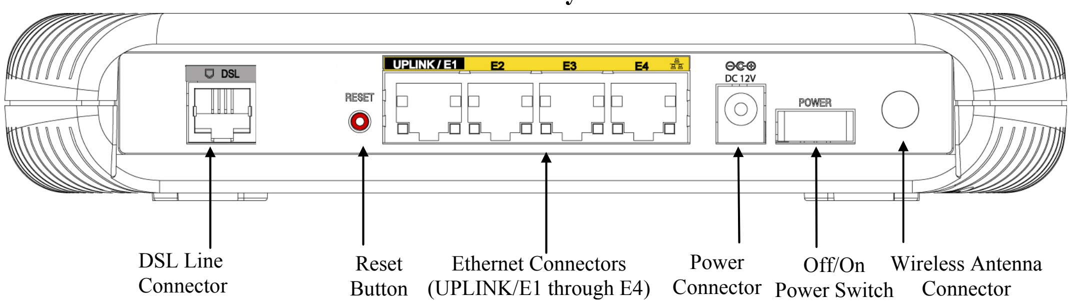
5.2 Cable Connectors and Switch Locations

- DSL connector (RJ-11)
- Reset push button
- (4) Ethernet connectors (RJ-45) optional uplink port
- (4) Ethernet connector (RJ-45) with optional UPLINK/E1 uplink port

> **NOTE:** When using the optional UPLINK/E1 jack (when VersaLink is configured for WAN Uplink mode), Ethernet LAN connection is limited to ports E2, E3, and E4. The Uplink feature is optional. If Uplink is not enabled via the Web pages, VersaLink will use DSL as the WAN interface.

- Power connector (DC 12V) barrel
- OFF/ON power switch
- Wireless 802.11b/g SMA connector and antenna

VersaLink Gateway - Rear View



5.3 Connector Descriptions

The following chart displays the Router's connector types.

SYMBOL	NAME	TYPE	FUNCTION
☎	DSL LINE	6-pin (RJ-11) modular jack	Connects to an ADSL-equipped telephone jack or to the DSL connection of a POTS splitter.
🖧	ETHERNET	8-pin (RJ-45) modular jack	Connects the 10/100 Base-T Ethernet device to a PC or Hub.
⊖–◐–⊕ **DC 12V**	POWER	Barrel connector	Connects the DC 12V power connector to an AC wall jack.
Wireless	Antenna	SMA connector and antenna	Connects via wireless 802.11 b/g

6. INSTALLING THE HARDWARE

This section explains the hardware installation procedures for connecting to your Router.

6.1 Installation Requirements

To install the VersaLink, you will need the following:

- Active DSL line
- Network Interface Card (NIC) installed in your PC, or
- 802.11 b/g wireless adapter

IMPORTANT: Please wait until you have received notification from your Internet service provider (ISP) that your DSL line has been activated before installing your VersaLink.

6.2 Before you begin

Make sure that your kit contains the following items:

- Verizon VersaLink Wireless Gateway
- Power Supply
- RJ-45 Ethernet cable (straight-through) (yellow)
- RJ-11 Phone cable
- Verizon CD-ROM containing User Guide in PDF format
- Wireless antenna

6.3 Microfilters

ADSL signals must be blocked from reaching each telephone, answering machine, fax machine, computer Modem or any similar conventional device. Failure to do so may degrade telephone voice quality and ADSL performance. Install a microfilter if you desire to use the DSL-equipped line jack for telephone, answering machine, fax machine or other telephone device connections. Microfilter installation requires no tools or telephone rewiring. Just unplug the telephone device from the baseboard or wall mount and snap in a microfilter, next snap in the telephone device. You can purchase microfilters from your local electronics retailer, or contact the original provider of your DSL equipment.

6.4 Hardware Installations

The following instructions explain how to install your VersaLink Gateway using 10/100 Base-T Ethernet, Wireless, or Ethernet Uplink connections. Before you begin, please read the following notes:

NOTE:

1. If your Ethernet card does not auto-negotiate, set it to half duplex. Refer to the Ethernet card manufacturer's instructions for installing and configuring your Ethernet card.
2. If you are using VersaLink in conjunction with an Ethernet Hub or Switch, refer to the manufacturer's instructions for proper installation and configuration.
3. When using a Microfilter, confirm that the DSL RJ-11 phone cable is connected to the DSL port of the DSL/HPN non-filtered jack.
4. It is recommended that you use a surge suppressor to protect equipment attached to the power supply. Use only the power supply provided with your kit.
5. Additional Ethernet cables may be required depending on the installation method you are using. Ethernet cables and filters can be purchased at your local computer hardware retailer.
6. VersaLink supports simultaneous use of 10/100 Base-T Ethernet and Wireless configurations. To use this installation method, follow the instructions provided in sections 6.4.1 and 6.4.2.

VersaLink supports two modes for WAN access, which are configurable through VersaLink's Web pages: (1) LAN Ethernet port mode and (2) WAN Uplink port mode.

- **LAN Ethernet port** mode allows you to use VersaLink's DSL port for WAN access (VersaLink's DSL functionality is Enabled). In this mode you should install VersaLink according to the instructions in the following sections:
    - Section 6.4.1, Connecting VersaLink via 10/100 Base-T Ethernet
    - Section 6.4.2, Connecting VersaLink via Wireless
- **WAN Uplink port** mode allows you to use VersaLink as an Ethernet Gateway (for example, to connect to a cable modem or to another ADSL device that provides WAN access). In **WAN Uplink port** mode, VersaLink's DSL functionality is Disabled. In this mode you should install VersaLink according to the instructions in section 6.4.3, "Connecting VersaLink via UPLINK/E1."

6.4.1 Connecting VersaLink via 10/100 Base-T Ethernet

To connect your VersaLink using the 10/100-BaseT Ethernet connection, please follow these steps:

1. Connect the DSL phone cable from the connector marked **DSL** on the rear panel of VersaLink to the telephone line jack (equipped with DSL service) on the wall. Please use the DSL phone cable that was provided with your kit.

   IMPORTANT: If you use a microfilter, you must plug the RJ-11 DSL phone cable from the VersaLink into the DSL port of the microfilter.

2. Connect the yellow Ethernet cable (provided with your kit) from any one of the four Ethernet jacks marked **E1, E2, E3, or E4** on the rear panel of VersaLink to the Ethernet port on your computer. Repeat this step to connect up to three additional PCs to VersaLink; each jack serves as an Ethernet switch.
3. Connect the power supply cord to the power connector marked **DC 12V** on the rear panel of the VersaLink. Plug the other end of the power supply into an AC wall socket, and then turn on VersaLink (if it is not already on).
4. Check to see if the VersaLink's **POWER** LED is solid green. This indicates that VersaLink is powered on.
5. Check to see if the **DSL** LED is solid green. If the **DSL** LED is solid green, the VersaLink is functioning properly.
6. Check to see if the **ETHERNET** LED is solid green. Solid green indicates that the Ethernet connection is functioning properly. Check the **ETHERNET** LED for the Ethernet jack you are using on VersaLink.
7. After you have logged on to your account and established an Internet connection, as explained later in section 8, check to see if the Router's **INTERNET** LED is solid green. Solid green indicates that an Internet link has been established. (Flashing green indicates the presence of IP traffic.)

Congratulations! You have completed the Ethernet hardware installation. No software installation is required when using only an Ethernet connection. Now proceed to section 7 to access VersaLink's Web pages.

6.4.2 Connecting VersaLink via Wireless

IMPORTANT: If you are connecting to VersaLink via a wireless network adapter, the SSID must be the same for both VersaLink and your PC's wireless network adapter. The default SSID for VersaLink is the serial number of the unit (located below the bar code on the bottom of the modem and also on the shipping carton). Locate and run the utility software provided with your PC's Wireless network adapter and enter the SSID value. The PC's wireless network adapter must be configured with the SSID (in order to communicate with VersaLink) before you begin the account setup and configuration procedures. Later, for privacy you can change the SSID by following the procedures outlined in section 12, "Wireless Settings."

NOTE: Client PCs can use any Wireless 802.11b/g card to communicate with VersaLink. The Wireless card and VersaLink must use the same Wired Equivalent Privacy (WEP) security code type. The factory default for WEP is Enabled. Please be sure that your computer's wireless adapter is configured properly for whichever network setting you use: WEP or WPA. You can access the settings in the advanced properties of the wireless network adapter.

To network VersaLink to computers in your home or office using a wireless installation, you will need to confirm the following:

1. Ensure that each PC on your wireless network has an 802.11b/g wireless network adapter installed.
2. Ensure that appropriate drivers for your wireless adapter have been installed on each PC.

3. Make sure the wireless antenna is screwed on to the connector on the rear of the modem and firmly locked into place. Then, orient the antenna to appropriate position.
4. Connect the DSL phone cable from the connector marked **DSL** on the rear panel of VersaLink to the telephone line jack (equipped with DSL service) on the wall. Please use the DSL phone cable that was provided with your kit.

> **IMPORTANT**: If you use a microfilter, you must plug the RJ-11 DSL phone cable from the VersaLink into the DSL port of the microfilter.

5. Connect the yellow Ethernet cable (provided with your kit) from any one of the four Ethernet jacks marked **E1, E2, E3, or E4** on the rear panel of VersaLink to the Ethernet port on your computer. Repeat this step to connect up to three additional PCs to VersaLink; each jack serves as an Ethernet switch.
6. Connect the power supply cord to the power connector marked **DC 12V** on the rear panel of the VersaLink. Plug the other end of the power supply into an AC wall socket, and then turn on VersaLink (if it is not already on).
7. Check to see if VersaLink's **POWER** LED is solid green. This indicates that VersaLink is powered on.
8. Check to see if VersaLink's **DSL** LED is solid Green. If the **DSL** LED is solid Green, VersaLink is functioning properly.
9. Check to see if the **ETHERNET** LED is solid green. Solid green indicates that the Ethernet connection is functioning properly. Check the **ETHERNET** LED for the Ethernet jack you are using on the VersaLink.
10. Check to see if VersaLink's **WIRELESS** LED is solid Green. This means that the Wireless interface is functioning properly.
11. After you have logged on to your account and established an Internet connection, as explained later in section 8, check to see if VersaLink's **INTERNET** LED is solid green. Solid green indicates that an Internet link has been established. (Flashing green indicates the presence of IP traffic.)

Congratulations! You have completed the Wireless installation for VersaLink. Now proceed to section 7 to access VersaLink's Web pages.

6.4.3 Connecting VersaLink via UPLINK/E1

The Uplink feature is optional. If you want to install your Router so that it uplinks to another ADSL device, follow the steps outlined below:

1. Connect the attached ADSL device to the ADSL-equipped jack on the wall, using the RJ-11 phone cord that was provided with the kit. If you are using a microfilter at the wall jack, you must connect the RJ-11 DSL phone cable from the DSL port of the ADSL device to the DSL port of the microfilter.

> **NOTE:** The ADSL device to which you are connecting will function as your WAN interface to the Internet. Be sure you have connected the ADSL device appropriately. If needed, refer to the manufacturer's instructions.

2. Connect the yellow Ethernet cable (provided with your kit) from the Ethernet jack marked **UPLINK/E1** on the rear panel of VersaLink to the Ethernet port on the attached ADSL device, and then turn on the power switch of the attached ADSL device (if it is not already on).

> **NOTE:** Later, in VersaLink's Web pages, be sure to select WAN Uplink port mode to allow VersaLink to uplink to the ADSL device. When VersaLink is configured for WAN Uplink port mode, VersaLink's DSL transceiver will not be used. The ADSL device to which VersaLink is connected will be your WAN interface to the Internet. LAN Ethernet port is VersaLink's factory default setting, refer to section 13.2.3 for details.

3. Connect an Ethernet cable from any one of the three Ethernet jacks marked **E2, E3, or E4** on the rear panel of the VersaLink to the Ethernet port on your computer. Repeat this step to connect up to three additional PCs to VersaLink; each jack serves an Ethernet switch.
4. Connect the power supply cord to the power connector marked **DC 12V** on the rear panel of the VersaLink. Plug the other end of the power supply into an AC wall socket, and then turn on the power (if it is not on).
5. Check to see if the VersaLink's **POWER** LED is solid green. This indicates that VersaLink is powered on.
6. Check to see if the **ETHERNET** LED is solid green. Solid green indicates that the Ethernet connection is functioning properly. Check the **ETHERNET** LED for the Ethernet jack you are using on VersaLink.
7. After you have logged on to your account and established an Internet connection, as explained later in section 7, check to see if the VersaLink's **INTERNET** LED is solid green. Solid green indicates that an Internet link has been established. (Flashing green indicates the presence of IP traffic.)

Congratulations! You have completed the UPLINK/E1 installation for VersaLink. No software installation is required when using the UPLINK connection. Now proceed to section 7 to access VersaLink's Web pages.

7. ACCESSING VERSALINK

7.1 Logging on to VersaLink

This section explains the logon procedures for your VersaLink. This procedure should be used any time you want to access or make changes to VersaLink's configurations or firewall settings.

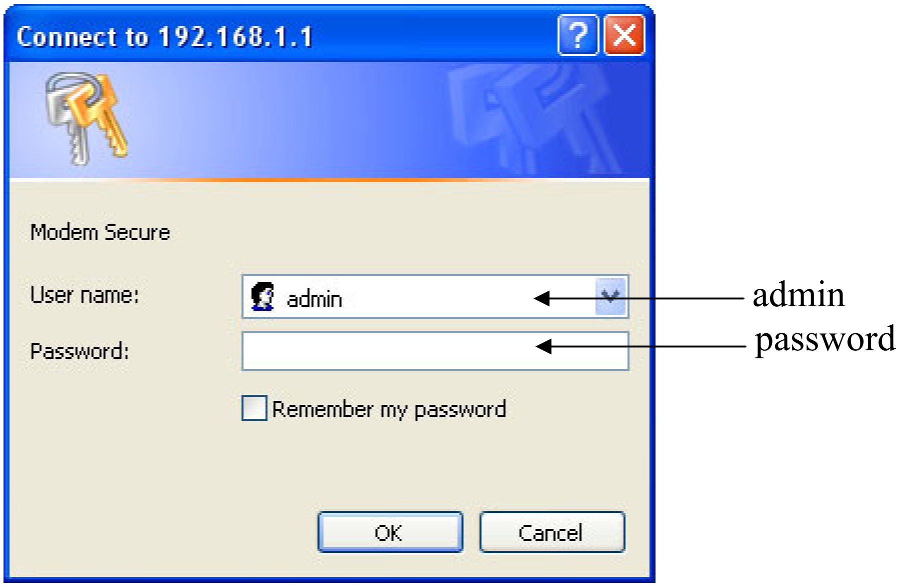
IMPORTANT: VersaLink is capable of automatically sensing protocol type (DHCP or PPPoE). This process is designed to start after you have connected VersaLink. To access VersaLink, your PC must be configured for DHCP. Refer to your Windows help screen for information on configuring your computer for DHCP. At your PC, click **Start**, then **Help** to access the Windows help screen.

To log on to VersaLink, start your Web browser and type the following IP address in the browser's address bar:

http://192.168.1.1

After you type the IP address, press **Enter** on your keyboard. The following **Modem Secure** screen will appear. Type the default user name (which is **admin**) and the default password (which is **password**) in the fields provided. Click **OK.**

NOTE: Hereafter, the VersaLink Wireless Gateway will be referred to as the "Router" or "Modem."



Connect to 192.168.1.1

Modem Secure

User name: admin

Password:

□ Remember my password

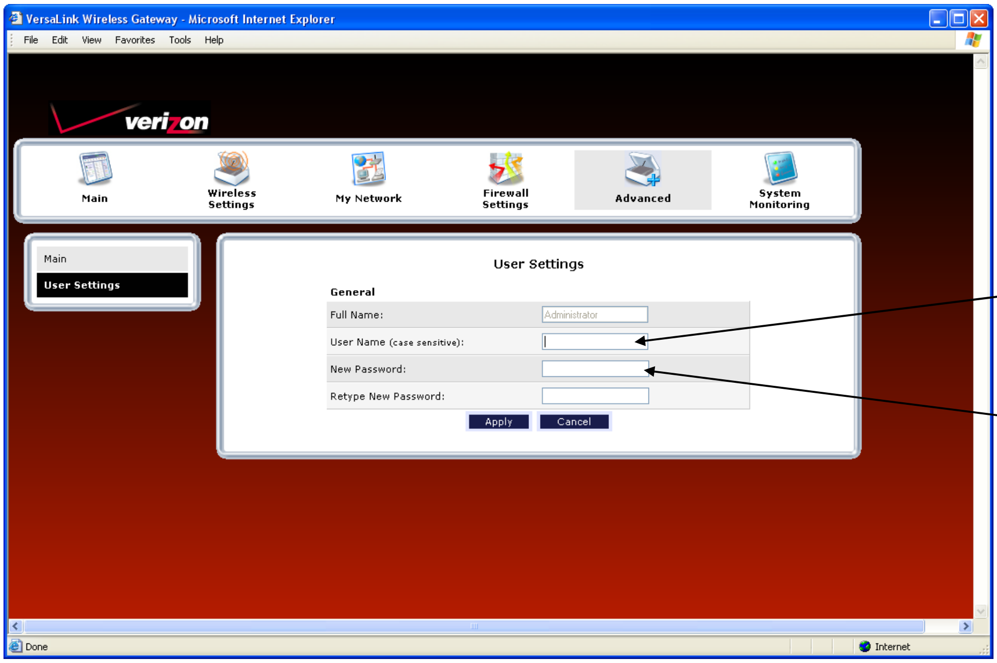
7.2 Changing the Password

After you have clicked **OK** in the **Modem Secure** screen, the following **User Settings** screen will appear. This screen allows you to change the default administrator name and password to the values of your choice. The password change is required to continue your network logon. If the Router is password protected and you are not an authorized user, you will not be able to change the values in this screen. The Router cannot be configured unless an authorized user is logged in. If necessary, contact your network administrator for further instructions.

IMPORTANT:

1. The **User Settings** screen allows you to use **admin** as your **administrator name** (your administrator name can match your user name). However, this screen does not allow you to use **"password"** as your **administrator password**. If you enter **password** in the fields, this screen will not continue the logon. You must enter a different password in order for this screen to take effect. The values in these fields are case sensitive. Once you decide on an administrator name and password, please record them for future reference.
2. This feature changes the Administrator's password, not the PPP password.

Type your administrator **User Name** and **Password** in the fields provided. The password fields will be masked for security purposes.



User Settings

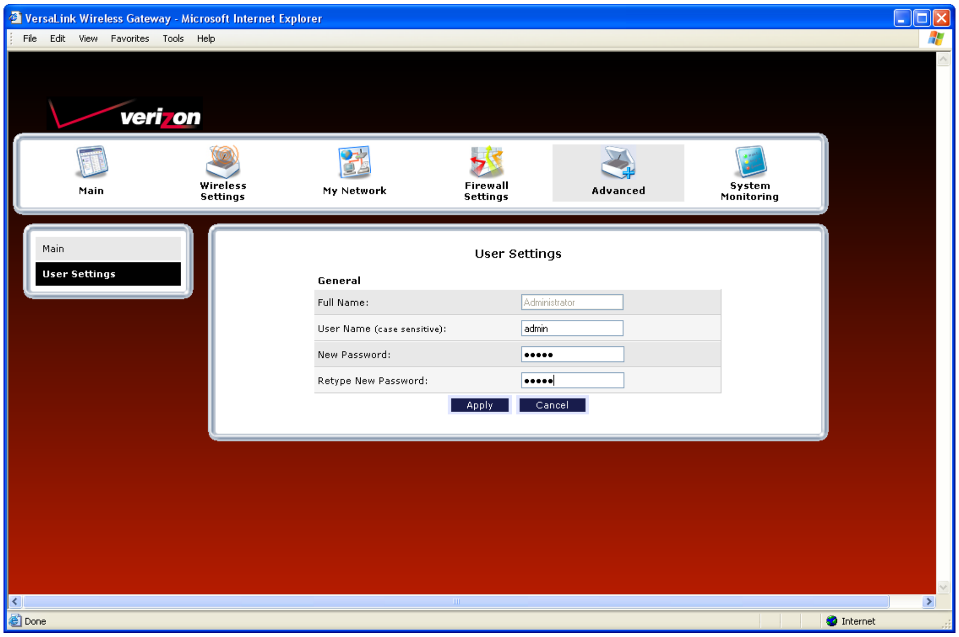
General

Full Name:	Administrator
User Name (case sensitive):	
New Password:	
Retype New Password:	

Type **admin** or the name of your choice.

Type a new password. (Do not type the word **password** here.)

After you have entered the desired values, click **Apply.**

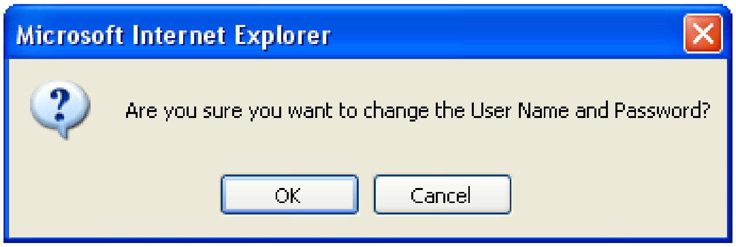


User Settings

General

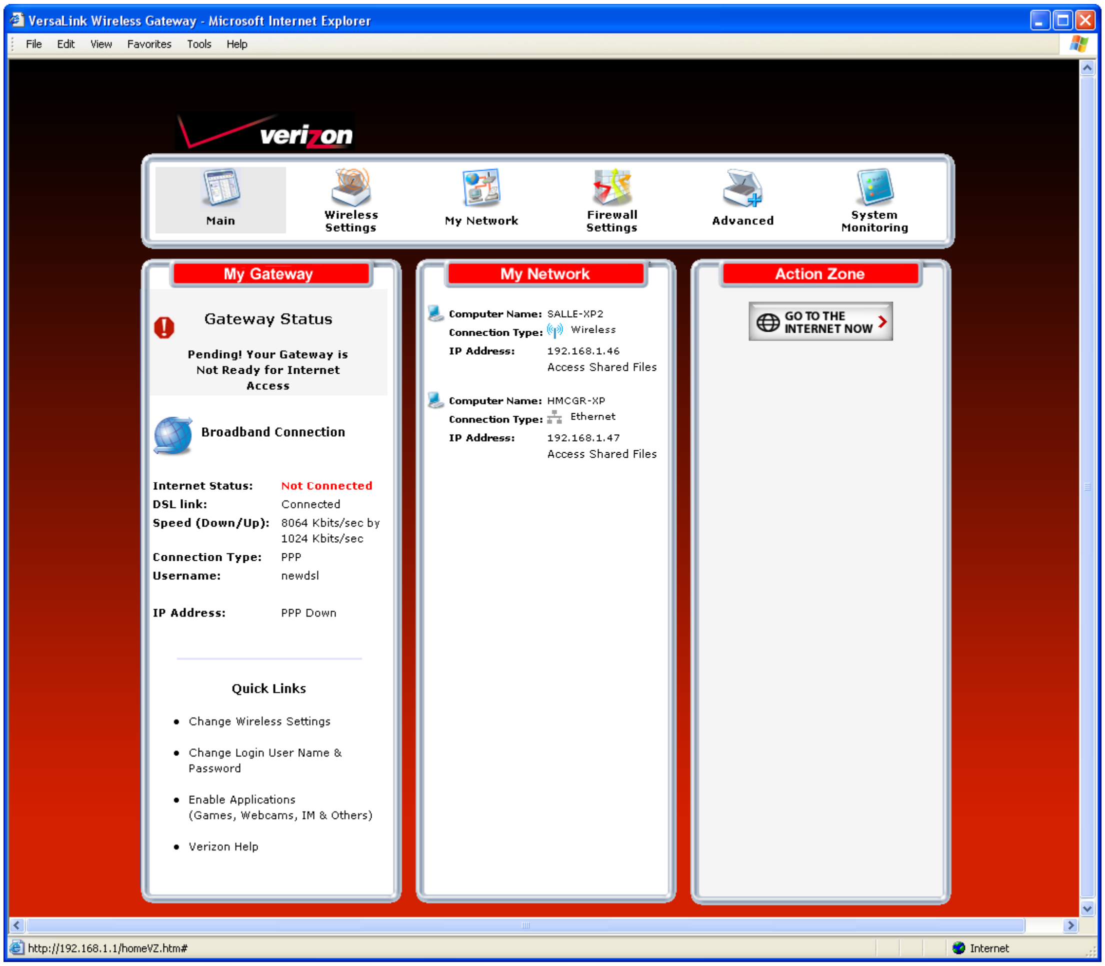
Full Name:	Administrator
User Name (case sensitive):	admin
New Password:	•••••
Retype New Password:	•••••

If you clicked **Apply,** the following pop-up screen will appear. Click **OK** to allow the changes to take effect.



Are you sure you want to change the User Name and Password?

If you clicked **OK** in the pop-up screen, the following screen will appear. This is the main page of your Router’s Web pages, also referred to in this document as the home page. You can access this page by clicking **Main** in the navigational menu located across the top of the Router’s Web pages. Details on this page will explained in the following sections.



Gateway Status

Pending! Your Gateway is Not Ready for Internet Access

Broadband Connection

Internet Status:	Not Connected
DSL link:	Connected
Speed (Down/Up):	8064 Kbits/sec by 1024 Kbits/sec
Connection Type:	PPP
Username:	newdsl
IP Address:	PPP Down

Quick Links

- Change Wireless Settings
- Change Login User Name & Password
- Enable Applications (Games, Webcams, IM & Others)
- Verizon Help

Computer Name:	SALLE-XP2
Connection Type:	Wireless
IP Address:	192.168.1.46 Access Shared Files
Computer Name:	HMCGR-XP
Connection Type:	Ethernet
IP Address:	192.168.1.47 Access Shared Files

8. CONFIGURING YOUR BROADBAND CONNECTION

To browse the Internet using your Router, you must confirm your DSL connection, set up your account profile, and establish a DHCP or PPP session with your Internet service provider (ISP). The procedures for configuring your Router's connection settings are explained in this section.

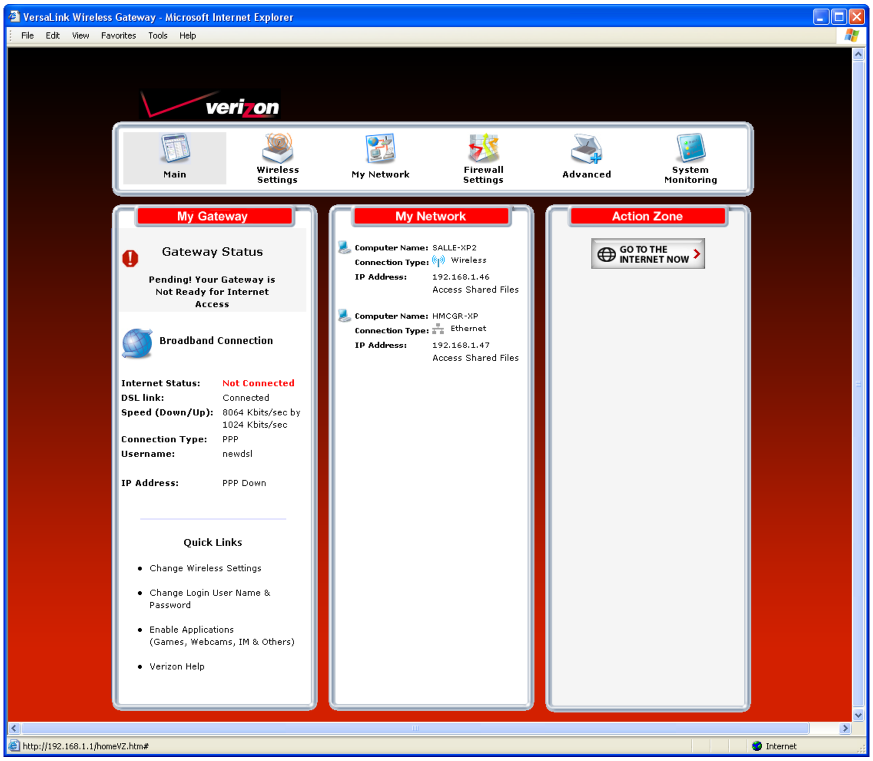
8.1 Confirming Your DSL Connection

After you have logged on to the Router and changed your administrator password, as explained in section 7, the following home page will appear. Use this page to determine the status of your DSL and Internet connections.

IMPORTANT: You must have active DSL service before the Router can synchronize with Verizon's equipment.

To determine if the Router has established a DSL link, do any of the following:

- In the **My Modem** panel of the **Main** page, view the **DSL link** field. If the status reads **Not Connected,** you do not have a DSL link. However, if **DSL Link** field displays **Connected** and the **Speed (Down/Up)** field displays numeric values, a DSL link has been established. The values displayed represent the transmission rates of your DSL signal, downstream and upstream. (You may need to wait a brief moment for the Router to report these values.)
- At the front of the Router, check to see if the Router's DSL LED is solid green. Solid green indicates that the Router's DSL connection has been established. (The DSL LED may flash while the connection is being established.) Please wait a brief moment for the Router to connect.



My Gateway

Gateway Status

Pending! Your Gateway is Not Ready for Internet Access

Broadband Connection

Internet Status: Not Connected
DSL link: Connected
Speed (Down/Up): 8064 Kbits/sec by 1024 Kbits/sec
Connection Type: PPP
Username: newdsl

IP Address: PPP Down

Quick Links

- Change Wireless Settings
- Change Login User Name & Password
- Enable Applications (Games, Webcams, IM & Others)
- Verizon Help

My Network

Computer Name: SALLE-XP2
Connection Type: Wireless
IP Address: 192.168.1.46
Access Shared Files

Computer Name: HMCGR-XP
Connection Type: Ethernet
IP Address: 192.168.1.47
Access Shared Files

Action Zone

http://192.168.1.1/homeVZ.htm#

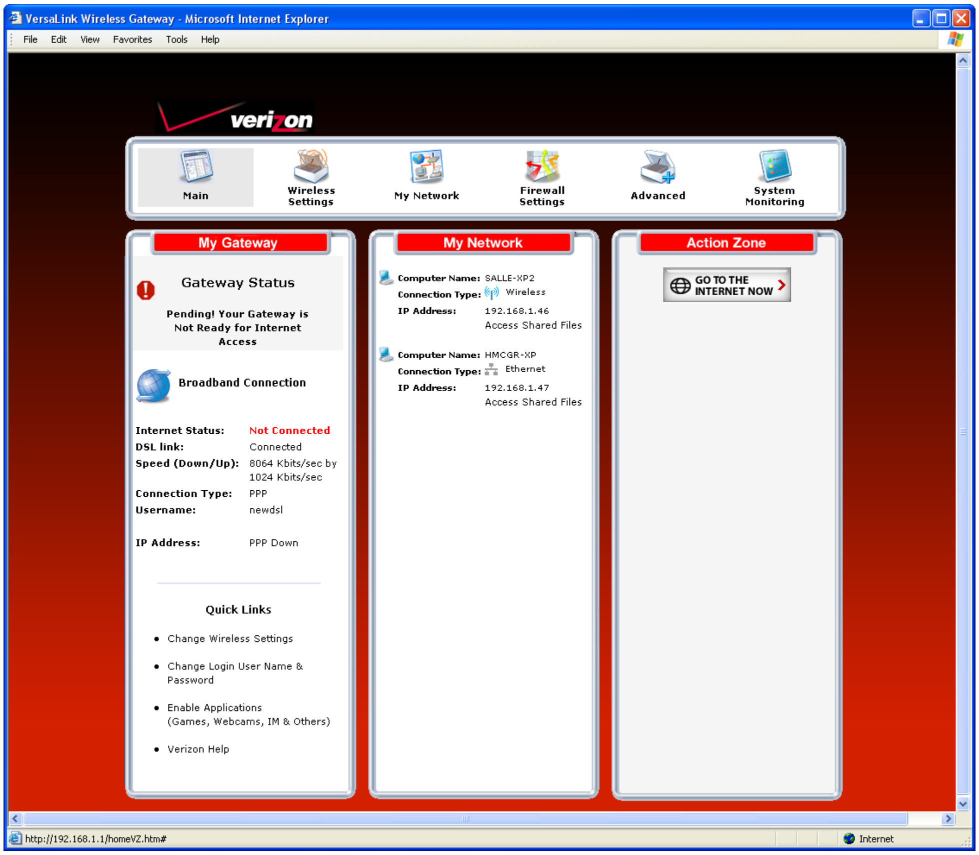
After confirming your DSL link, DHCP customers can now browse the Internet. However, PPP customers will need to complete further instructions, as explained in the following note.

NOTE: If the Router has established a DSL link and if you are connecting to the Internet via DHCP, you can now browse the Internet by following the instructions provided by Verizon. However, if you are connecting to the Internet via PPP, please proceed to section 8.2 to configure your Router's broadband connection settings. After you have configured the broadband settings and connected to the Internet, view the **My Modem** panel; the **Internet Status** field will display **Connected.**

8.2 Setting Up an Account Profile

Your account profile is used to identify you to Verizon. To begin your account setup, go to the **My Modem** panel in the home page. Next, click the **Not Connected** link.

NOTE: Before you set up your account profile, obtain your **Account ID** and **Account Password** from Verizon. You will use this information when you set up your account parameters.



Gateway Status

Pending! Your Gateway is Not Ready for Internet Access

Broadband Connection

Internet Status: Not Connected
DSL link: Connected
Speed (Down/Up): 8064 Kbits/sec by 1024 Kbits/sec
Connection Type: PPP
Username: newdsl

IP Address: PPP Down

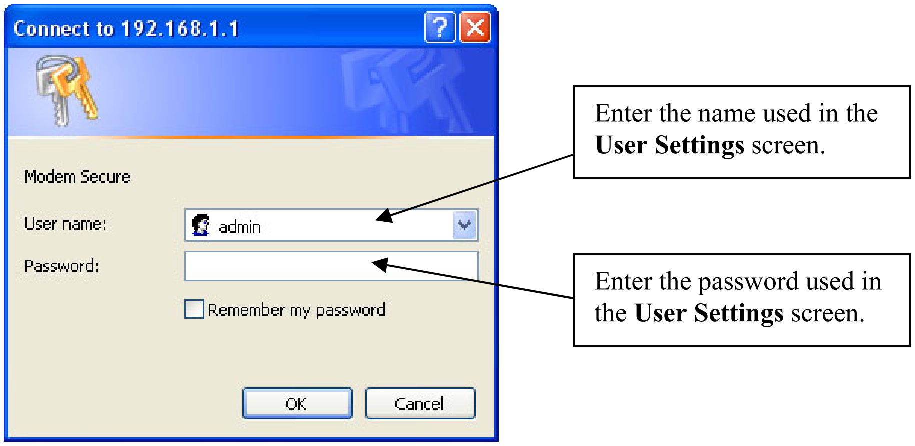
Quick Links

- Change Wireless Settings
- Change Login User Name & Password
- Enable Applications (Games, Webcams, IM & Others)
- Verizon Help

Computer Name: SALLE-XP2
Connection Type: Wireless
IP Address: 192.168.1.46
Access Shared Files

Computer Name: HMCGR-XP
Connection Type: Ethernet
IP Address: 192.168.1.47
Access Shared Files

If you clicked **Not Connected** in the preceding screen, the following pop-up screen will prompt you for a user name and password. Enter the **User name** and **Password** that you used in the **User Settings** screen, in section 7.2, and then click **OK** to continue.



Enter the name used in the **User Settings** screen.

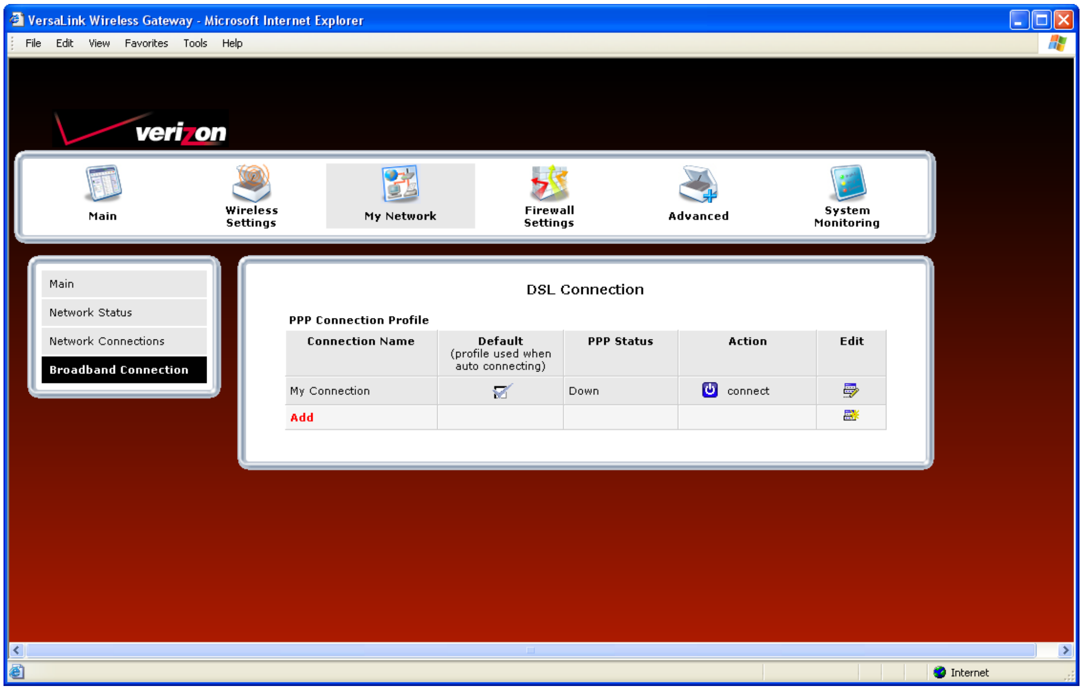
Enter the password used in the **User Settings** screen.

If you clicked **OK,** the following **DSL Connection** screen will appear. This screen displays information about your Internet connection and allows you to access the Router's connection settings. If you have not set up your account profile, the **PPP Status** field will display **Down,** indicating that you have not established an Internet connection with Verizon.

Throughout this User Guide, the following icons are used to indicate clicking actions that you can take with your mouse to configure the Router's settings.

Icon	Description
✎	**Details/Edit** Clicking this icon allows you to either view the details of or edit your Router's settings.
✱	**Add/New** Clicking this icon allows you to add new entries your Router.
✗	**Delete** Clicking this icon allows you to delete an entry from your Router.
+	**Expand** Clicking this icon allows you to expand the page to view additional entries.
−	**Collapse** Clicking this icon allows you to collapse the page.
connect	**Connect** Clicking this icon allows you to connect to Verizon
disconnect	**Disconnect** Clicking this icon allows you to disconnect from Verizon.

To set up your account profile. Click the **Edit** icon.



DSL Connection

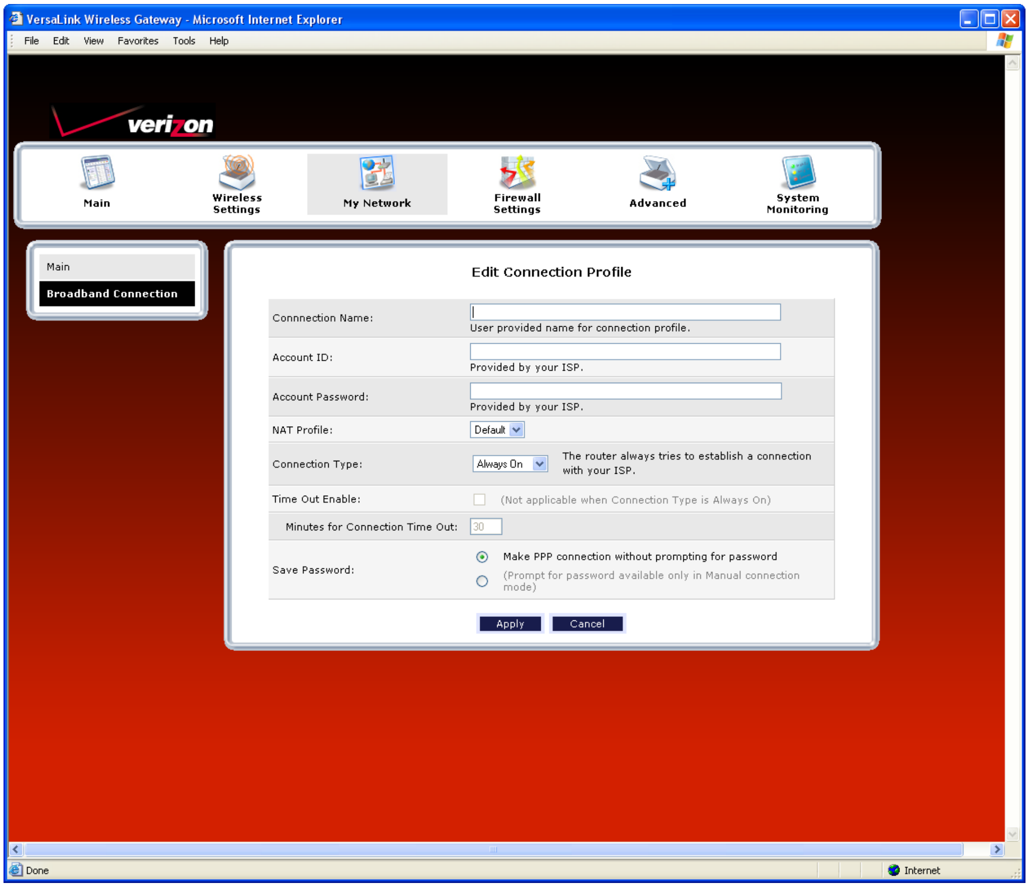
PPP Connection Profile

Connection Name	Default (profile used when auto connecting)	PPP Status	Action	Edit
My Connection	✓	Down	connect	✎
Add				✎

- **Connection Name:** The name of the connection profile your are using for your Internet connection.
- **Default:** The name of the default profile that is used when the Router auto connects to the ISP.
- **PPP Status:** The status of the PPP connection. Down = no PPP connection, Up = PPP connection is established.
- **Action:** Click the icon in the **Action** column to connect to Verizon or to disconnect from Verizon (end your PPP session). If you end your PPP session, this does not end your DSL connection.
- **Add:** Click the **Add** link to add additional profiles to your Router.
- **Edit:** Click the **Edit** icon for **My Connection** to set up your connection profile. **My Connection** is the name of the default connection profile that you will use to connect to Verizon. Then, if you want, you can click **Add** to add additional connection profiles, and assign one as your default profile.

If you clicked **Edit** in the preceding screen, the following **Edit Connection Profile** screen will appear. Type your account parameters in the fields provided. The following account parameters are required for your Internet connection:

- **Connection Name:** The Connection Name is a word or phrase that you use to identify your account.
- **Account ID:** The Account ID is provided by Verizon
- **Account Password:** The Account Password is provided by Verizon.



Edit Connection Profile

Connection Name:	User provided name for connection profile.
Account ID:	Provided by your ISP.
Account Password:	Provided by your ISP.
NAT Profile:	Default
Connection Type:	Always On — The router always tries to establish a connection with your ISP.
Time Out Enable:	□ (Not applicable when Connection Type is Always On)
Minutes for Connection Time Out:	30
Save Password:	● Make PPP connection without prompting for password ○ (Prompt for password available only in Manual connection mode)

Next, select the connection type (Manual, On Demand, Always On) that you want to use for your default connection profile.

- **Manual:** Select this option if you want to manually establish your PPP session.
- **On Demand:** Select this option if you want the Router to automatically reestablish your PPP session on demand anytime your PC requests Internet activity (for example, browsing the Internet, email, etc.). Please note that when you have Internet traffic, this setting may cause a delay.
- **Always On:** Select this option if you want the Router to automatically establish a PPP session when you log on or if the PPP session goes down. The Router's factory default setting is Always On.

If you enable the Router's timeout feature, the Router will end the PPP session upon reaching the number of minutes you specify for connection timeout. To configure connection timeout, do the following:

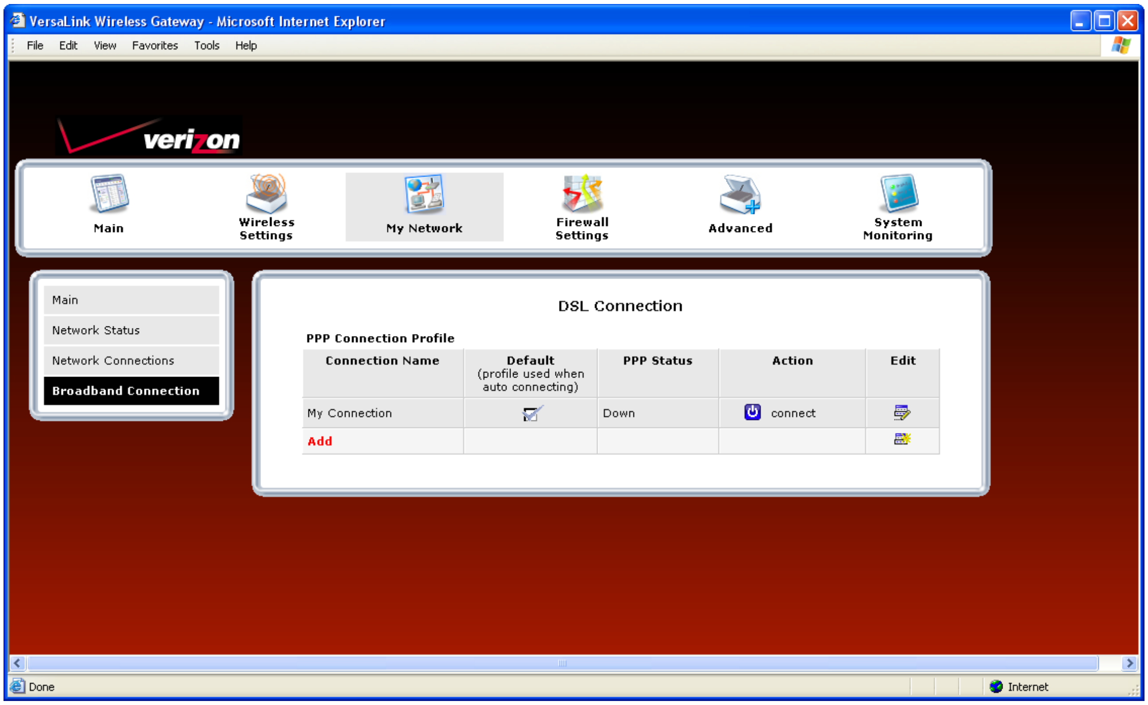
1. In the **Connection Type** field, select either **Manual** or **On Demand** as the connection setting.

   NOTE: The **Time Out Enable** feature does not apply to **Always On,** only to **On Demand** and **Manual,** and the timeout option will be dimmed if you select **Always On**. The Router's default connection type is **Always On.**

2. Next, click the **Time Out Enable** check box (a check mark will appear in the box).
3. Type the number of minutes in the **Minutes for Connection Time Out** box.

To save your account password, in the **Save Password** field, click the top option button. Clicking this option button allows the Router to make a PPP connection without first prompting you for a password. (By default this option is already selected; the Router will automatically save the account password.) If you want the Router to prompt you for the account password, select **Manual** as the connection type, and then click the bottom option button in the **Save Password** field. (The Router will prompt you for a password only if you have selected **Manual** as the connection type.)

After you have entered the appropriate settings in the **Edit Connection Profile** screen, click **Apply** to allow the settings to take effect. The following **DSL Connection** screen will appear.



DSL Connection

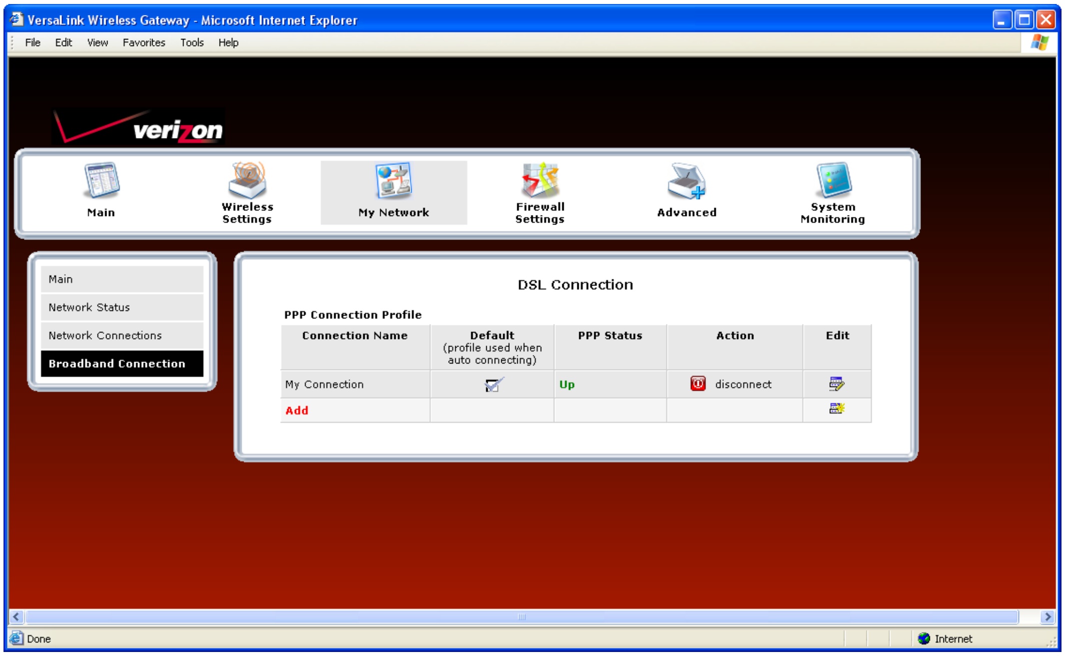
PPP Connection Profile

Connection Name	Default (profile used when auto connecting)	PPP Status	Action	Edit
My Connection	☑	Down	connect	
Add				

8.3 Connecting to the Internet

After you have set up your account profile using the steps explained in section 8.2, you are ready to establish a PPP session (Internet connection) with Verizon. View the **DSL Connection** screen. If the **PPP Status** field displays **Down,** you do not have an Internet connection established. To establish an Internet connection, click **connect**. The **PPP Status** field will briefly display **connecting;** this means that the Router is establishing a PPP session. After Router's establishes a PPP session, the **PPP Status** field will display **Up.** Congratulations! You can now browse the Internet.

NOTE: Whenever the PPP Status displays **Down,** you do not have a PPP session established. If your Router's connection setting is set to **Always On** or **On Demand,** after a brief delay the PPP session will be established automatically, and PPP Status will display **Up.** However, if the connection setting is set to **Manual**, you must click the **connect** button to establish a PPP session. Once the PPP session has been established (PPP Status displays **Up**), you can browse the Internet.



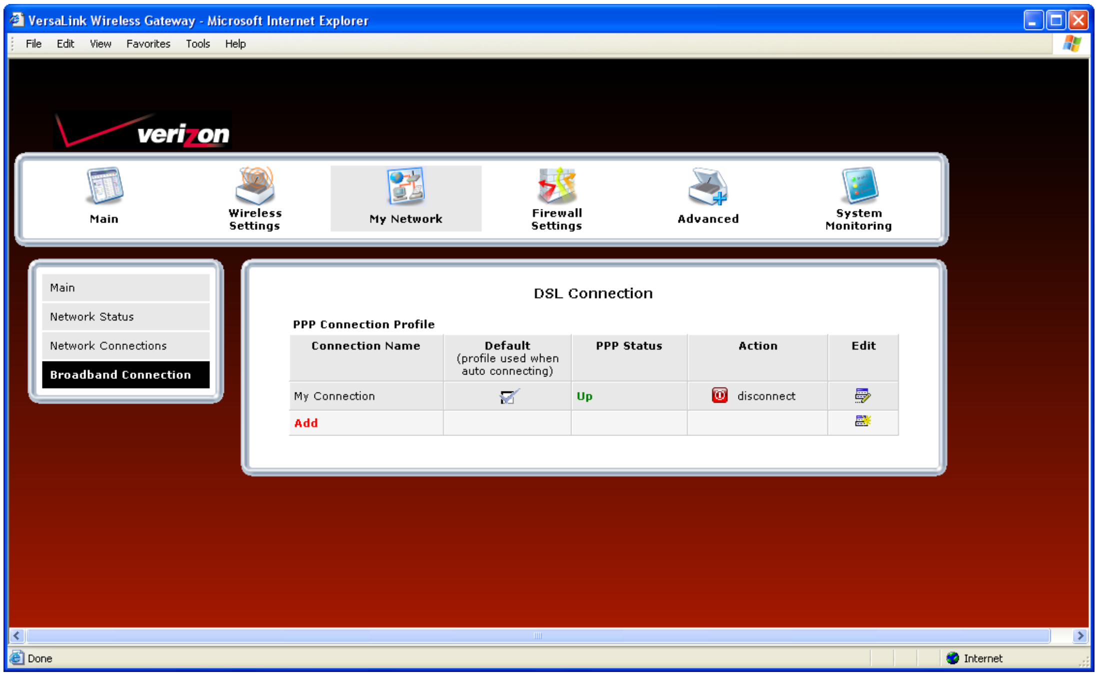
DSL Connection

PPP Connection Profile

Connection Name	Default (profile used when auto connecting)	PPP Status	Action	Edit
My Connection	☑	Up	disconnect	
Add				

8.4 Disconnecting from the Internet

If you have finished browsing the Internet and want to disconnect from your Internet service provider, from the **My Modem** panel in the home page, click the **connected** link (next to Internet Status). The following **DSL Connection** screen will appear. Click **disconnect** to end your PPP session.



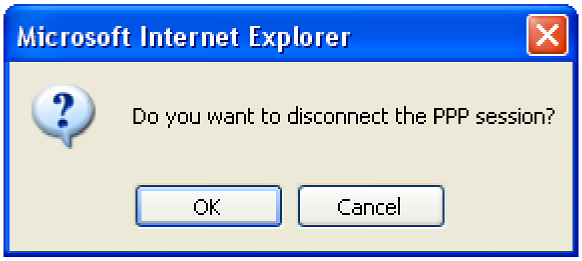
DSL Connection

PPP Connection Profile

Connection Name	Default (profile used when auto connecting)	PPP Status	Action	Edit
My Connection	☑	Up	disconnect	✎
Add				✎

If you clicked **disconnect,** the following pop-up screen will appear. Click **OK** to continue.

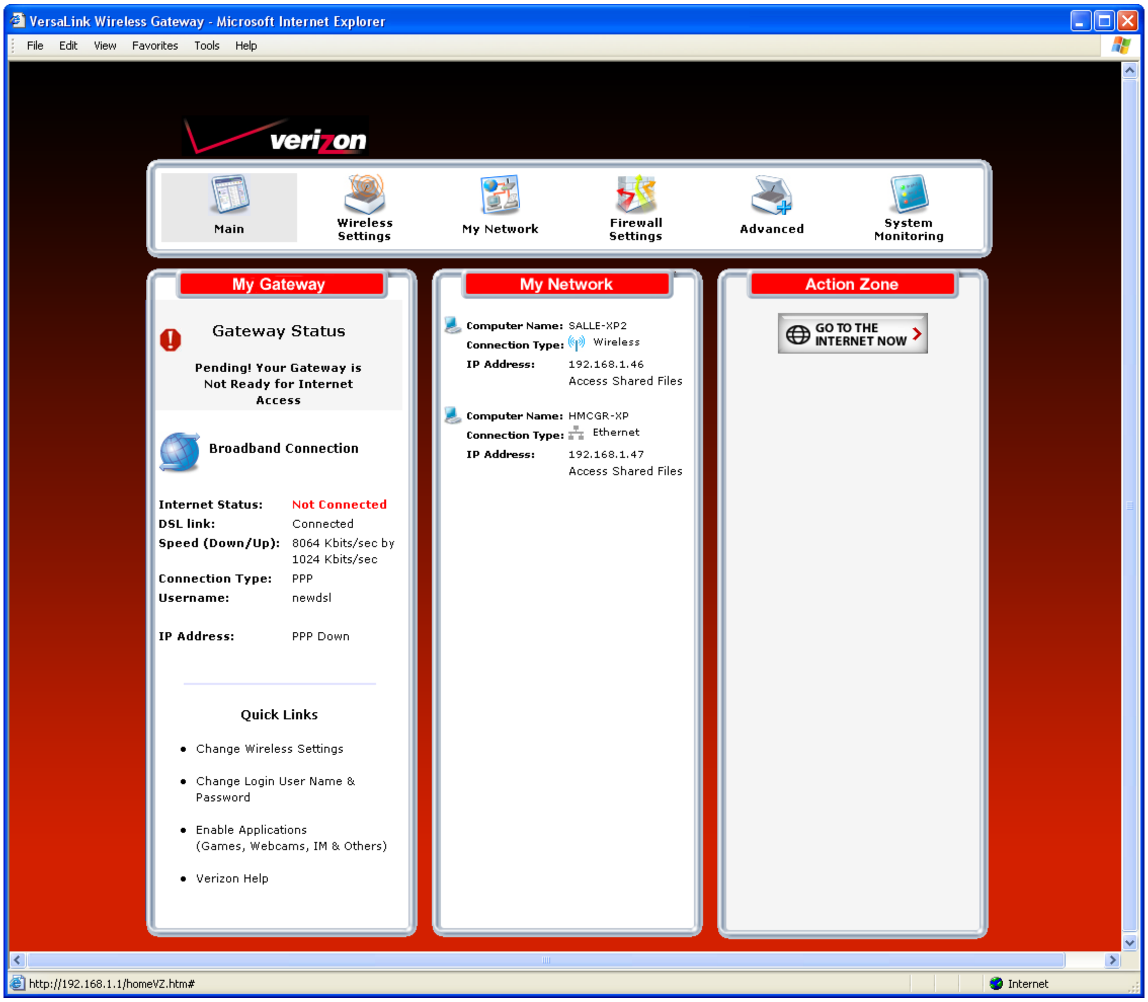
IMPORTANT: If you disconnect the PPP session, this will disconnect the Router from the Internet, and Internet access for any device connected to your LAN will be unavailable until the PPP session is reestablished.



Do you want to disconnect the PPP session?

If you clicked **OK** to disconnect your PPP session, after a brief moment, the PPP Status in the **DSL Connection** screen should display **Down**.

Also, at the home page in the **My Modem** panel, the **Internet Status** field will display **Not Connected**. Although your Internet connection is down, your DSL session will not be affected. When you are ready to end your DSL session, simply turn off the Router via the power switch on the Router's rear panel.



Gateway Status

Pending! Your Gateway is Not Ready for Internet Access

Broadband Connection

Internet Status: Not Connected
DSL link: Connected
Speed (Down/Up): 8064 Kbits/sec by 1024 Kbits/sec
Connection Type: PPP
Username: newdsl

IP Address: PPP Down

Quick Links

- Change Wireless Settings
- Change Login User Name & Password
- Enable Applications (Games, Webcams, IM & Others)
- Verizon Help

Computer Name: SALLE-XP2
Connection Type: Wireless
IP Address: 192.168.1.46
Access Shared Files

Computer Name: HMCGR-XP
Connection Type: Ethernet
IP Address: 192.168.1.47
Access Shared Files

NOTE: When you are ready to exit the Router's interface, click the **X** (close) in the upper-right corner of the window. Closing the window will not affect your PPP Status (your PPP session will not be disconnected) or your DSL connection. You must click the **disconnect** button to disconnect your PPP session. When you are ready to restore the Router's interface, start your Internet browser and then type **http://192.168.1.1** in the browser's address bar. Next, press **Enter** on your keyboard.

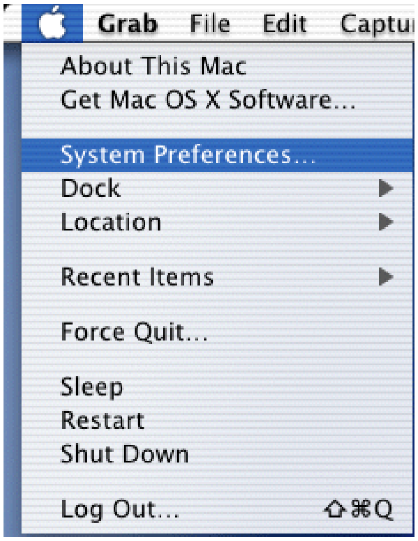
9. SETTING UP MACINTOSH OS X

This section provides instructions on how to use Macintosh Operating System 10 with the Router. Follow the instructions in this section to create a new network configuration for Macintosh OS X.

NOTE: Macintosh computers must use the Router's Ethernet installation. Refer to section 6, "Installing the Hardware," for details.

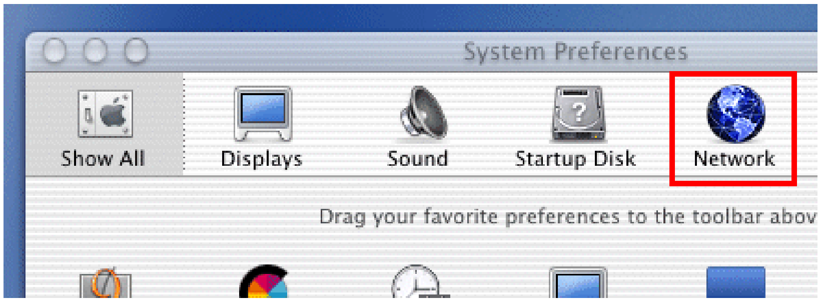
9.1 Opening the System Preference Screen

After you have connected the Router to the Ethernet port of your Macintosh, the screen below will appear. Click the "**Apple**" icon in the upper-left corner of the screen and select **System Preferences**.



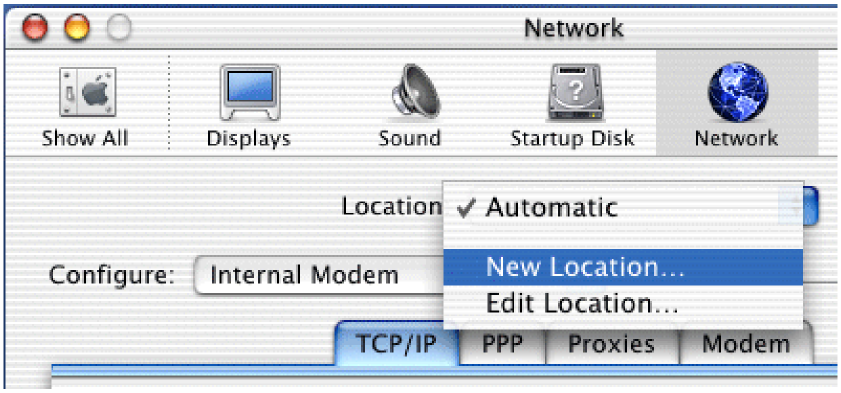
9.2 Choosing the Network Preferences

After selecting **System Preferences** from the previous screen, the **following** screen will appear. Click the **Network** icon.



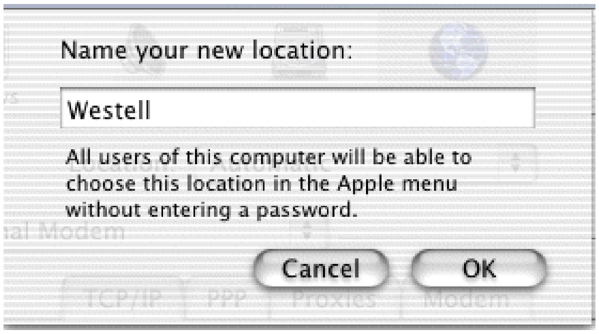
9.3 Creating a New Location

After clicking the **Network** icon, the **Network** screen will appear. Select **New Location** from the **Location** field.



9.4 Naming the New Location

After selecting **New Location** in the **Network** screen, the following screen will appear. In the field labeled **Name your new location:**, change the text from "**Untitled**" to "**Westell**." Click **OK**.



Name your new location:

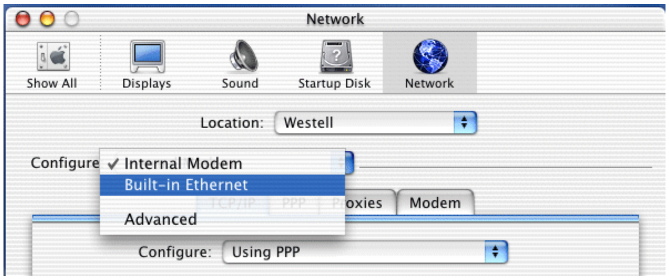
Westell

All users of this computer will be able to choose this location in the Apple menu without entering a password.

9.5 Selecting the Ethernet Configuration

After clicking **OK** in the preceding screen, the **Network** screen will appear. The **Network** screen shows the settings for the newly created location. From the **Configure** field in the **Network** screen, select **Built-in Ethernet**. Click **Save** to save the settings.

NOTE: Default settings for the Built-in Ethernet configuration are sufficient to operate the Router.



Location: Westell

Configure: Built-in Ethernet

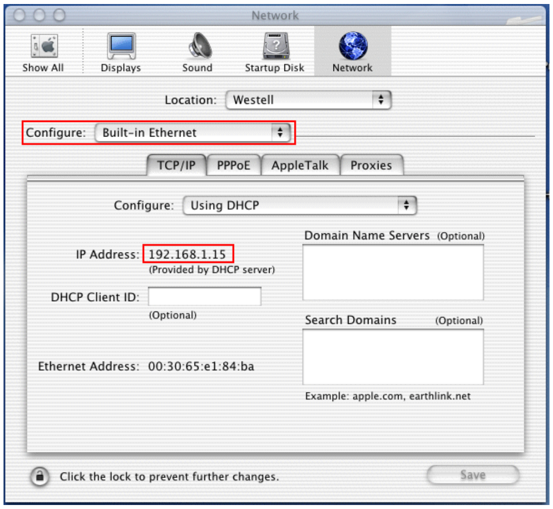
Configure: Using PPP

9.6 Checking the IP Connection

To verify that the computer is communicating with the Router, follow the instructions below.

1. Go to the “**Apple**” icon in the upper-left corner of the screen and select **System Preferences**.
2. In the **System Preferences screen**, click the **Network** icon. The **Network** screen will appear.
3. In the **Configure** field in the **Network** screen, select **Built-in Ethernet**.
4. View the **IP address** field. An IP address that begins with **192.168.1** should appear.

NOTE: The Router’s DHCP server provides this IP address. If this IP address is not displayed, check the Router’s wiring connection to the PC. If necessary, refer to section 6, “Installing the Hardware,” for installation instructions.



Location: Westell

Configure: Built-in Ethernet

Configure: Using DHCP

IP Address: 192.168.1.15
(Provided by DHCP server)

DHCP Client ID:
(Optional)

Ethernet Address: 00:30:65:e1:84:ba

Domain Name Servers (Optional)

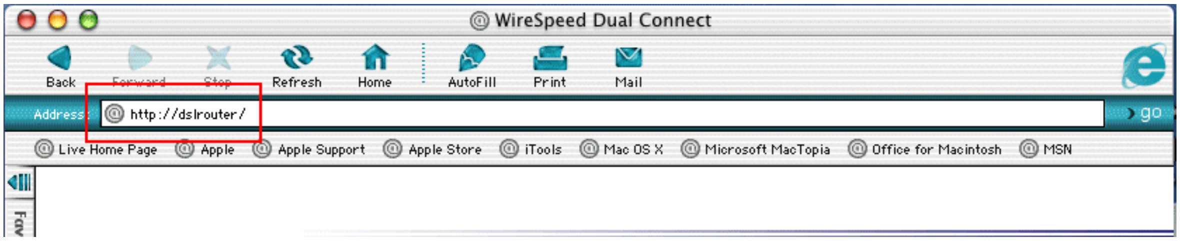
Search Domains (Optional)

Example: apple.com, earthlink.net

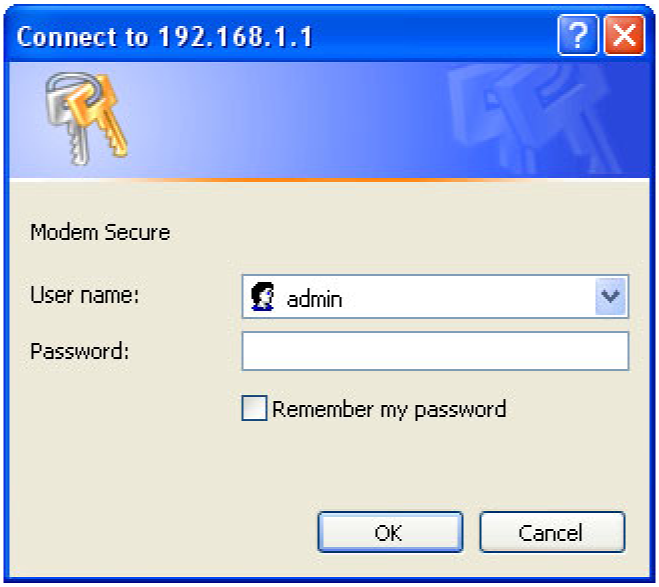
Click the lock to prevent further changes.

9.7 Accessing Your Router

In your Internet Explorer Web browser address bar, type **http://dslrouter/**. Next, press **Enter** on your keyboard.



The **Modem Secure** screen will appear. Please proceed to the **Modem Secure** screen in section 7.1 of this User Guide for logon instructions.


Connect to 192.168.1.1

Modem Secure

User name: admin

Password:

☐ Remember my password

10. BASIC CONFIGURATION

IMPORTANT: The following sections assume that you have active DSL and Internet service.

VersaLink allows you to make changes to the configurable features of your Router such as account profiles, routing configurations, and firewall settings. The following sections explain each feature and show you how to make changes to the Router's settings. The navigational menu displayed at the top of each page allows you to navigate to the various configuration screens of your Router. Whenever you change the configurable settings of your Router, you must click **Apply** (or **Save** where applicable) to allow the changes to take effect in the Router.

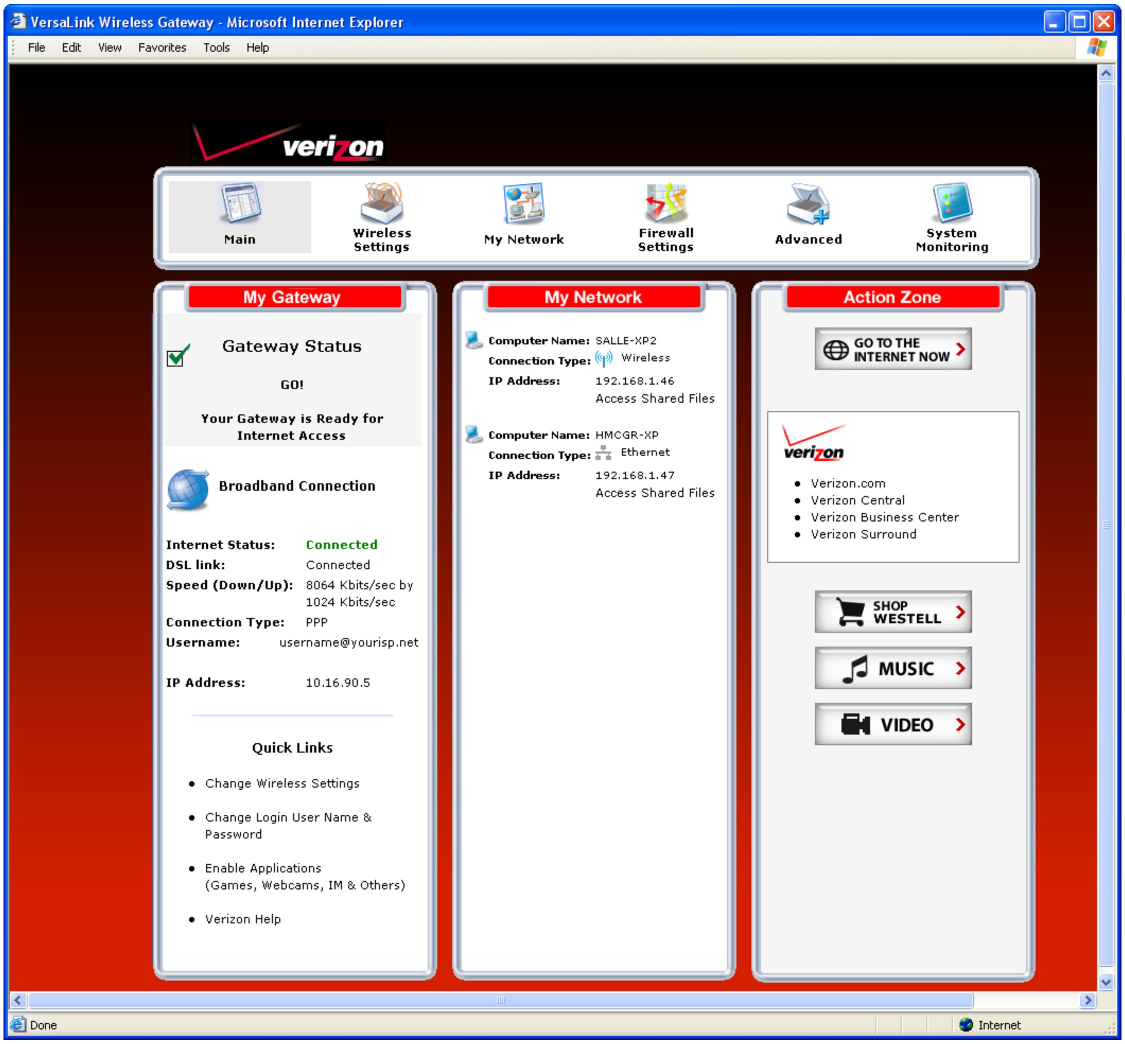
NOTE: If you need help, go to the **Quick Links** section in the home page and then click **Verizon Help**. Clicking this link takes you to Verizon's OnLine Help site where you can find additional information about your DSL Router.

To configure the basic settings in your Router, follow the instructions provided in sections 11 through 14.

NOTE: The menu options displayed will vary according to the configuration you have chosen to use, **LAN Ethernet port** or **WAN Uplink port.** If you are using WAN Uplink port, some menu options will not be available. However, all menu options will be available when the Router is configured for LAN Ethernet port. Instructions on enabling and disabling LAN Ethernet port and WAN Uplink port are explained in the section 13.2.3, "Configuring VersaPort." This document was created with the Router configured for LAN Ethernet port mode.

11. MAIN (HOME PAGE)

After you have logged on to your Router and established a PPP session with your Internet service provider (ISP), click **Main** in the top navigational menu. The following home page will appear. The home page allows you to view connection information reported by your Router and to quickly access Internet services provided by Verizon. The following sections discuss each panel in the Main page. The Main page will be referred to as the home page throughout this User Guide.



My Gateway

Gateway Status

GO!

Your Gateway is Ready for Internet Access

Broadband Connection

Internet Status:	Connected
DSL link:	Connected
Speed (Down/Up):	8064 Kbits/sec by 1024 Kbits/sec
Connection Type:	PPP
Username:	username@yourisp.net
IP Address:	10.16.90.5

Quick Links

- Change Wireless Settings
- Change Login User Name & Password
- Enable Applications (Games, Webcams, IM & Others)
- Verizon Help

My Network

Computer Name:	SALLE-XP2
Connection Type:	Wireless
IP Address:	192.168.1.46
	Access Shared Files
Computer Name:	HMCGR-XP
Connection Type:	Ethernet
IP Address:	192.168.1.47
	Access Shared Files

Action Zone

- Verizon.com
- Verizon Central
- Verizon Business Center
- Verizon Surround

11.1 My Gateway Panel

In the home page, the **My Modem** panel allows you to view details about your Router's connections and to access the connection settings in your Router. A green check mark displayed in the **Modem Status** check box signals you to Go! You can now browse the Internet. The **Quick Links** section allows you to quickly access Help information related to your Router and information on your Router's configurable settings. The following details are displayed in the **My Modem** panel.

My Modem	
Internet Status	This field displays status of your Internet connection. Click this link to set up new account profiles, edit existing account profiles, and connect to or disconnect from Verizon. Additional details about your Router's broadband connection can be found in section 8.2, "Setting Up an Account Profile," of this User Guide.
DSL Link	This field allows you to view the status of your DSL connection.
Speed (Down/Up)	This field displays the transmission rates (in Kbits/sec) of your DSL signal. **Down** is the rate at which data is transmitted downstream (from the Internet to your computer). **Up** is the rate at which data is transmitted upstream (from your computer to the Internet).
Connection Type	This field displays the protocol used for your Internet connection, provided by Verizon.
Username	This field displays the username that you used to connect to Verizon. The username and password are provided by Verizon.
Internet IP Address	This is a WAN IP address that has been assigned to your Router by Verizon. You will receive the WAN IP address only after your Router has established an Internet connection with Verizon. (The LAN IP address of your Router is "192.168.1.1" which is assigned to your Router by factory default.)
Change Wireless Settings	Click this link to change the Router's wireless settings.
Change Login User Name & Password	Click this link to change the administrator user name and password.
Enable Applications (games, webcams, IM, etc.)	Click this link to set up a service profile and attach VPN, Gaming, or other NAT services to the profile.
Verizon Help	Click this link to access Verizon's Online Help where you can obtain detailed information about your Router.

11.2 My Network Panel

In the home page, the My Network panel allows you to view information about devices that are connected to your network. If your network provides access to shared files, you can access the files by clicking the **Access Shared Files** link. The following details are displayed in the My Network panel.

My Network	
Computer Name	The ASCII (text) name of the device connected network
Connection Type	The physical connection used to interface with your Router.
IP Address	The IP address assigned to your computer by your Router's DHCP server.
Access Shared Files	Click this link to access shared files from a device on your local network. (The device must have file sharing enabled.) Note: If the device has a firewall turned on, you will not be able to access shared file from the device.

11.3 Action Zone Panel

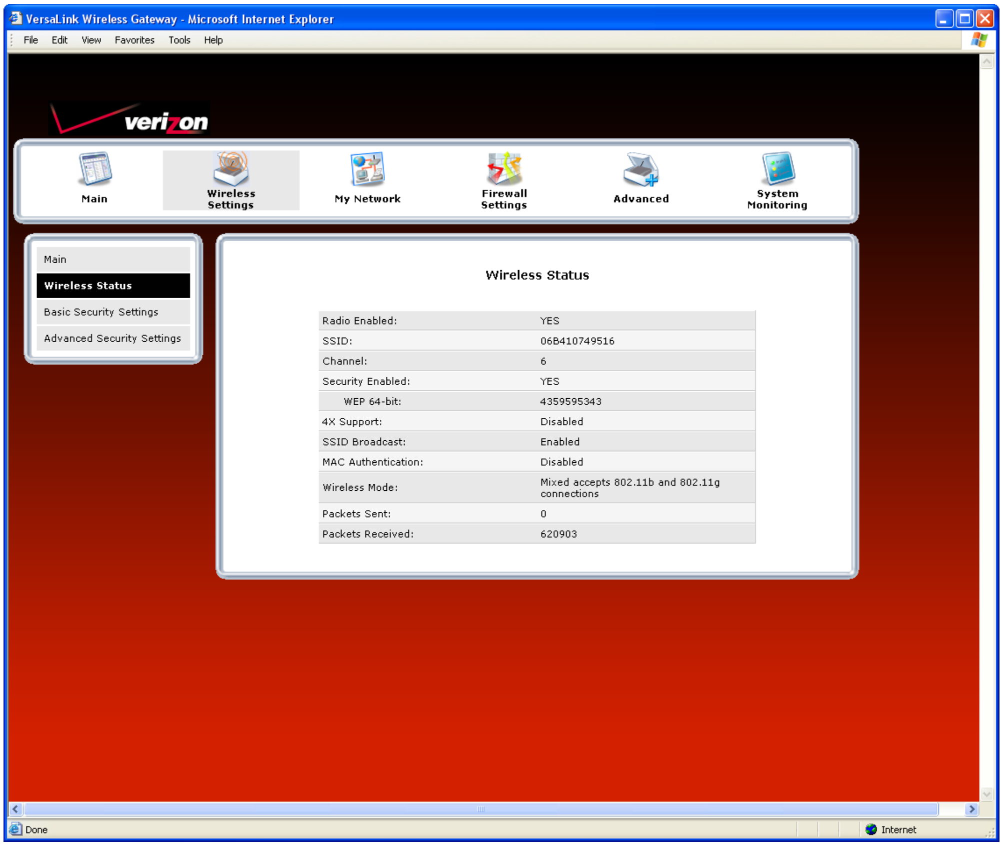
In the home page, the Action Zone panel allows quick access to Internet services provided by Verizon. The following details are displayed in the Action Zone panel.

NOTE: The links displayed in the **Action Zone** panel are specific to the services offered by Verizon and will be available only after you have established a PPP session (Internet connection) with Verizon.

Action Zone	
Go to the Internet Now	Click this button to go to the default page of your Web browser. (Clicking this button will take you to the browser's default page. However, if your PPP session is down, you do not have Internet access. To browse the Internet, you must first establish a PPP session with Verizon.) When you are ready to return to the Router's Web interface, type **http://192.168.1.1/** in your Internet browser's address bar, and press **Enter** on your keyboard.
Verizon	Click the links in this section to access networking services provides by Verizon.
Shop Westell	Click this button to go to Westell's home page.
Music	Click this button to go to the Verizon Surround - Music page.
Video	Click this button to go to the Verizon Surround - Movies page.

12. WIRELESS SETTINGS

If you click **Wireless Settings** in the top navigational menu, the following screen will appear. This screen allows you to you configure the Router's wireless connection settings.



Wireless Status

Radio Enabled:	YES
SSID:	06B410749516
Channel:	6
Security Enabled:	YES
WEP 64-bit:	4359595343
4X Support:	Disabled
SSID Broadcast:	Enabled
MAC Authentication:	Disabled
Wireless Mode:	Mixed accepts 802.11b and 802.11g connections
Packets Sent:	0
Packets Received:	620903

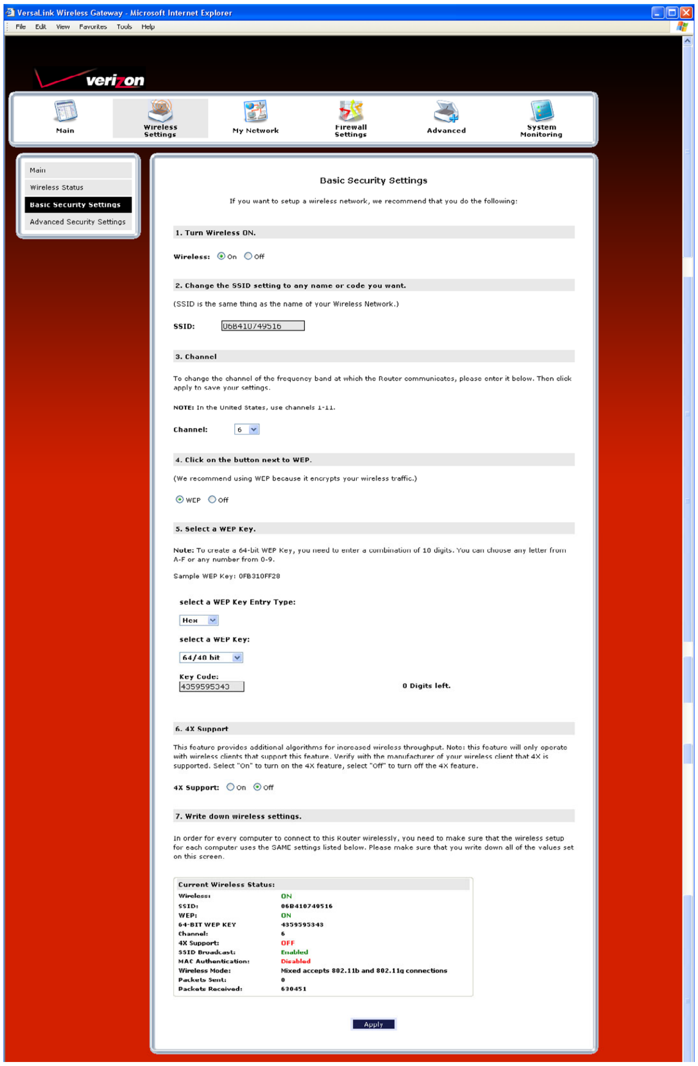
12.1 Basic Security Settings

If you select **Wireless Settings** from the top navigation menu and then select **Basic Security Settings** in the submenu options at the left of the screen, the following screen will appear. Enter the appropriate settings in the fields provided, and then click **Apply** to allow the settings to take effect. The following table explains the details of this feature.

IMPORTANT:

1. If you are connecting to VersaLink via a wireless network adapter, the computer's wireless network adapter must be configured with VersaLink's Service Set ID (SSID) in order to communicate with VersaLink; that is, the SSID used in the wireless network adapter must be identical to VersaLink's SSID. The default SSID for VersaLink is the serial number of the unit (located below the bar code on the bottom of the unit and also on the shipping carton). Locate and run the utility software provided with the wireless network adapter, and then enter the identical SSID and security settings displayed in the VersaLink. For privacy, you can change the SSID and security settings to your desired values.

2. In order for every computer on your network to connect to your VersaLink wirelessly, confirm that each computer is using the same security settings that you have configured in VersaLink's Basic Security Settings screen. After you have configured all the settings in this screen, please record the settings for future reference.



Basic Security Settings

If you want to setup a wireless network, we recommend that you do the following:

1. Turn Wireless ON.

Wireless: ● On ○ Off

2. Change the SSID setting to any name or code you want.

(SSID is the same thing as the name of your Wireless Network.)

SSID: 06B410749516

3. Channel

To change the channel of the frequency band at which the Router communicates, please enter it below. Then click apply to save your settings.

NOTE: In the United States, use channels 1-11.

Channel: 6

4. Click on the button next to WEP.

(We recommend using WEP because it encrypts your wireless traffic.)

● WEP ○ Off

5. Select a WEP Key.

Note: To create a 64-bit WEP Key, you need to enter a combination of 10 digits. You can choose any letter from A-F or any number from 0-9.

Sample WEP Key: 0FB310FF28

select a WEP Key Entry Type:

Hex

select a WEP Key:

64/40 bit

Key Code:
4359595343

0 Digits left.

6. 4X Support

This feature provides additional algorithms for increased wireless throughput. Note: this feature will only operate with wireless clients that support this feature. Verify with the manufacturer of your wireless client that 4X is supported. Select "On" to turn on the 4X feature, select "Off" to turn off the 4X feature.

4X Support: ○ On ● Off

7. Write down wireless settings.

In order for every computer to connect to this Router wirelessly, you need to make sure that the wireless setup for each computer uses the SAME settings listed below. Please make sure that you write down all of the values set on this screen.

Current Wireless Status:	
Wireless:	ON
SSID:	06B410749516
WEP:	ON
64-BIT WEP KEY	4359595343
Channel:	6
4X Support:	OFF
SSID Broadcast:	Enabled
MAC Authentication:	Disabled
Wireless Mode:	Mixed accepts 802.11b and 802.11g connections
Packets Sent:	0
Packets Received:	630451

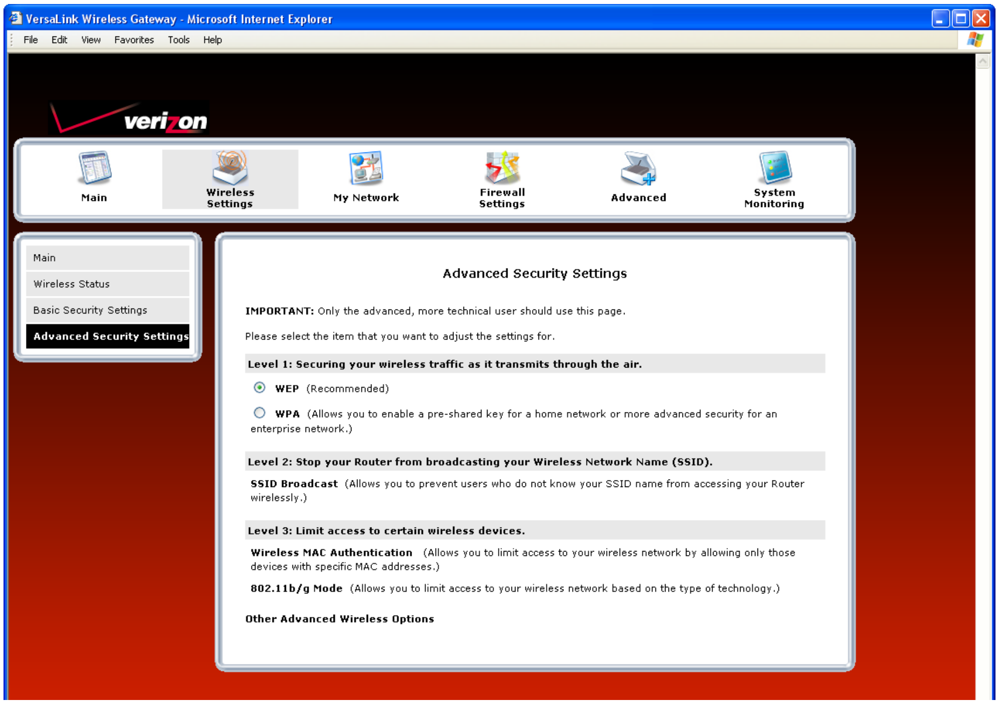
Basic Security Settings	
Wireless Operation	Factory Default = On Choose the desired setting. When On is selected, wireless stations (wireless computers or other wireless devices) can connect to the Router, as long as the appropriate settings are configured in the wireless station's network adapter. When Off is selected, computers will not be able to connect to the Router wirelessly.
Network Name (SSID)	Factory Default = 06B410749516 This string, (30 characters or less) is the name of your wireless network. To connect to the Router, the SSID on a computer's wireless card must match the SSID on the Router. You can change the SSID to any name or code you want.
Channel	Factory Default = 6 This is the channel of the frequency band at which the Router communicates. The Router transmits and receives data on this channel. The number of channels to choose from is pre-programmed into the Router. A computer's wireless card does not have to be set to the same channel as the Router; the wireless cards scan all channels, and look for a Router to connect to. Note: In the United States, use channels 1 through 11.
WEP configured	Factory Default = On

	Click the desired option button. If WEP is selected, the Router will allow you to enter WEP key values for wireless security, and any wireless computer can connect to the Router (as long as its SSID and security settings matches the Router's). If Off is selected, you will not be allowed to enter WEP key values, and wireless traffic will not be encrypted. This maximizes the risk of unauthorized access to your computer.
WEP Key Entry Type	Factory Default = Hex Choose the desired WEP Key EntryType from the drop-down menu. A WEP key is treated as either a string of text (ASCII) characters or a set of hexadecimal (Hex) characters. Possible Responses: Hex (hexadecimal) – Selecting Hex allows you to enter characters from (A-F) or (0-9) as the key code. ASCII (text) – Selecting ASCII allows you to enter characters from (A-Z) or (0-9) as the key code.
WEP Key	Choose the desired WEP Key encryption from the drop-down menu. The WEP key value is used to encrypt your wireless traffic. The Router supports 64/40-bit, 128/104-bit, or 256/232-bit WEP encryption.
Key Code	Enter the key code values in this field. ASCII: If you are using an ASCII key code, the number of characters entered into this field must be either 5 (for 40/64 bit encryption), 13 (for 128 bit encryption) or 29 (for 256 bit encryption). HEX: If you are using a Hex key code, the number of characters that you can enter into this field must be either 10 (for 40/64 bit encryption), 26 (for 128 bit encryption) or 58 (for 256 bit encryption). The only allowable hexadecimal characters are: A-F and 0-9. Note: Do not use symbols or blank spaces in the key code field.
4x Support	Factory Default = Off Select On to turn on the 4X feature. Select Off to turn off the 4X feature. When On is selected, this feature provides additional algorithms for increased wireless throughput. Note: This feature will only operate with wireless clients that support this feature. Verify with the manufacturer of your wireless client that 4X is supported.
Current Wireless Status	Displays the settings and packet information for your Wireless connection. Settings displayed in this window can be configured through the **Basic Security Settings** screen or through the **Advanced Security Settings** screen.

12.2 Advanced Security Settings

If you select **Wireless Settings** from the top navigational menu and then select **Advanced Security Settings** in the submenu options at the left of the screen, the following screen will appear. The following table explains the details of the Advanced Security Settings screen.

IMPORTANT: Only the advanced user should change the settings in this screen. If you need to reset the Router to factory default settings, press the reset button at the rear of the Router. Or follow the instructions in section 15.2, "Restore Defaults," to restore the Router to factory default settings.



Advanced Security Settings

IMPORTANT: Only the advanced, more technical user should use this page.

Please select the item that you want to adjust the settings for.

Level 1: Securing your wireless traffic as it transmits through the air.

● **WEP** (Recommended)

○ **WPA** (Allows you to enable a pre-shared key for a home network or more advanced security for an enterprise network.)

Level 2: Stop your Router from broadcasting your Wireless Network Name (SSID).

SSID Broadcast (Allows you to prevent users who do not know your SSID name from accessing your Router wirelessly.)

Level 3: Limit access to certain wireless devices.

Wireless MAC Authentication (Allows you to limit access to your wireless network by allowing only those devices with specific MAC addresses.)

802.11b/g Mode (Allows you to limit access to your wireless network based on the type of technology.)

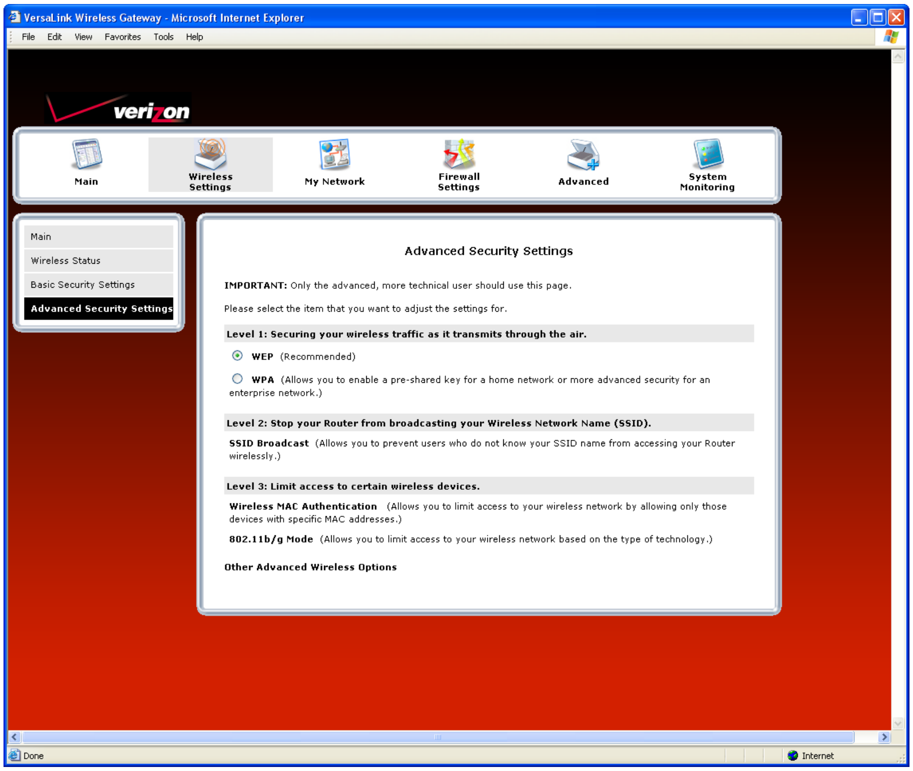
Other Advanced Wireless Options

Advanced Security Settings	
Wireless Security	Factory Default = WEP (recommended) WEP – Selecting WEP allows you to enable a WEP key for wireless security. The Router's card supports 64-bit, 128-bit, or 256-bit WEP encryption. If WEP is selected, any station can connect to the Router (as long as its SSID matches the Router's SSID). WPA – Selecting WPA allows you to enable a pre-shared key for home network or more advanced security for an enterprise network.
SSID Broadcast	Allows you to prevent unauthorized wireless access to your Router by blocking the Router's SSID on the network. When SSID Broadcast is enabled, any computer or wireless device using the SSID of "ANY" can see the Router. To prevent this from happening, disable SSID broadcast so that only the wireless devices that know your SSID can access your Router.
Wireless MAC Authentication	Allows you to limit access to your wireless network by allowing only devices with specific MAC address to connect to your Router.
802.11b/g Mode	Allows you to limit access to your Router based on technology type. 11b only: Communication with VersaLink is limited to 802.11b 11g only: Communication with VersaLink is limited to 802.11g Mixed Mode: Computers using any of the 802.11b or 802.11g rates can communicate with VersaLink.

12.2.1 Securing the Wireless Traffic

In the **Advanced Security Settings** screen, select one of the following options to secure your wireless traffic.

- WEP: Selecting this option button allows you to enable a WEP key for wireless security. (WEP is the recommended setting.)
- WPA: Selecting this option button allows you to enable a pre-shared key for a home network or for more advanced security for an enterprise network.



Advanced Security Settings

IMPORTANT: Only the advanced, more technical user should use this page.

Please select the item that you want to adjust the settings for.

Level 1: Securing your wireless traffic as it transmits through the air.

● **WEP** (Recommended)

○ **WPA** (Allows you to enable a pre-shared key for a home network or more advanced security for an enterprise network.)

Level 2: Stop your Router from broadcasting your Wireless Network Name (SSID).

SSID Broadcast (Allows you to prevent users who do not know your SSID name from accessing your Router wirelessly.)

Level 3: Limit access to certain wireless devices.

Wireless MAC Authentication (Allows you to limit access to your wireless network by allowing only those devices with specific MAC addresses.)

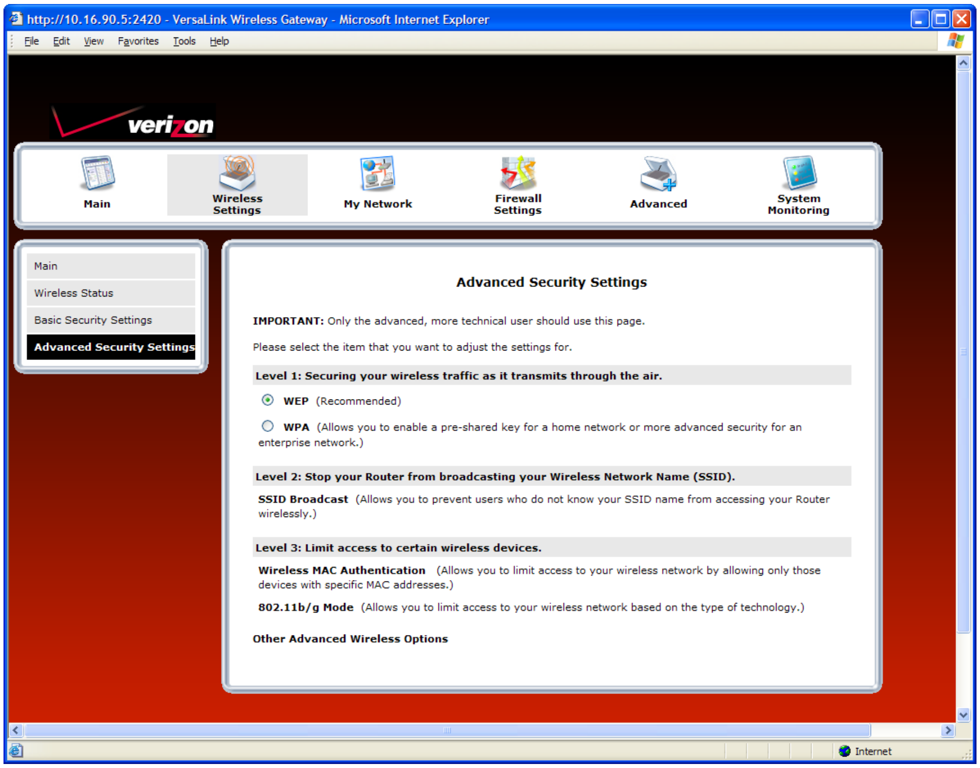
802.11b/g Mode (Allows you to limit access to your wireless network based on the type of technology.)

Other Advanced Wireless Options

12.2.1.1 WEP Security

If you select **WEP** in the **Advanced Security Settings** screen, the following screen will be displayed.

NOTE: A WEP key is treated as either a string of text (ASCII) characters or a set of hexadecimal (Hex) characters. The number of text characters must be either 5 (for 40/64 bit encryption), 13 (for 128 bit encryption) or 29 (for 256 bit encryption). The number of Hex characters must be either 10 (for 40/64 bit encryption), 26 (for 128 bit encryption) or 58 (for 256 bit encryption). The only allowable hexadecimal characters are: A-F and 0-9.



Advanced Security Settings

IMPORTANT: Only the advanced, more technical user should use this page.

Please select the item that you want to adjust the settings for.

Level 1: Securing your wireless traffic as it transmits through the air.

● **WEP** (Recommended)

○ **WPA** (Allows you to enable a pre-shared key for a home network or more advanced security for an enterprise network.)

Level 2: Stop your Router from broadcasting your Wireless Network Name (SSID).

SSID Broadcast (Allows you to prevent users who do not know your SSID name from accessing your Router wirelessly.)

Level 3: Limit access to certain wireless devices.

Wireless MAC Authentication (Allows you to limit access to your wireless network by allowing only those devices with specific MAC addresses.)

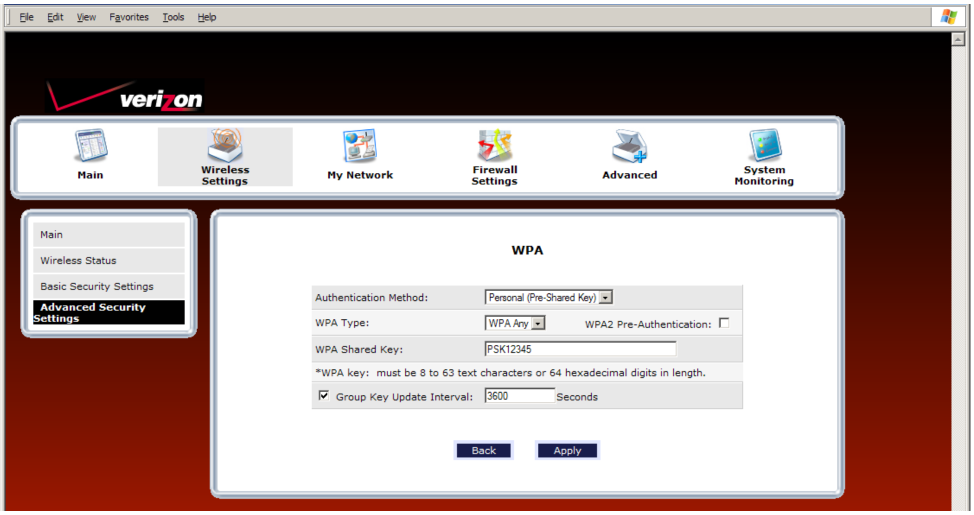
802.11b/g Mode (Allows you to limit access to your wireless network based on the type of technology.)

Other Advanced Wireless Options

12.2.1.2 WPA Security

If you select **WPA** in the **Advanced Security Settings** screen, the following screen will appear. Enter the appropriate values in the fields, and then click **Apply** to allow the settings to take effect.

NOTE: A WPA key is treated as either a string of text (ASCII) characters or a set of hexadecimal (Hex) characters. The WPA key can be either 8 to 63 text (ASCII) characters or 64 hexadecimal (Hex) characters. The only allowable hexadecimal characters are: 0-9, and A-F.



WPA

Authentication Method: Personal (Pre-Shared Key)

WPA Type: WPA Any

WPA2 Pre-Authentication: □

WPA Shared Key: PSK12345

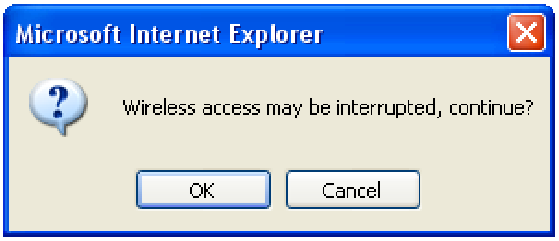
*WPA key: must be 8 to 63 text characters or 64 hexadecimal digits in length.

☑ Group Key Update Interval: 3600 Seconds

WPA	
Authentication Method	Factory Default = Personal (Pre-Shared Key) Personal (Pre-Shared Key) – WPA stations share a pre-shared key (string format) with the Router and do not authenticate with the RADIUS server. Enterprise 802.1x – WPA stations authenticate with the RADIUS server using EAP-TLS over 802.1x, a standard for passing extensible authentication protocol (EAP) for authentication purposes. EAP is used to communicate authentication information between the supplicant and the authentication server. With 802.1x EAP messages are packaged in Ethernet frames, rather than using and PPP.
WPA Type	Factory Default = WPA Any WPA Any – Allows stations that support WPA, WPA2, or WPA Any to connect to the Router. WPA – Allows stations that support WPA v.1 to connect to the Router. WPA2 – Allows stations that support WPA v.2 to connect to the Router.
WPA2 Pre-Authentication	Factory Default = Disabled To Enable this feature, click the box (a check mark will appear in the box).
WPA Shared Key	The WPA key can be either 8 to 63 text (ASCII) characters or 64 hexadecimal (Hex) characters. The only allowable hexadecimal characters are: A-F and 0-9.
Group Key Update Interval (in seconds)	The number of seconds between rekeying the wPA group key. A value of zero means that rekeying is disabled.

After you have entered your values and clicked **Apply** in the **WPA** screen, the following pop-up screen will appear. The pop-up screen indicates that wireless access may be interrupted. Click **OK** to continue.

NOTE: Wireless access to the Router may be interrupted and wireless stations may require reconfiguration.

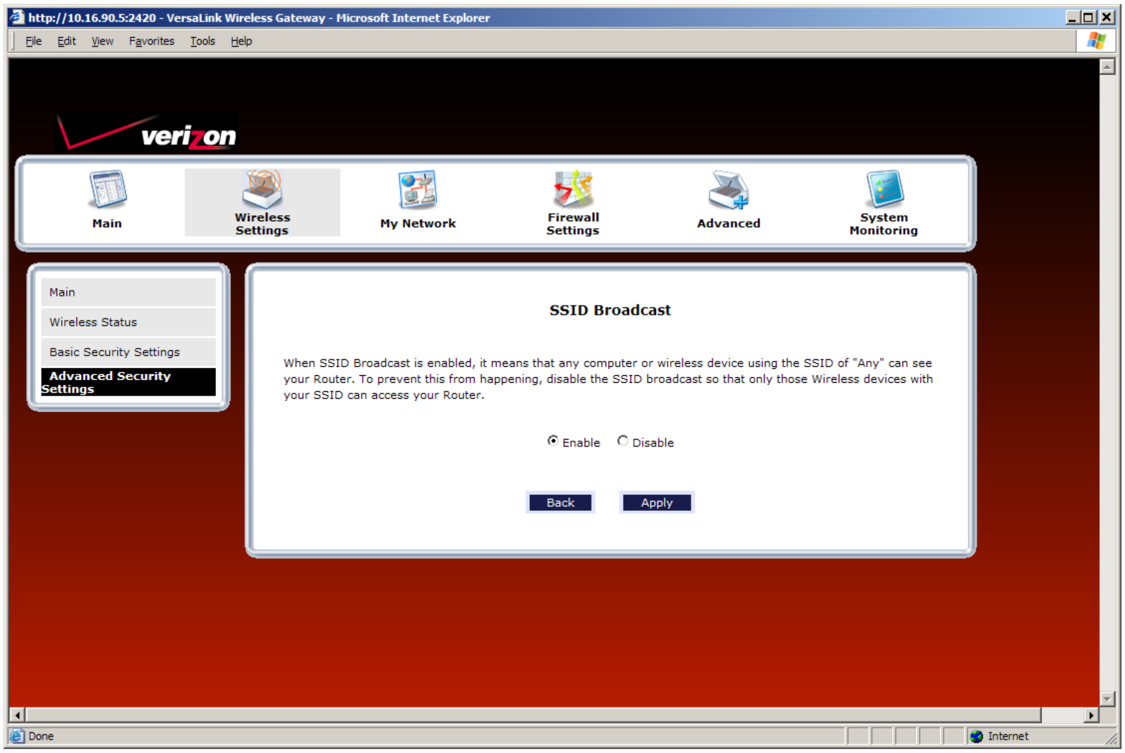


Wireless access may be interrupted, continue?

12.2.2 SSID Broadcast

If you click the **SSID Broadcast** link in the **Advanced Security Settings** screen, the following screen will be displayed. When SSID Broadcast is enabled, any computer or wireless device using the SSID of "ANY" can see the Router. To prevent this from happening, click the **Disable** option button. This will disable SSID Broadcast so that only the wireless devices that are configured with your SSID can access your Router.

Click the desired option button, and then click **Apply** to allow the settings to take effect. Click **Back** to return to the **Advanced Security Settings** screen.



SSID Broadcast

When SSID Broadcast is enabled, it means that any computer or wireless device using the SSID of "Any" can see your Router. To prevent this from happening, disable the SSID broadcast so that only those Wireless devices with your SSID can access your Router.

● Enable ○ Disable

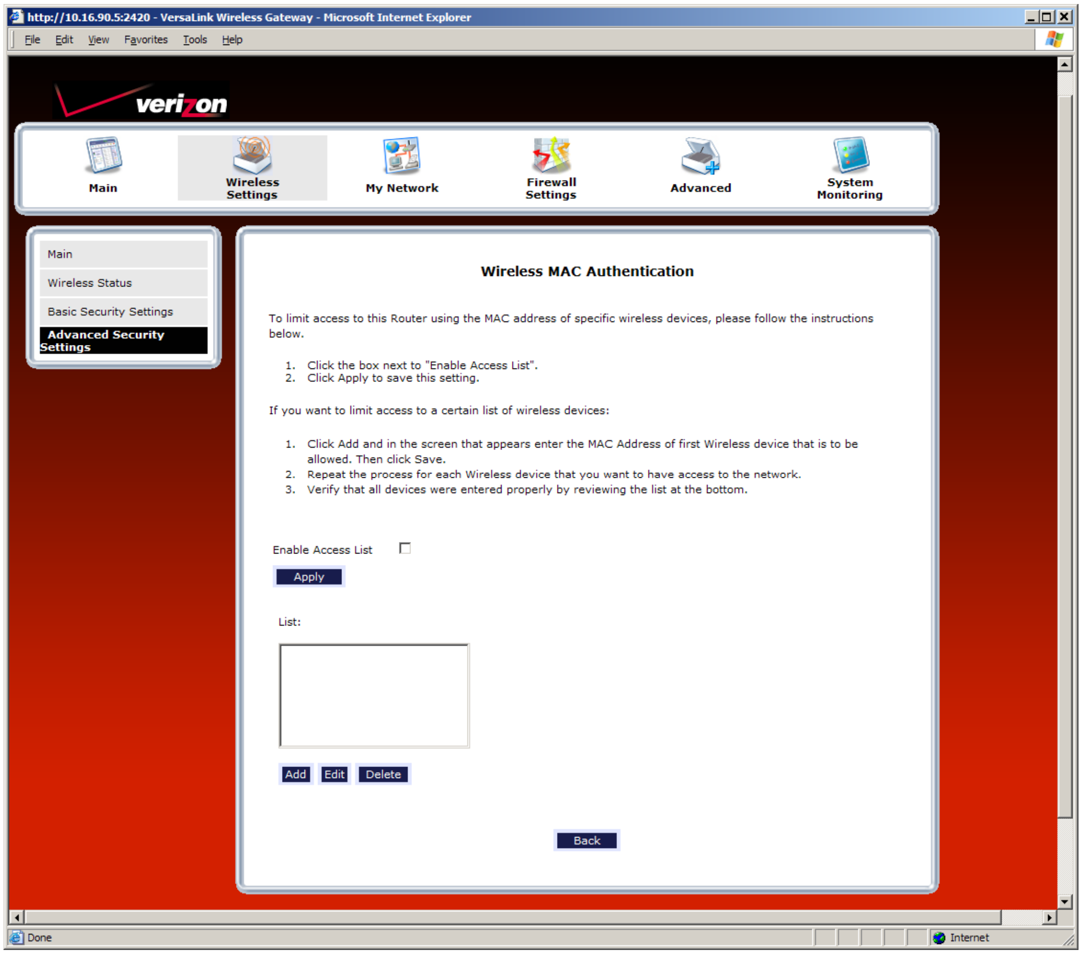
12.2.3 Wireless MAC Authentication

If you select the **Wireless MAC authentication** link in the **Advanced Security Settings** screen, the following screen will appear. This screen allows you configure wireless MAC address authentication in the Router. By enabling the **Access List,** you can permit or restrict wireless access to the Router based on specific MAC addresses.

To limit access to the Router using the MAC address of specific wireless devices, follow the steps below:

1. Click the **Enable Access List** check box (a check mark will appear in the box).
2. Click **Apply** to save the setting, and then click **OK** in the pop-up screen.

To add, edit, or delete MAC addresses of wireless devices, click the desired button below the **List** window. For example, to Add a MAC address, click **Add.**



Wireless MAC Authentication

To limit access to this Router using the MAC address of specific wireless devices, please follow the instructions below.

1. Click the box next to "Enable Access List".
2. Click Apply to save this setting.

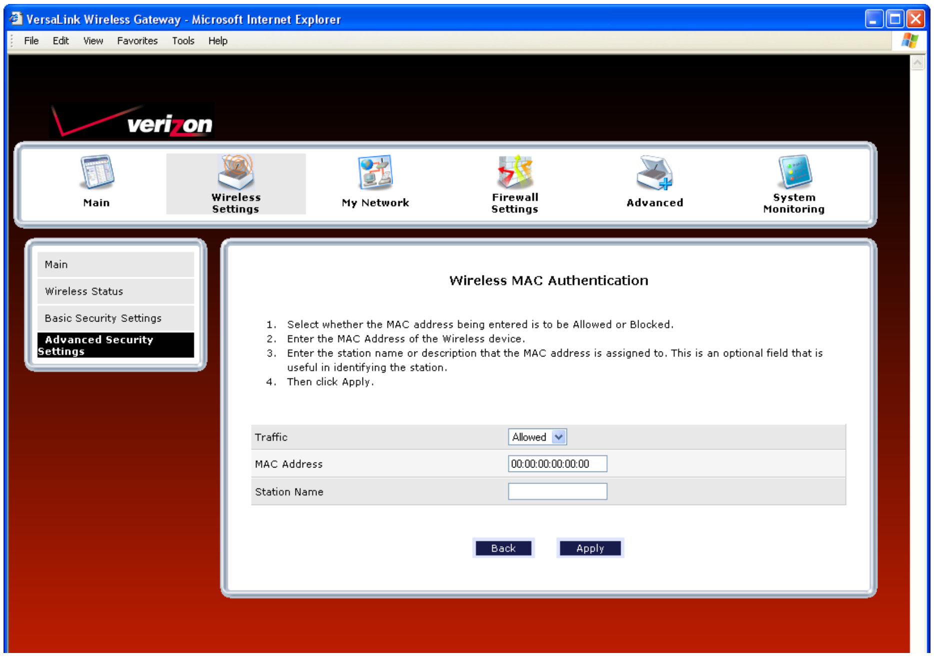
If you want to limit access to a certain list of wireless devices:

1. Click Add and in the screen that appears enter the MAC Address of first Wireless device that is to be allowed. Then click Save.
2. Repeat the process for each Wireless device that you want to have access to the network.
3. Verify that all devices were entered properly by reviewing the list at the bottom.

Enable Access List □

List:

If you clicked **Add**, the following screen will appear. Enter the desired settings, and then click **Apply**.



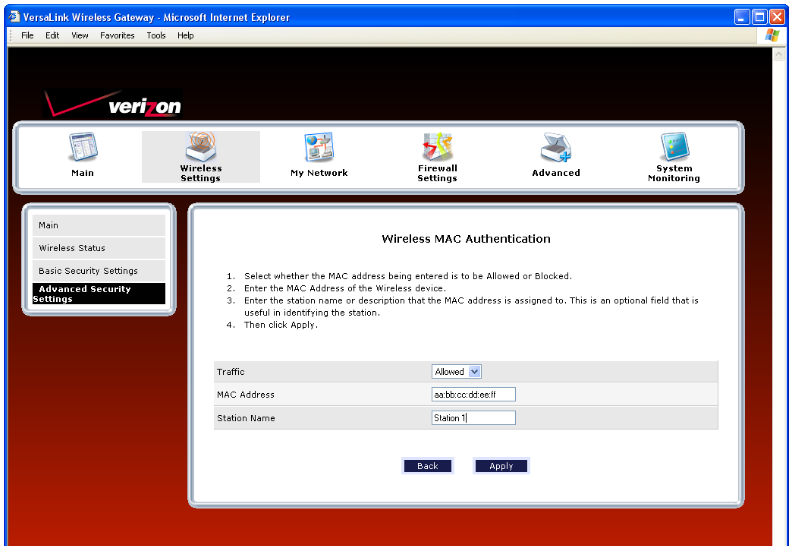
Wireless MAC Authentication

1. Select whether the MAC address being entered is to be Allowed or Blocked.
2. Enter the MAC Address of the Wireless device.
3. Enter the station name or description that the MAC address is assigned to. This is an optional field that is useful in identifying the station.
4. Then click Apply.

Traffic	Allowed
MAC Address	00:00:00:00:00:00
Station Name	

Traffic	Allowed: When the MAC Filter is enabled, only stations in the MAC Filter Table (which are set to “Allowed”) will have access to the Router. Blocked: This allows a computer to remain in the table, but it is not allowed access to the Router.
MAC Address	The MAC address assigned to the computer that you want to allow access to. (A hardware address is assigned to a computer or device by the manufacturer.)
Station Name	The computer name or description that you want to associate with the MAC address. This is an optional field that is useful in identifying the station.

The following screen provides an example of values entered into the fields.



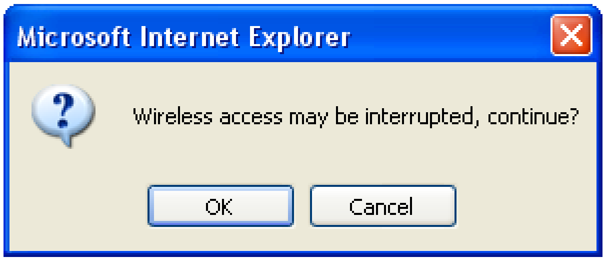
Wireless MAC Authentication

1. Select whether the MAC address being entered is to be Allowed or Blocked.
2. Enter the MAC Address of the Wireless device.
3. Enter the station name or description that the MAC address is assigned to. This is an optional field that is useful in identifying the station.
4. Then click Apply.

Traffic	Allowed
MAC Address	aa:bb:cc:dd:ee:ff
Station Name	Station 1

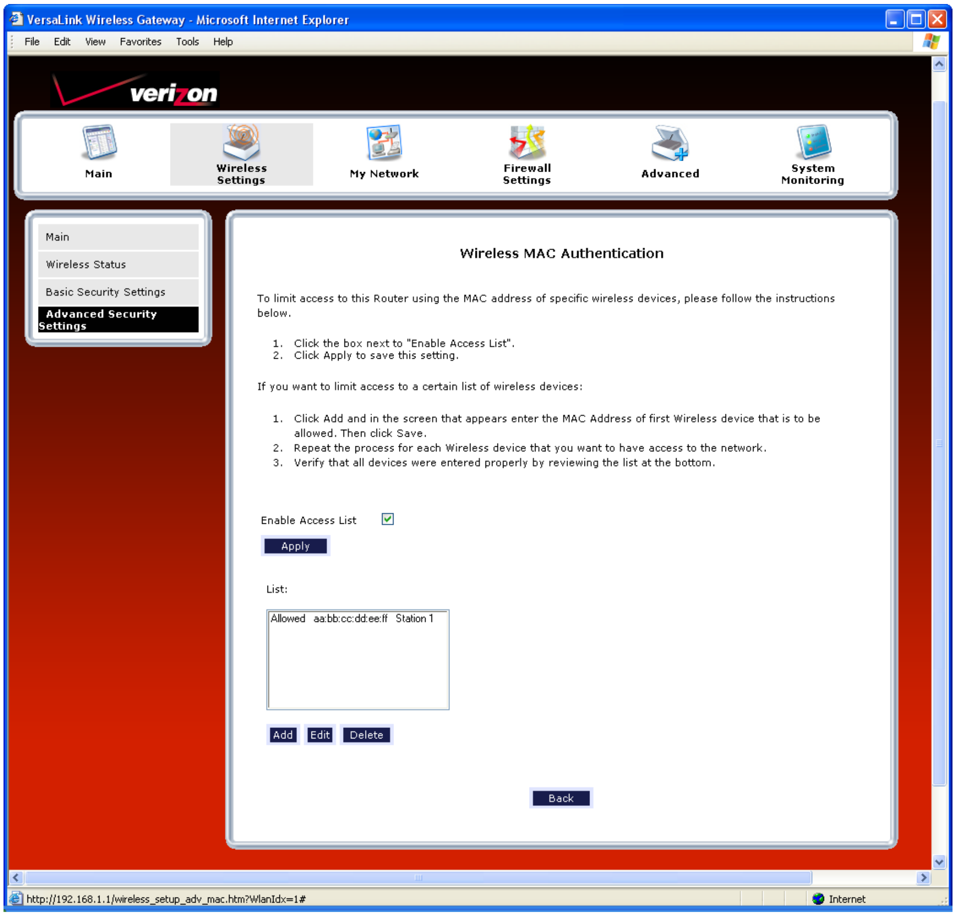
After you have entered your values and clicked **Apply** in the preceding screen, the following pop-up screen will appear. The pop-up screen indicates that wireless access may be interrupted. Click **OK** to continue.

NOTE: Wireless access to the Router may be interrupted and wireless stations may require reconfiguration.



Wireless access may be interrupted, continue?

If you clicked **OK** in the pop-up screen, the following screen will appear. The MAC address has been added to the list of MAC addresses. Confirm that a ckeck mark is displayed **Enable Access List** check box, and then click **Apply**. Repeat this process for each wireless device that you want to add to the list.


VersaLink Wireless Gateway - Microsoft Internet Explorer
File Edit View Favorites Tools Help
verizon
Main
Wireless Settings
My Network
Firewall Settings
Advanced
System Monitoring
Main
Wireless Status
Basic Security Settings
Advanced Security Settings
Apply
Add
Edit
Delete
Back
http://192.168.1.1/wireless_setup_adv_mac.htm?WlanIdx=1#
Internet

Wireless MAC Authentication

To limit access to this Router using the MAC address of specific wireless devices, please follow the instructions below.

1. Click the box next to "Enable Access List".
2. Click Apply to save this setting.

If you want to limit access to a certain list of wireless devices:

1. Click Add and in the screen that appears enter the MAC Address of first Wireless device that is to be allowed. Then click Save.
2. Repeat the process for each Wireless device that you want to have access to the network.
3. Verify that all devices were entered properly by reviewing the list at the bottom.

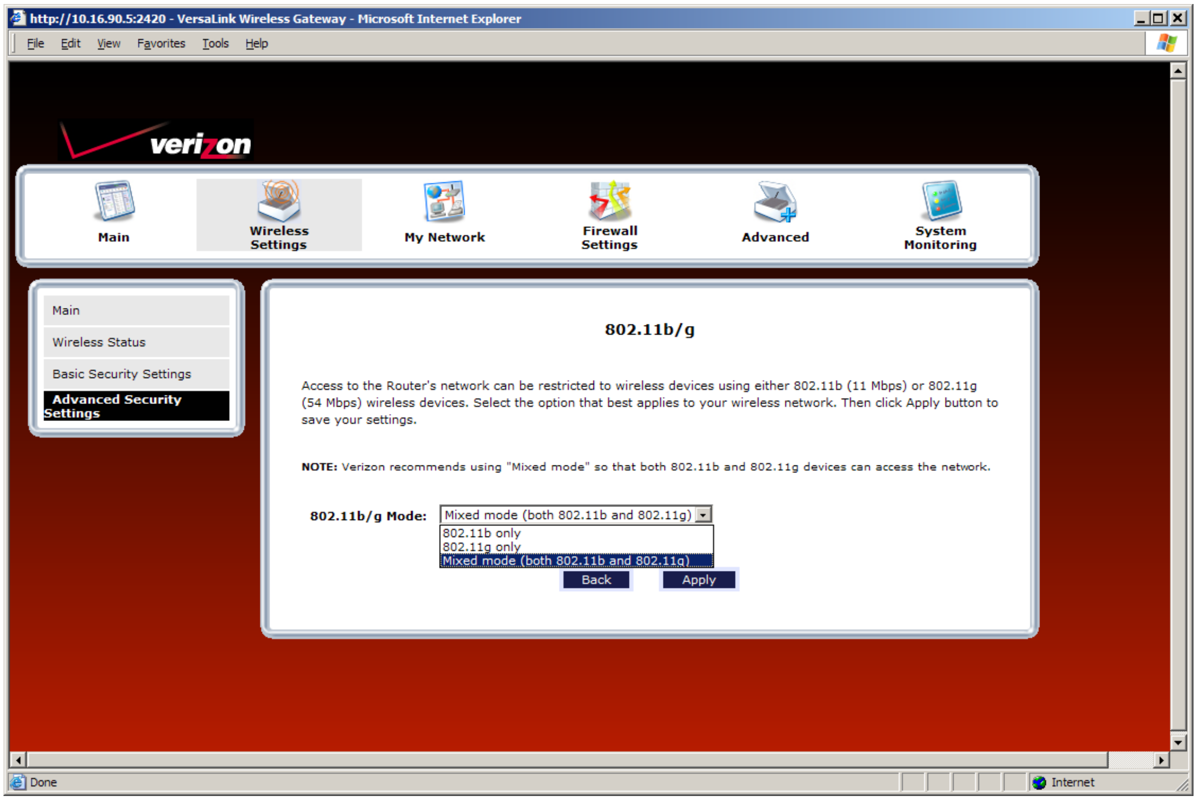
Enable Access List ☑

List:

Allowed aa:bb:cc:dd:ee:ff Station 1

12.2.4 802.11b/g Mode

If you select the **802.11b/g Mode** link in the **Advanced Security Settings** screen, the following screen will be displayed. This screen allows you to limit access to your Router based on technology type. From the drop-down menu, select the desired setting. Then, click **Apply** to allow the settings to take effect.



802.11b/g

Access to the Router's network can be restricted to wireless devices using either 802.11b (11 Mbps) or 802.11g (54 Mbps) wireless devices. Select the option that best applies to your wireless network. Then click Apply button to save your settings.

NOTE: Verizon recommends using "Mixed mode" so that both 802.11b and 802.11g devices can access the network.

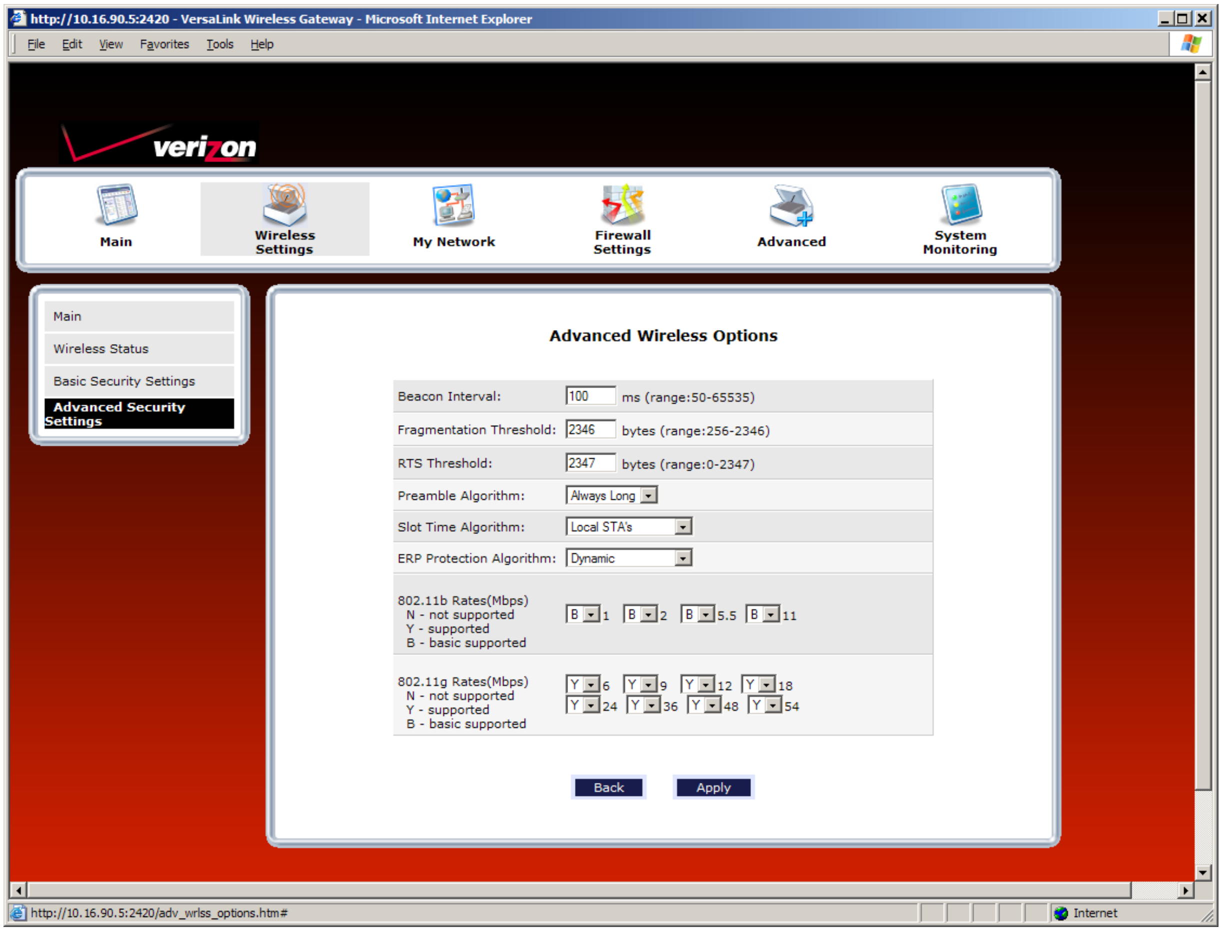
802.11b/g Mode: Mixed mode (both 802.11b and 802.11g)

- 802.11b only
- 802.11g only
- Mixed mode (both 802.11b and 802.11g)

802.11b/g Mode	11b only: Communication with VersaLink is limited to 802.11b
	11g only: Communication with VersaLink is limited to 802.11g
	Mixed mode: Computers using 802.11b or 802.11g technology can communicate with VersaLink.

12.2.5 Other Advanced Wireless Options

If you select the **Other Advanced Wireless Options** link in the **Advanced Security Settings** screen, the following screen will appear. From the drop-down menus, select the desired settings. Then, click **Apply** to allow the settings to take effect.



Advanced Wireless Options

Beacon Interval:	100 ms (range:50-65535)
Fragmentation Threshold:	2346 bytes (range:256-2346)
RTS Threshold:	2347 bytes (range:0-2347)
Preamble Algorithm:	Always Long
Slot Time Algorithm:	Local STA's
ERP Protection Algorithm:	Dynamic
802.11b Rates(Mbps) N - not supported Y - supported B - basic supported	B 1 B 2 B 5.5 B 11
802.11g Rates(Mbps) N - not supported Y - supported B - basic supported	Y 6 Y 9 Y 12 Y 18 Y 24 Y 36 Y 48 Y 54

Wireless Advanced Configuration	
Beacon Interval	The time interval between beacon frame transmissions. Beacons contain rate and capability information. Beacons received by stations can be used to identify the access points in the area.
Fragmentation Threshold	Any MSDU or MPDU larger than this value will be fragmented into an MPDU of the specified size.
RTS Threshold	RTS/CTS handshaking will be performed for any data or management MPDU containing a number of bytes greater than the threshold. If this value is larger than the MSDU size (typically set by the fragmentation threshold), no handshaking will be performed. A value of zero will enable handshaking for all MPDUs.
Preamble Algorithm	Factory Default = Always Long Possible Responses: Always Long: Transmissions are done using the long preamble algorithm. Always Short: Transmissions are done using the short preamble algorithm. Local STA's: If all associated stations support short preamble, then the short preamble algorithm is used. Otherwise, the long preamble algorithm is used.

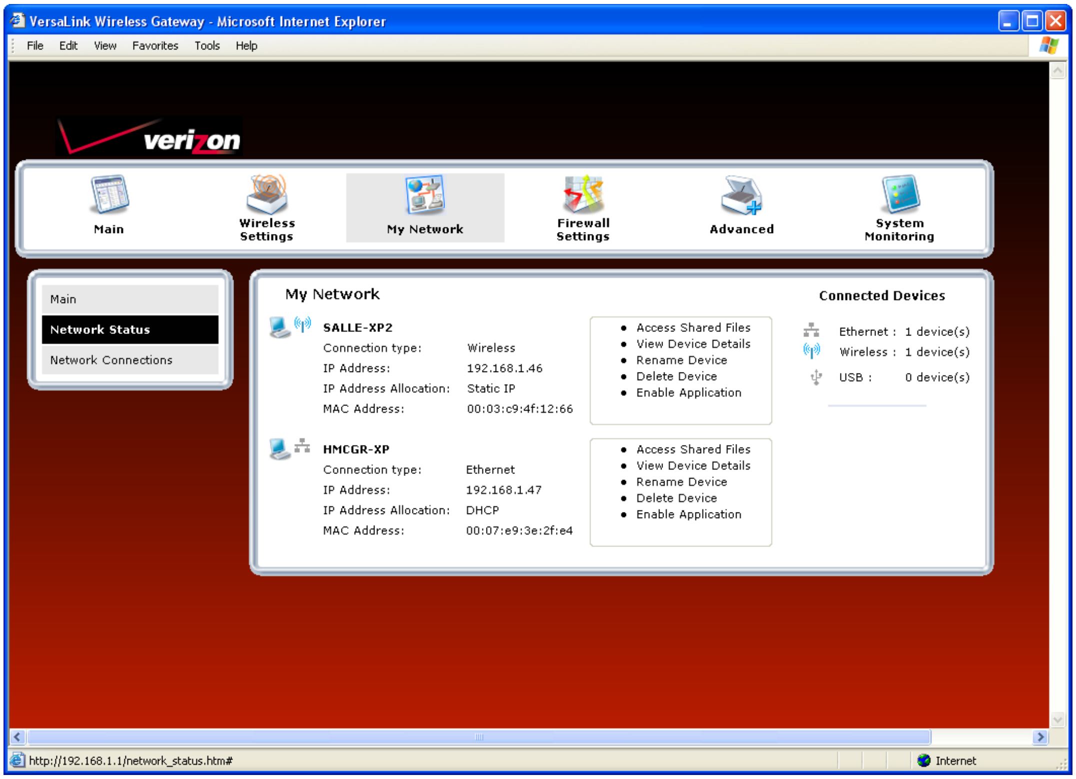
Slot Time Algorithm	Factory Default = Local STA's Possible Responses: Always Off: Transmissions are done using a 20 usec slot time. Always ON: Transmissions are done using a usec slot time (SST). Local STA's: If all associated stations support SST, then the 9 usec slot time is used. Otherwise, the 20 uses slot time is used. Enhanced Dynamic: Similar to Local STA's, with the following extension: If associated stations that do not support SST do not transmit for a period of time, the 9 usec slot time is used.
ERP Protection Algorithm	Factory Default = Dynamic Possible Responses: Always Off: ERP is not used Always ON: ERP is used. Local STA's: If there are any associated stations than do not support ERP, a protection algorithm is used to prevent contention. Dynamic: Similar to local STA's with the following extension: The ERP protection setting is also dependent on Beacon frames from overlapping BSS. IF Beacon frames are received that indicate ERP is not supported, then a protection algorithm is used. Enhanced Dynamic: Similar to Dynamic with the following extension: If associated stations that do not support ERP do not transmit for a period of time, then protection algorithm is not used.
802.11b Rates (Mbps) 802.11g Rates (Mbps)	These are the allowable communication rates that VersaLink will attempt to use. The rates are also broadcast within the connection protocol as the rates supported by VersaLink.

13. MY NETWORK

This section discusses details about your Router's network.

13.1 Network Status

To view your Router's network settings, from the top navigational menu, select **My Network**. Next, click **Network Status** in the submenu at the left of the screen. The following screen will appear. This screen displays information about the devices connected to your local area network (LAN).


VersaLink Wireless Gateway - Microsoft Internet Explorer
File Edit View Favorites Tools Help
verizon
Main
Wireless Settings
My Network
Firewall Settings
Advanced
System Monitoring
Main
Network Status
Network Connections
http://192.168.1.1/network_status.htm#
Internet

My Network

SALLE-XP2

Connection type:	Wireless
IP Address:	192.168.1.46
IP Address Allocation:	Static IP
MAC Address:	00:03:c9:4f:12:66

- Access Shared Files
- View Device Details
- Rename Device
- Delete Device
- Enable Application

HMCGR-XP

Connection type:	Ethernet
IP Address:	192.168.1.47
IP Address Allocation:	DHCP
MAC Address:	00:07:e9:3e:2f:e4

- Access Shared Files
- View Device Details
- Rename Device
- Delete Device
- Enable Application

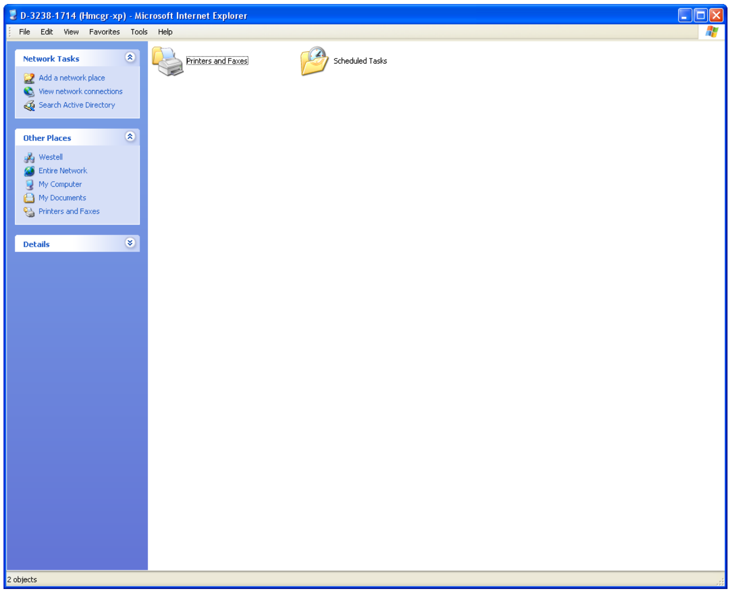
Connected Devices

Ethernet :	1 device(s)
Wireless :	1 device(s)
USB :	0 device(s)

My Network	
Connection Type	The physical connection used to interface with your Router.
IP Address	The IP address assigned to your computer.
IP Address Allocation	The method by which your computer receives its IP address.
MAC Address	The Media Access Controller; the hardware address assigned to the deviced by the manufacturer.
Connected Devices	The interfaces used to connect to your Router to the computer. Ethernet: Displays the number of devices that are connected to the Router via Ethernet 10/100 BaseT connection. Wireless: Displays the number of devices that are connected to the Router wirelessly. USB: Displays the number of devices that are connected to the Router via USB connection. Note: If you have computers on your network that are not being displayed, check the firewall setting on the PCs to ensure that the firewall is disabled.

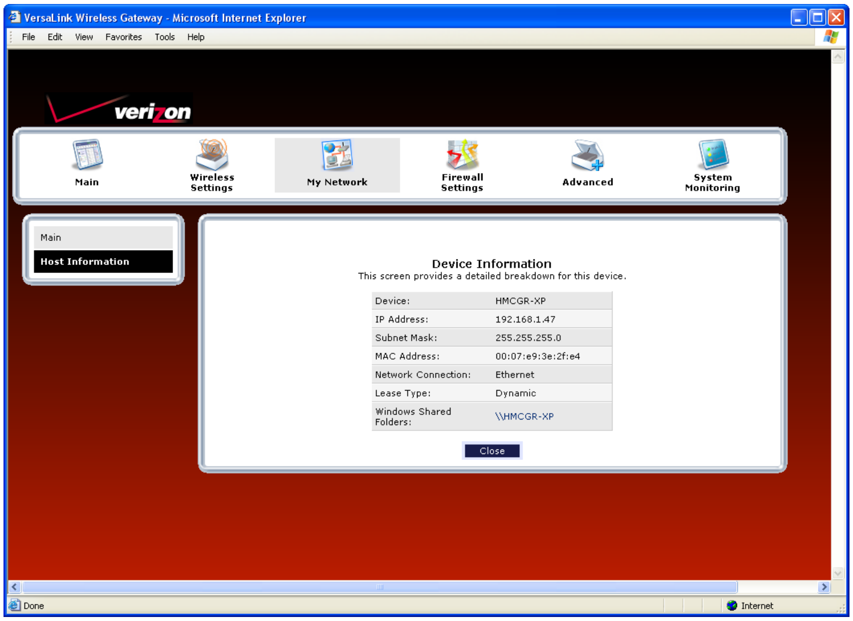
13.1.1 Access Shared Files

In the **My Network** panel, click the **Access Shared Files** link to access files from a device on your local network. (The device from which you will access files must have file sharing enabled.) If the device has a firewall turned on, you will not be able to access shared files from the device.



13.1.2 View Device Details

In the **My Network** panel, click the **View Device Details** link to view details about your device. After you have finished viewing this screen, click **Close** to return to the My Network page.

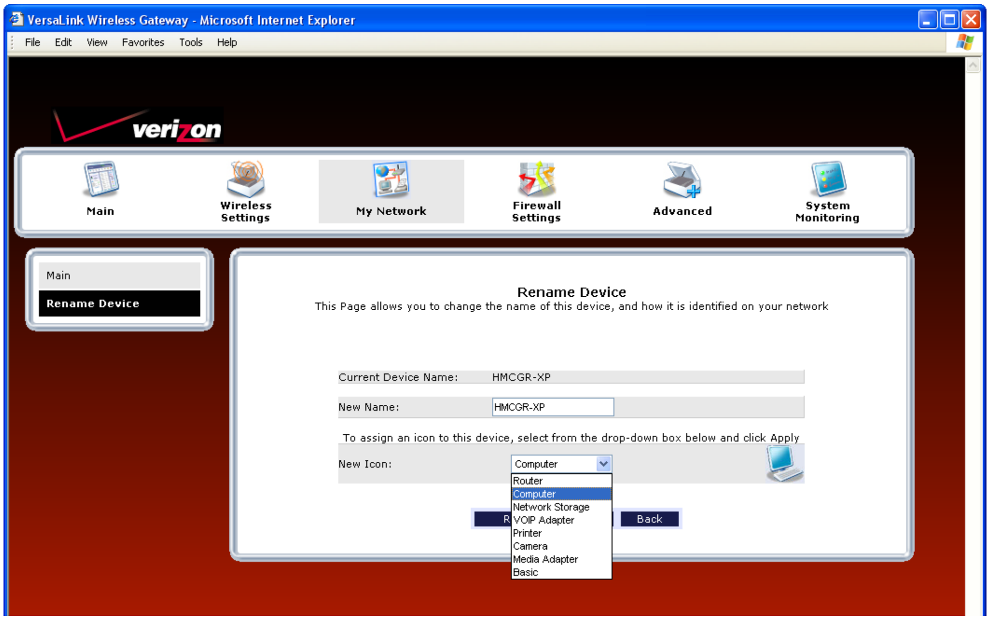


Device Information
This screen provides a detailed breakdown for this device.

Device:	HMCGR-XP
IP Address:	192.168.1.47
Subnet Mask:	255.255.255.0
MAC Address:	00:07:e9:3e:2f:e4
Network Connection:	Ethernet
Lease Type:	Dynamic
Windows Shared Folders:	\\HMCGR-XP

13.1.3 Rename Device

In the **My Network** panel, click the **Rename Device** link to rename a device on your network. In the following screen, type the desired name in the **New Name** box, and then (if desired) select an icon from the **New Icon** drop-down menu to assign a different icon to this device. Next, click the **Rename Device** button to allow the changes to take effect. Click **Back** to return to the **My Network** panel.



Rename Device

This Page allows you to change the name of this device, and how it is identified on your network

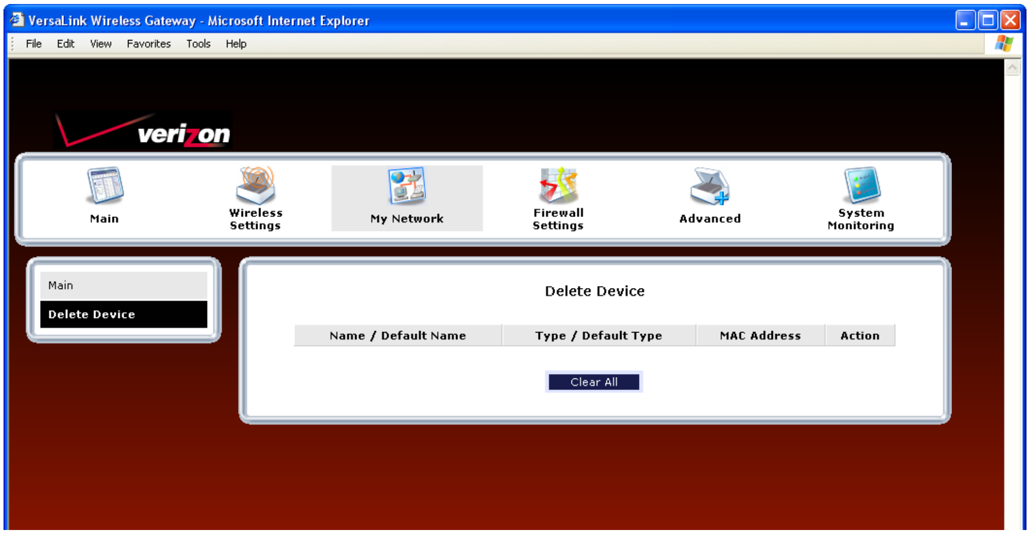
Current Device Name:	HMCGR-XP
New Name:	HMCGR-XP

To assign an icon to this device, select from the drop-down box below and click Apply

New Icon: Computer

13.1.4 Delete Device

In the **My Network** panel, click the **Delete Device** link to remove a device from your network. Click the **Clear** button next to the device that you want to remove from your network, or click **Clear All** to remove all devices from your network.

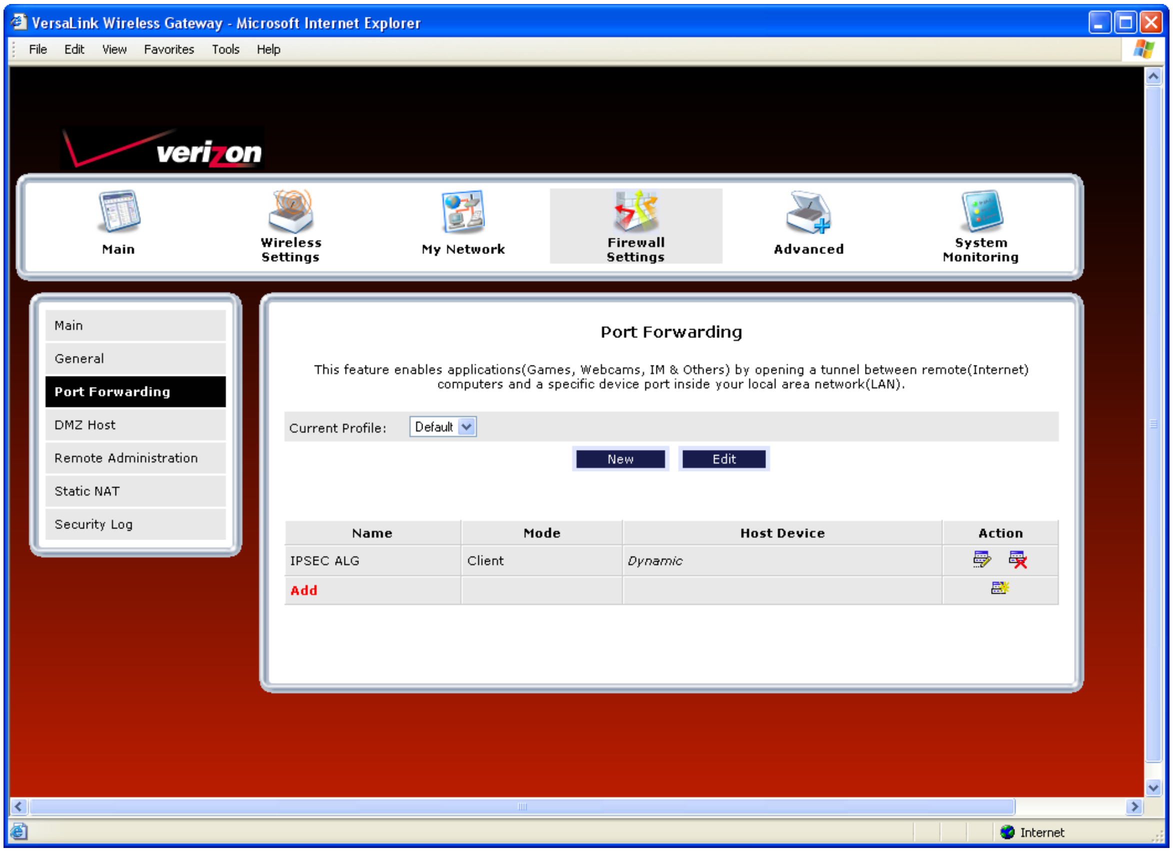


Delete Device

Name / Default Name	Type / Default Type	MAC Address	Action

13.1.5 Enable Application

In the **My Network** panel, click the **Enable Application** link to set up applications for your service profile. This feature enables applications (Games, Webcams, IM & Others) by opening a tunnel between remote (Internet) computers and a specific device port inside your local area network (LAN). Details on this screen will be discussed later in section 14.3, "Port Forwarding."



Port Forwarding

This feature enables applications(Games, Webcams, IM & Others) by opening a tunnel between remote(Internet) computers and a specific device port inside your local area network(LAN).

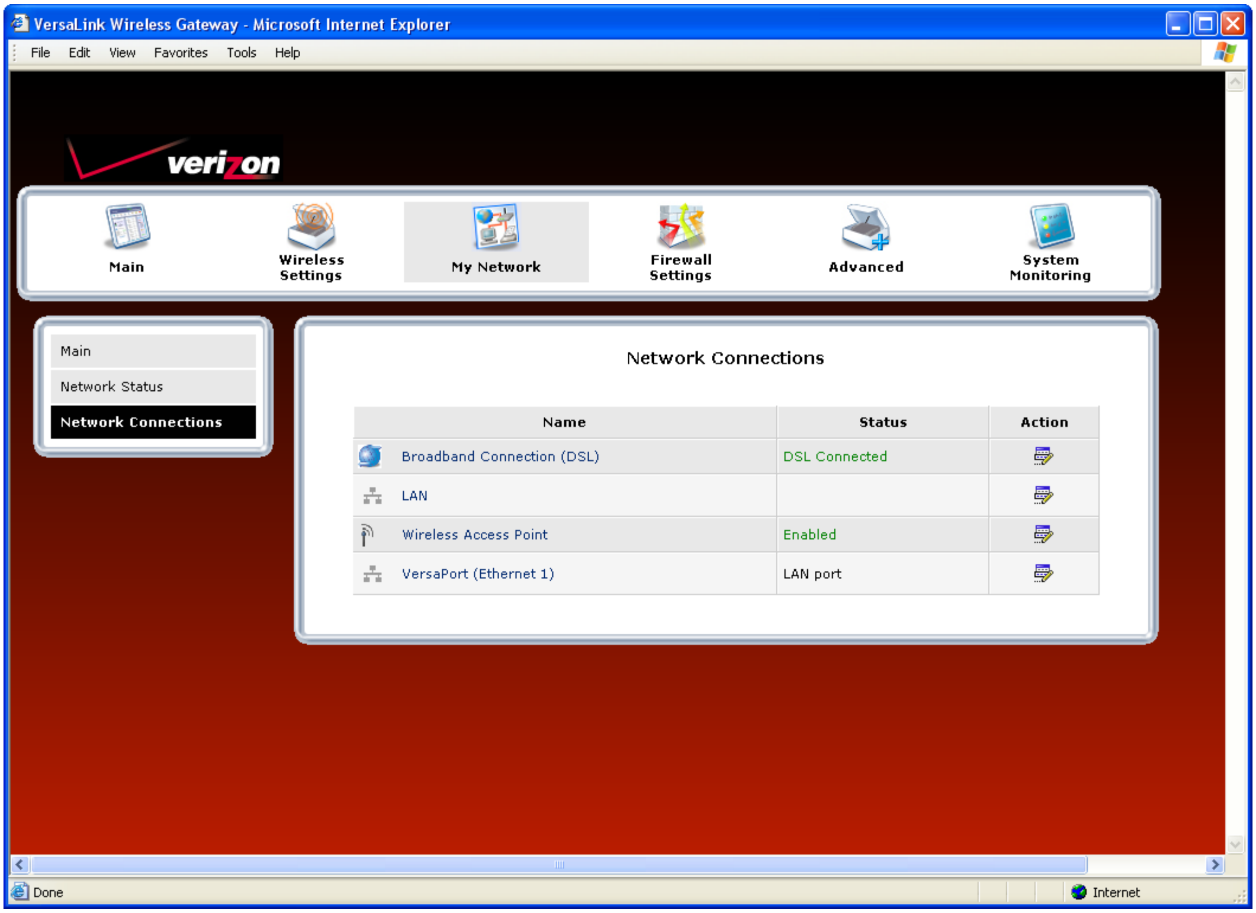
Current Profile: Default

Name	Mode	Host Device	Action
IPSEC ALG	Client	*Dynamic*	
Add			

13.2 Network Connections

To edit your connection settings, from the top navigational menu select **My Network**. Next, select **Network Connections** in the submenu options at the left of the screen; the following screen will be displayed. This screen allows you to access your Router's connection settings and your local area network (LAN) settings. The following sections discuss the details of this screen.

- To access the Router's Broadband connection settings, in the **Network Connections** screen click the **Broadband Connection (DSL)** link. The **Basic DSL Configuration** screen will appear. Refer to section 13.2.1 for details about this feature.
- To access the Router's LAN settings, in the **Network Connections** screen click the **LAN** link. The **Private LAN** screen will appear. Refer to section 15.15 for details about this feature.
- To access the Router's Wireless settings, in the **Network Connections** screen, click the **Wireless Access Point** link. Refer to section 12.1 for details about this feature.
- To access the Router's Uplink settings, in the **Network Connections** screen, click the **VersaPort (Ethernet 1)** link. Refer to section 13.2.3 to section for details about this feature.



Network Connections

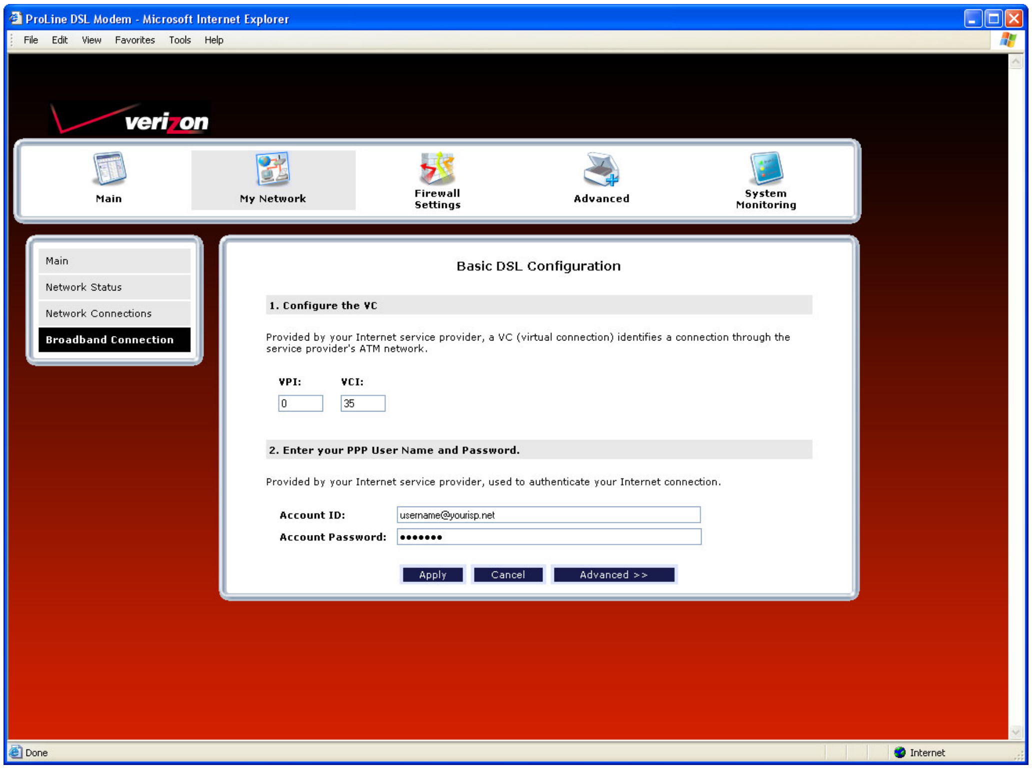
Name	Status	Action
Broadband Connection (DSL)	DSL Connected	
LAN		
Wireless Access Point	Enabled	
VersaPort (Ethernet 1)	LAN port	

13.2.1 Basic DSL Configuration

If you clicked the **Broadband Connection (DSL)** link in the **Network Connections** screen, the following screen will appear. This screen displays the virtual connection (VC) settings and the account information needed to authenticate your Internet connection. A virtual connection identifies a connection through the service provider's ATM network to Verizon. Unlike physical hardware connections, virtual connections are defined by data. The VPI/VCI and account parameters are provided by Verizon.

IMPORTANT: You should not change the VPI/VCI settings unless instructed by Verizon.

If you change any settings in this screen, click **Apply** to allow the settings to take effect. To access the Advanced DSL Configuration screen, click the **Advanced** button.



Basic DSL Configuration

1. Configure the VC

Provided by your Internet service provider, a VC (virtual connection) identifies a connection through the service provider's ATM network.

VPI: 0
VCI: 35

2. Enter your PPP User Name and Password.

Provided by your Internet service provider, used to authenticate your Internet connection.

Account ID: username@yourisp.net
Account Password: •••••••

Basic DSL Configuration	
VPI	Displays the VPI (Virtual Path Indicator) value for a particular VC, which is defined by Verizon.
VCI	Displays the VCI (Virtual Channel Indicator) value for a particular VC, which is defined by Verizon.
Account ID	The accound ID is provided by Verizon.
Account Password	The account password is provided by Verizon.

13.2.2 Advanced DSL Configuration

If you clicked **Advanced** in the preceding screen, the following **Advanced DSL Configuration** screen will appear. Depending on the connection settings you want to edit, you can:

- Click the **Edit** icon adjacent to My Connection to edit your connection profile settings.
- Click the **New** icon (or click **Add**) to add a new connection profile.
- Click the **Edit** icon in the VCs section to edit your virtual connection (VC) settings.

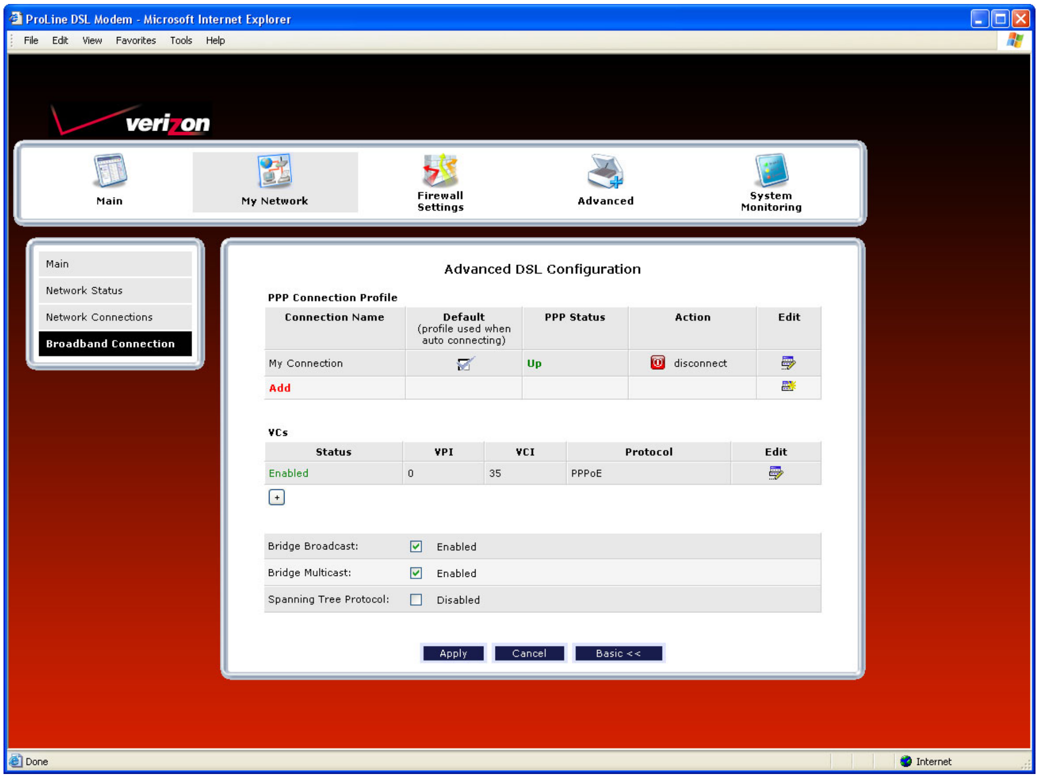
13.2.2.1 Editing VC Protocol Settings

The following sections discuss your virtual connection (VC) settings. A virtual connection (VC) identifies a connection through the service provider's ATM network to Verizon.

IMPORTANT:

1. The screens displayed in the following sections reflect the Router when it is configured for LAN Ethernet port mode, which is the Router's factory default setting. For details on configuring the Router's VC settings while in WAN Uplink port mode, refer to section 13.2.3, "Configuring VersaPort."
2. You should not change the VC settings unless instructed by Verizon.

If you change any settings in this screen, you must click **Apply** to allow the settings to take effect. To expand the VCs list, click the expand icon ⊞ located below **Status.**



Advanced DSL Configuration

PPP Connection Profile

Connection Name	Default (profile used when auto connecting)	PPP Status	Action	Edit
My Connection	☑	Up	disconnect	
Add				

VCs

Status	VPI	VCI	Protocol	Edit
Enabled	0	35	PPPoE	

⊞

Bridge Broadcast:	☑	Enabled
Bridge Multicast:	☑	Enabled
Spanning Tree Protocol:	☐	Disabled

Apply | Cancel | Basic <<

VC Settings	
Status	Allows you to enable or disable your VC (Virtual Connection). This field must display “Enable” in order to allow edits to the VC settings.
VPI	Displays the VPI (Virtual Path Indicator) value for a particular VC, which is defined by your Service Provider.
VCI	Displays the VCI (Virtual Channel Indicator) value for a particular VC, which is defined by your Service Provider.

Protocol
NOTE: The configuration specified by your Service Provider will determine which Protocols are available to you.
	Displays the Protocol for each VC, which is specified by your Service Provider.
	Possible Responses:
	PPPoA = Point to Point Protocol over ATM (Asynchronous Transfer Mode)
	PPPoE = Point to Point Protocol over Ethernet
	Bridge = Bridge Protocol
	Classical IPoA = Internet Protocol over ATM (Asynchronous Transfer Mode). This is an ATM encapsulation of the IP protocol.

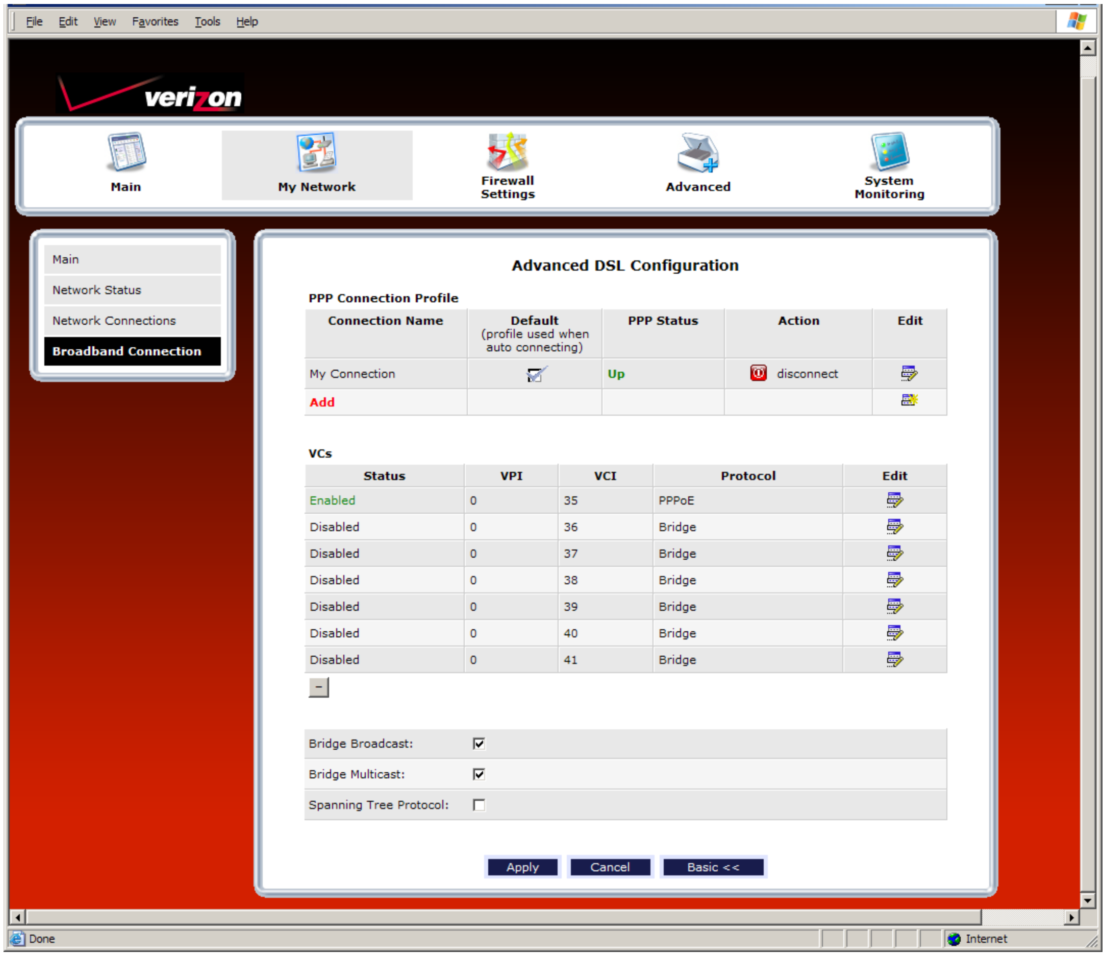
Bridge Broadcast	Factory Default = Enabled (box contains a check mark) When this setting is enabled, the Router will allow Broadcast IP packets to/from the WAN. When this setting is disabled (box is cleared), the Router will block Broadcast IP packets to/from the WAN. Bridge Broadcast is only valid if one of the Virtual Channels is configured for Bridge mode.
Bridge Multicast	Factory Default = Enabled When this setting is disabled, the Router will block Multicast IP packets to/from the WAN. When this setting is enabled, the Router will allow Multicast IP packets to/from the WAN. Bridge Multicast is only valid if one of the Virtual Channels is configured for Bridge mode.
Spanning Tree Protocol	Factory Default = Disabled Spanning Tree Protocol is a link management protocol that provides path redundancy while preventing undesirable loops in the network. For Ethernet network to function properly, only one active path can exist between two stations. When enabled, two bridges are used to interconnect the same two computer network segments. Spanning Tree Protocol will allow the bridges to exchange information so that only one of them will handle a given message that is being sent between two computers within the network.

If you clicked the expand icon in the preceding screen, the following screen will appear. When you are ready to collapse the VCs list, click the collapse icon ⊟.

NOTE:

1. A VC’s **Status** field must display **Enabled** before you can edit its VC settings.
2. The actual values displayed in the following screen may vary, depending on the network connection established. If you have questions about the settings in this screen, please contact Verizon.

To edit a VC setting, click the edit icon adjacent to the “Enabled” VC protocol that you want to edit.



Advanced DSL Configuration

PPP Connection Profile

Connection Name	Default (profile used when auto connecting)	PPP Status	Action	Edit
My Connection	☑	Up	disconnect	✎
Add				✎

VCs

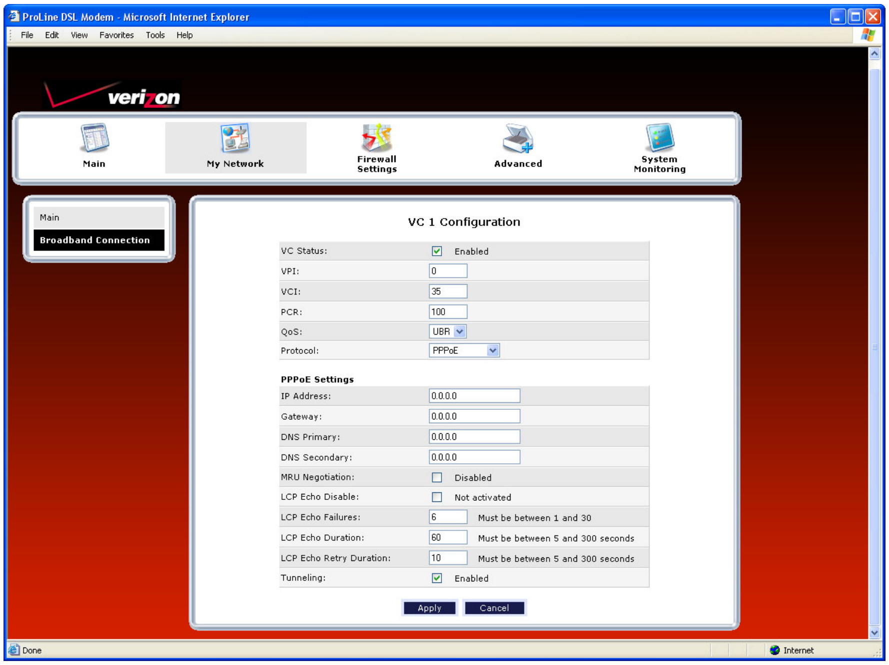
Status	VPI	VCI	Protocol	Edit
Enabled	0	35	PPPoE	✎
Disabled	0	36	Bridge	✎
Disabled	0	37	Bridge	✎
Disabled	0	38	Bridge	✎
Disabled	0	39	Bridge	✎
Disabled	0	40	Bridge	✎
Disabled	0	41	Bridge	✎

⊟

Bridge Broadcast:	☑
Bridge Multicast:	☑
Spanning Tree Protocol:	□

The following table explains the settings in the **VC 1 Configuration** screen. If you change any VC settings in this screen, click **Apply** to save the settings.

NOTE: If you experience problems, reset the Router via the hardware reset button at the rear of the Router. Or follow the instructions in section 15.2, "Restore Defaults," to restore the Router to factory default settings.
After the Router has been reset, the values in the screens will display the factory default settings, and any settings that you have previously configured will be discarded.



VC 1 Configuration

VC Status:	☑ Enabled
VPI:	0
VCI:	35
PCR:	100
QoS:	UBR
Protocol:	PPPoE

PPPoE Settings

IP Address:	0.0.0.0
Gateway:	0.0.0.0
DNS Primary:	0.0.0.0
DNS Secondary:	0.0.0.0
MRU Negotiation:	☐ Disabled
LCP Echo Disable:	☐ Not activated
LCP Echo Failures:	6 Must be between 1 and 30
LCP Echo Duration:	60 Must be between 5 and 300 seconds
LCP Echo Retry Duration:	10 Must be between 5 and 300 seconds
Tunneling:	☑ Enabled

Apply Cancel

VC 1 Configuration	
VPI	This field allows you to change your VPI (Virtual Path Indicator) value for a particular VC, which is defined by your Service Provider.
VCI	This field allows you to change your VCI (Virtual Channel Indicator) value for a particular VC, which is defined by your Service Provider.
PCR	Factory Default = 100% Peak Cell Rate (PCR)-The maximum rate at which cells can be transmitted across a virtual circuit, specified in cells per second and defined by the interval between the transmission of the last bit of one cell and the first bit of the next. This value is a percentage of the current data rate. 100 allows this VC to use 100% of the available bandwidth. 80 allows this VC to use 80% of the available bandwidth.

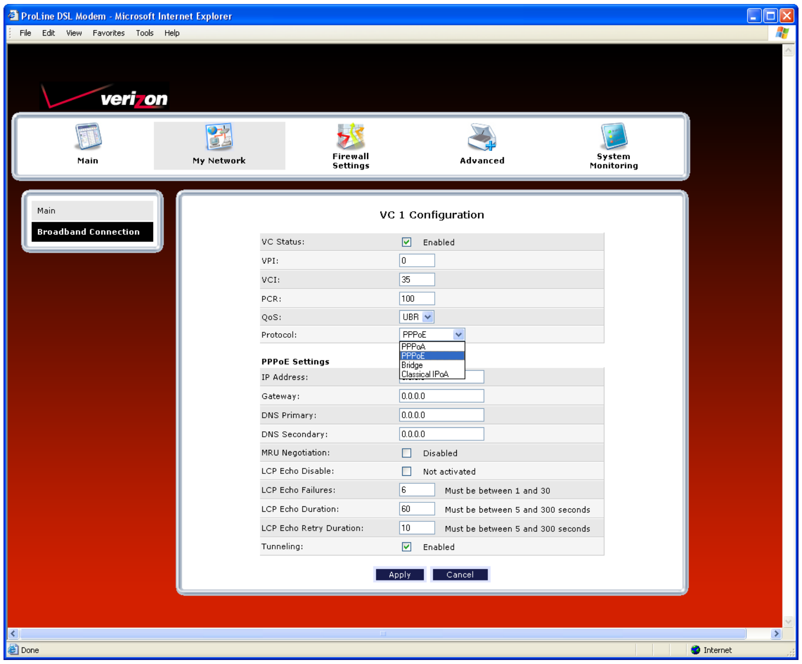
QoS	Quality of Service, which is determined by your Service Provider.
	Possible Responses:
	CBR = Constant Bit Rate
	UBR = Unspecified Bit Rate
	VBR = Variable Bit Rate

Protocol	The Protocol for each VC, which is specified by your Service Provider.
	Possible Responses:
	PPPoA = Point to Point Protocol over ATM (Asynchronous Transfer Mode)
	PPPoE = Point to Point Protocol over Ethernet
	Bridge = Bridge Protocol
	Classical IPoA = Internet Protocol over ATM (Asynchronous Transfer Mode). This is an ATM encapsulation of the IP protocol.

Status	The protocol status.
PPPoE / PPPoA Settings	
IP Address	Displays the IP network address that your Router is on.
Gateway	Displays the Router's IP address
DNS Primary	Provided by Verizon
DNS Secondary	Provided by Verizon
MRU Negotiation	Factory Default = Disabled If Enabled, the Maximum Received Unit (MRU) would enforce MRU negotiations. Note: Enable this option only at your Internets provider's request.
LCP Echo Disable	Factory Default = Disabled If checked, this option will disable the modem LCP Echo transmissions.
LCP Echo Failures	Indicates number of continuous LCP echo non-responses received before the PPP session is terminated.
LCP Echo Duration	The interval between LCP Echo transmissions with responses.
LCP Echo Retry Duration	The interval between LCP Echo after no response.
Tunneling	Factory Default = Enable If Enabled, this option allows PPP traffic to be bridged to the WAN. This feature allows you to use a PPPoE shim on the host computer to connect to the Internet Service Provider, by bypassing the Router's capability to do this. Note: Tunneling is available in PPPoE mode only.
Note: The values for the IP Address, Gateway, DNS Primary, and DNS Secondary are all "Override of the value obtained from the PPP connection," They default to "0.0.0.0," in which case the override is ignored. It is recommended that you do not change the values unless your Internet service provider instructs you to do so.	

13.2.2.2 Configuring the Router's Protocol Settings for PPPoE or PPPoA

To configure the Router's protocol settings for PPPoE or PPPoA, access to the **VC 1 Configuration** screen, as explained earlier in section 13.2.2.1 "Editing VC Protocol Settings." At the **VC 1 Configuration** screen, select PPPoE or PPPoA from the **Protocol** drop-down menu.



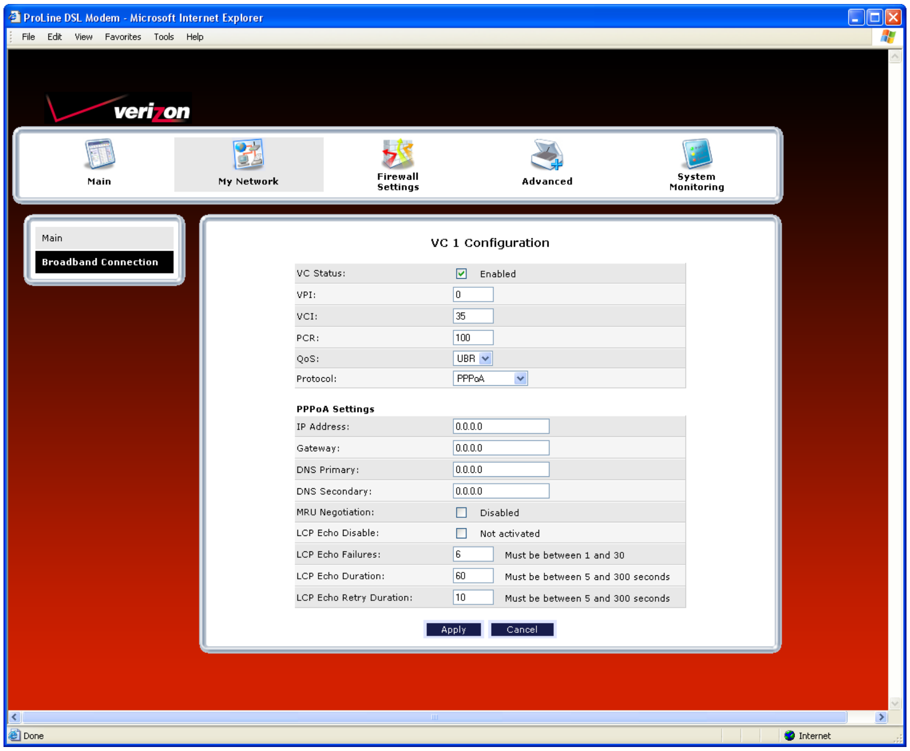
VC 1 Configuration

VC Status:	☑ Enabled
VPI:	0
VCI:	35
PCR:	100
QoS:	UBR
Protocol:	PPPoE PPPoA PPPoE Bridge Classical IPoA

PPPoE Settings

IP Address:		
Gateway:	0.0.0.0	
DNS Primary:	0.0.0.0	
DNS Secondary:	0.0.0.0	
MRU Negotiation:	□ Disabled	
LCP Echo Disable:	□ Not activated	
LCP Echo Failures:	6	Must be between 1 and 30
LCP Echo Duration:	60	Must be between 5 and 300 seconds
LCP Echo Retry Duration:	10	Must be between 5 and 300 seconds
Tunneling:	☑ Enabled	

For example, the following **VC 1 Configuration** screen displays **PPPoA** as the selected Protocol. The PPPoA and PPPoE screens have identical configuration options with the exception of the Tunneling feature. Tunneling is available only for PPPoE protocol and is not displayed when the Router is configured for PPPoA protocol. After you have made the appropriate changes to **VC 1 Configuration** screen, click **Apply** to continue.



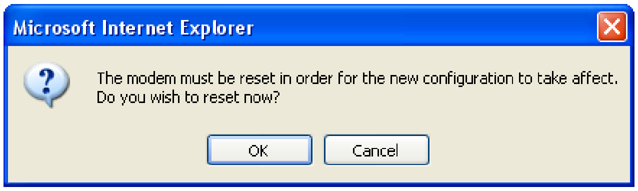
VC 1 Configuration

VC Status:	☑ Enabled
VPI:	0
VCI:	35
PCR:	100
QoS:	UBR
Protocol:	PPPoA

PPPoA Settings

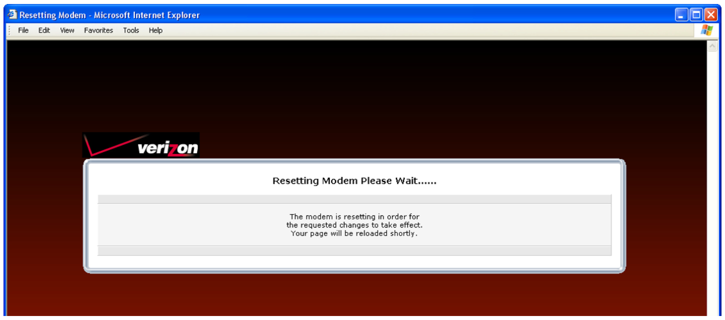
IP Address:	0.0.0.0	
Gateway:	0.0.0.0	
DNS Primary:	0.0.0.0	
DNS Secondary:	0.0.0.0	
MRU Negotiation:	☐ Disabled	
LCP Echo Disable:	☐ Not activated	
LCP Echo Failures:	6	Must be between 1 and 30
LCP Echo Duration:	60	Must be between 5 and 300 seconds
LCP Echo Retry Duration:	10	Must be between 5 and 300 seconds

If you clicked **Apply** in the preceding screen, the following pop-up screen will appear. The Router must be reset to allow the new configuration to take effect. Click **OK** to continue.



The modem must be reset in order for the new configuration to take affect.
Do you wish to reset now?

If you clicked **OK**, the following screen will appear. After a brief delay, the home page will be displayed. Confirm that you have a DSL link and that your PPP Status displays **UP.** (If necessary, click the **connect** button to establish a PPP session).

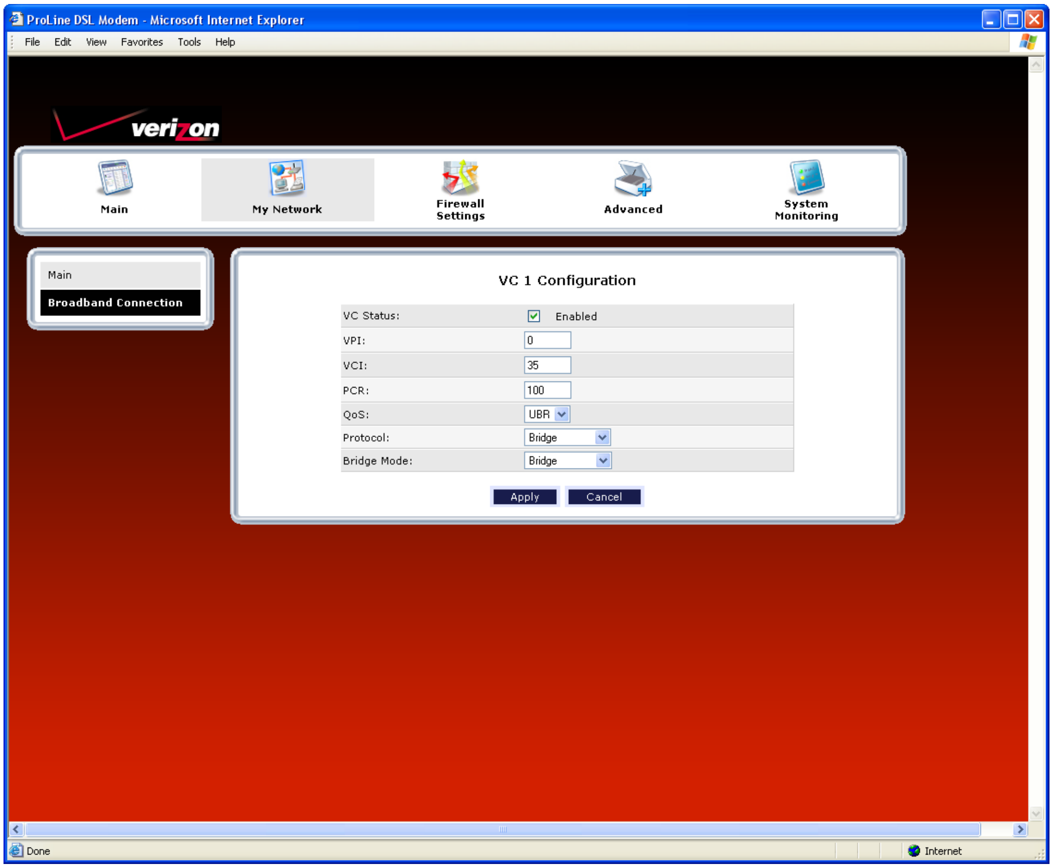

Resetting Modem - Microsoft Internet Explorer
File Edit View Favorites Tools Help
verizon

Resetting Modem Please Wait......

The modem is resetting in order for
the requested changes to take effect.
Your page will be reloaded shortly.

13.2.2.3 Configuring the Router's Protocol Settings for Bridge

To configure the Router's protocol settings for Bridge, access to the **VC 1 Configuration** screen, as explained earlier in section 13.2.2.1, "Editing VC Protocol Settings." At the **VC 1 Configuration** screen, select **Bridge** from the **Protocol** drop-down menu. The following screen will appear. Bridge settings are described in the following table.



VC 1 Configuration

VC Status:	☑ Enabled
VPI:	0
VCI:	35
PCR:	100
QoS:	UBR
Protocol:	Bridge
Bridge Mode:	Bridge

Protocol	Mode	Description
Bridge	Bridge	A bridge is a layer 2 device that connects two segments of the same LAN that use the same protocol such as Ethernet. The modem does not have a WAN IP address in this mode. The client PC will typically get an IP address from a DHCP server in the network or the IP address can be assigned to the client PC statically.
	Routed Bridge	Routed Bridged Encapsulation (RBE) is the process by which a bridged segment is terminated on a routed interface. Specifically, the Router is routing on an IEEE 802.3 or Ethernet header carried over RFC 1483 bridged ATM. RBE was developed to address the known RFC1483 bridging issues, including broadcast storms and security. The modem will get a WAN IP address through DHCP or can be assigned statically. NAT will use the global address assigned to the modem.
	Proxy Bridge	Proxy Bridge is the process in which the modem acts as a proxy ARP agent for a local public subnet. The modem will be assigned an IP address from within that public subnet. The modem will direct all traffic to a Router, which is configured statically. The Router's address must not reside within Router's assigned public subnet. All traffic will be sent via the Router's MAC address. The LAN may also have a private NAT'ed network. NAT will use the global address assigned to the modem.

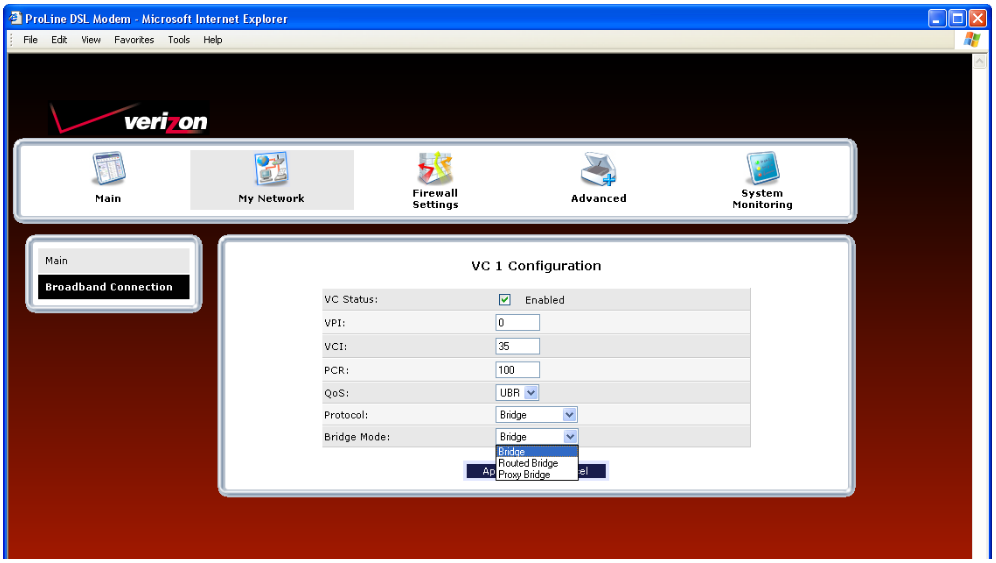
To configure the Router's Bridge settings, follow these steps at the **VC 1 Configuration** screen:

1. Select **Bridge** in the **Protocol** drop-down menu.
2. Select the desired Bridge mode from **Bridge Mode** drop-down menu.
3. Enter the desired values in the fields provided (if requested).
4. Click **Apply** to save your settings.
5. Click **OK** in the pop-up screen to reset the Router.

13.2.2.3.1 Bridge Protocol— Bridge Mode

For example, if you select **Bridge** as the Protocol, and then select **Bridge** from the **Bridge Mode** drop-down menu, the following screen will appear.

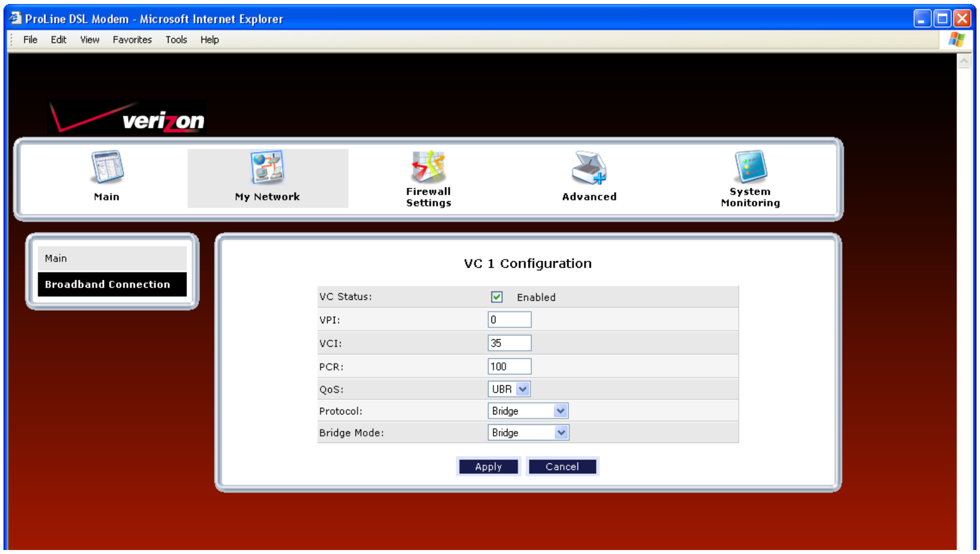
IMPORTANT: If you configure the Router to use Bridge protocol and Bridge Mode, you must disable the Router's DHCP server. By disabling the DHCP server and using Bridge protocol (Bridge mode), you will allow the computer to receive its IP address directly from the ISP's DHCP server, not from the Router's DHCP server. For instructions on disabling the Router's DHCP server, see section 15.14, "IP Address Distribution." **After you have disabled the Router's DHCP server, you must reboot the computer to allow the change to take effect.**



VC 1 Configuration

VC Status:	☑ Enabled
VPI:	0
VCI:	35
PCR:	100
QoS:	UBR
Protocol:	Bridge
Bridge Mode:	Bridge

The following screen shows that **Bridge** has been selected in the **Bridge Mode** drop-down menu. Click **Apply.**



VC 1 Configuration

VC Status:	☑ Enabled
VPI:	0
VCI:	35
PCR:	100
QoS:	UBR
Protocol:	Bridge
Bridge Mode:	Bridge

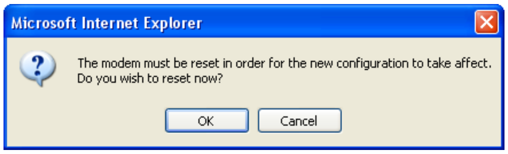
VC 1 – Bridge Protocol (Bridge Mode)		
VC Status	The protocol status is Enabled.	
VPI	This setting allows you to change your VPI (Virtual Path Indicator) value for a particular VC, which is defined by your Service Provider.	
VCI	This setting allows you to change your VCI (Virtual Channel Indicator) value for a particular VC, which is defined by your Service Provider.	
PCR	Factory Default = 100% Peak Cell Rate (PCR)-The maximum rate at which cells can be transmitted across a virtual circuit, specified in cells per second and defined by the interval between the transmission of the last bit of one cell and the first bit of the next. This value is a percentage of the current data rate. 100 allows this VC to use 100% of the available bandwidth. 80 allows this VC to use 80% of the available bandwidth.	

QoS	Quality of Service, which is determined by your Service Provider.
	Possible Responses:
	CBR = Constant Bit Rate
	UBR = Unspecified Bit Rate
	VBR = Variable Bit Rate	

Protocol	The Protocol for each VC, which is specified by your Service Provider.
	Possible Responses:
	PPPoA = Point to Point Protocol over ATM (Asynchronous Transfer Mode)
	PPPoE = Point to Point Protocol over Ethernet
	Bridge = Bridge Protocol
	Classical IPoA = Internet Protocol over ATM (Asynchronous Transfer Mode). This is an ATM encapsulation of the IP protocol.	

Bridge Mode	Bridge	A bridge is a layer 2 device that connects two segments of the same LAN that use the same protocol such as Ethernet. The modem does not have a WAN IP address in this mode. The client PC will typically get an IP address from a DHCP server in the network or the IP address can be assigned to the client PC statically.
	Routed Bridge	Routed Bridged Encapsulation (RBE) is the process by which a bridged segment is terminated on a routed interface. Specifically, the Router is routing on an IEEE 802.3 or Ethernet header carried over RFC 1483 bridged ATM. RBE was developed to address the known RFC1483 bridging issues, including broadcast storms and security. The modem will get a WAN IP address through DHCP or can be assigned statically. NAT will use the global address assigned to the modem.
	Proxy Bridge	Proxy Bridge is the process in which the modem acts as a proxy ARP agent for a local public subnet. The modem will be assigned an IP address from within that public subnet. The modem will direct all traffic to a Router, which is configured statically. The Router's address must not reside within Router's assigned public subnet. All traffic will be sent via the Router's MAC address. The LAN may also have a private NAT'ed network. NAT will use the global address assigned to the modem.

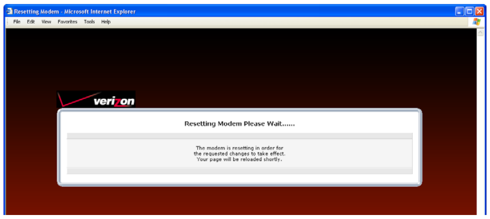
If you clicked **Apply** in the preceding screen, the following pop-up screen will appear. The Router must be reset to allow the new configuration to take effect. Click **OK** to continue.



Microsoft Internet Explorer

The modem must be reset in order for the new configuration to take affect.
Do you wish to reset now?

If you clicked **OK**, the following screen will appear. After a brief delay, the home page will be displayed.



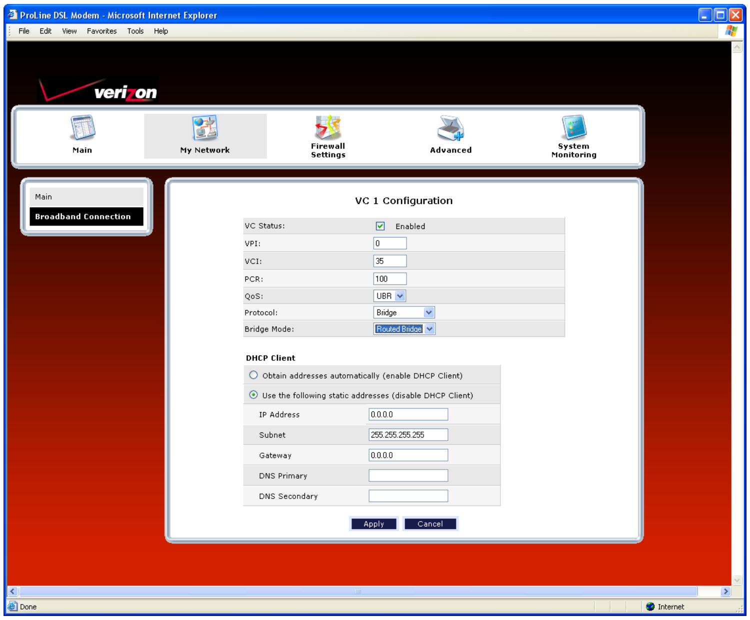
Resetting Modem - Microsoft Internet Explorer

Resetting Modem Please Wait......

The modem is resetting in order for
the requested changes to take effect.
Your page will be reloaded shortly.

13.2.2.3.2 Bridge Protocol—Routed Bridge Mode

If you select **Bridge** as the Protocol, and then select **Routed Bridge** from the **Bridge Mode** drop-down menu, the following screen will appear. Enter the desired values in the fields provided, and then click **Apply**.



ProLine DSL Modem - Microsoft Internet Explorer

VC 1 Configuration

VC Status:	☑ Enabled
VPI:	0
VCI:	35
PCR:	100
QoS:	UBR
Protocol:	Bridge
Bridge Mode:	Routed Bridge

DHCP Client

○ Obtain addresses automatically (enable DHCP Client)

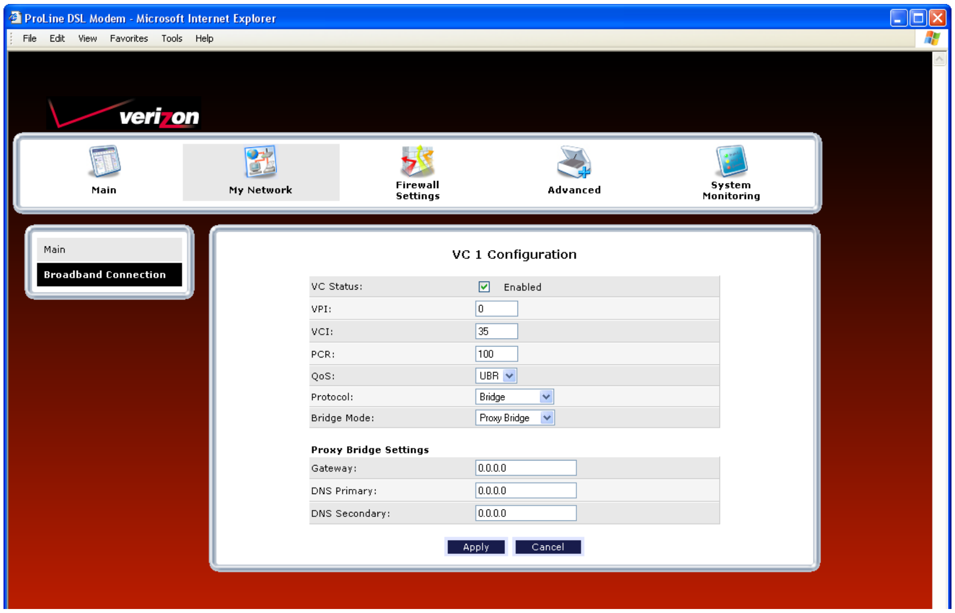
● Use the following static addresses (disable DHCP Client)

IP Address	0.0.0.0
Subnet	255.255.255.255
Gateway	0.0.0.0
DNS Primary	
DNS Secondary	

VC 1 – Bridge Protocol (Routed Bridge Mode)	
DHCP Client	Allows you to either Enable or Disable the DHCP Client. Select (enable DHCP Client) to obtain IP address automatically. Select (disable DHCP Client) to use the static IP address that you enter into fields provided.
IP Address	The IP network address that your Router is on.
Subnet Mask	The subnet mask, which determines if an IP address belongs to your local network.
Gateway	The Router's IP gateway address.
DNS Primary	This value is provided by Verizon.
DNS Secondary	This value is provided by Verizon.

13.2.2.3.3 Bridge Protocol—Proxy Bridge Mode

If you select **Bridge** as the Protocol, and then select **Proxy Bridge** from the **Bridge Mode** drop-down menu, the following screen will appear. Enter the desired values in the fields provided, and then click **Apply**.



VC 1 Configuration

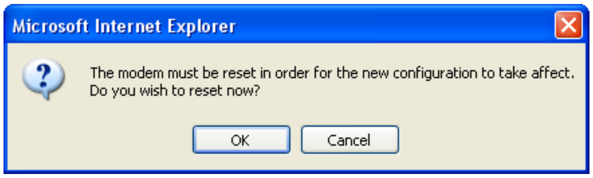
VC Status:	☑ Enabled
VPI:	0
VCI:	35
PCR:	100
QoS:	UBR
Protocol:	Bridge
Bridge Mode:	Proxy Bridge

Proxy Bridge Settings

Gateway:	0.0.0.0
DNS Primary:	0.0.0.0
DNS Secondary:	0.0.0.0

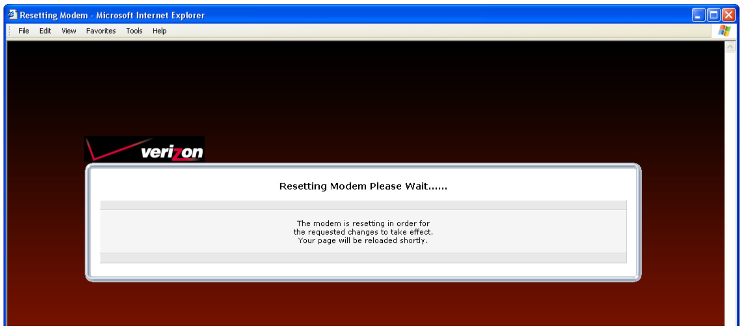
VC 1 – Bridge Protocol (Proxy Bridge Mode)	
Gateway	Displays the Router's IP address.
DNS Primary	Provided by your Service Provider.
DNS Secondary	Provided by your Service Provider.

If you clicked **Apply** in the preceding screen, the following pop-up screen will appear. The Router must be reset to allow the new configuration to take effect. Click **OK** to continue.



The modem must be reset in order for the new configuration to take affect.
Do you wish to reset now?

If you clicked **OK**, the following screen will appear. After a brief delay, the home page will be displayed.

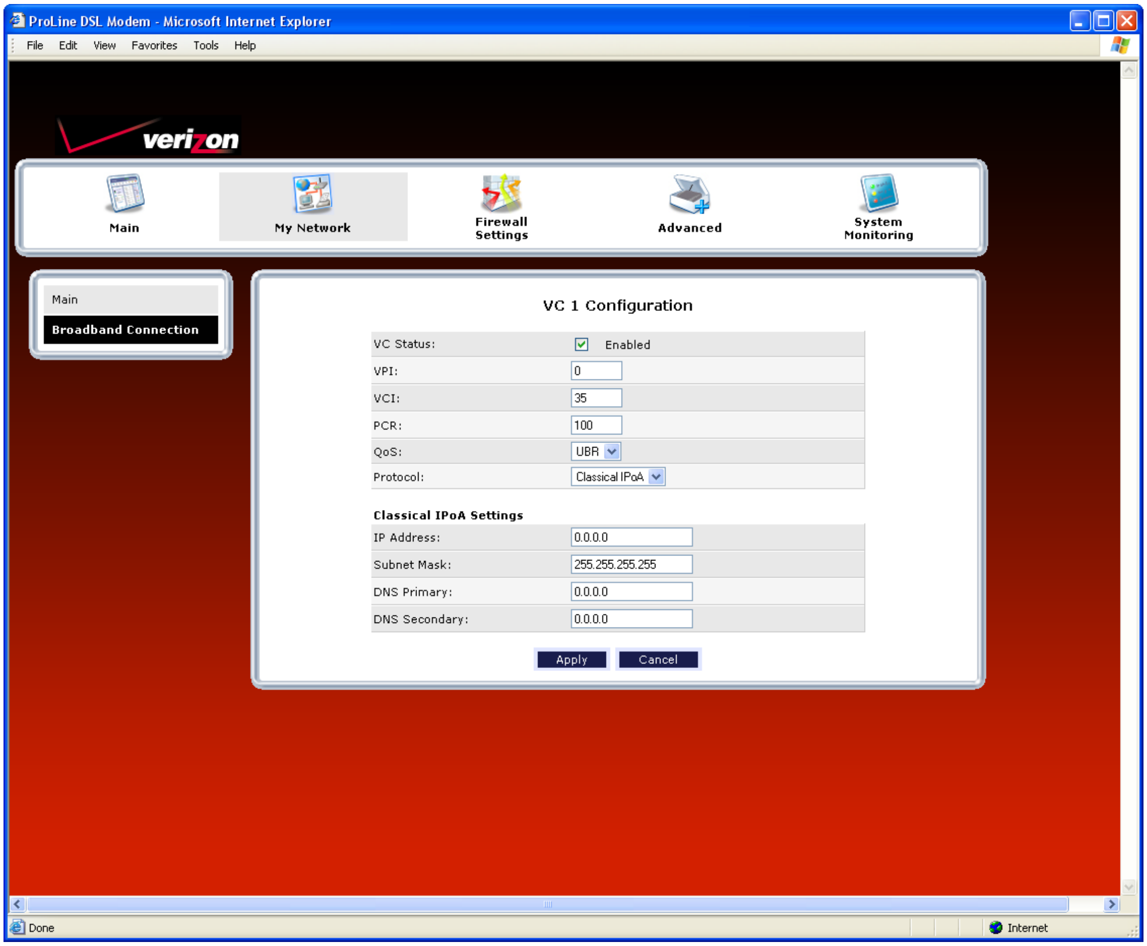

Resetting Modem - Microsoft Internet Explorer
File Edit View Favorites Tools Help
verizon

Resetting Modem Please Wait......

The modem is resetting in order for
the requested changes to take effect.
Your page will be reloaded shortly.

13.2.2.4 Configuring the Router's Protocol Settings for Classical IPoA

To configure your protocol settings for Classical IPoA, access to the **VC 1 Configuration** screen, as explained earlier in section 13.2.2.1 "Editing VC Protocol Settings." At the **VC 1 Configuration** screen, select Classical IPoA from the **Protocol** drop-down menu. The following screen will appear. Enter the appropriate values in the fields provided and then click **Apply.**



VC 1 Configuration

VC Status:	☑ Enabled
VPI:	0
VCI:	35
PCR:	100
QoS:	UBR
Protocol:	Classical IPoA

Classical IPoA Settings

IP Address:	0.0.0.0
Subnet Mask:	255.255.255.255
DNS Primary:	0.0.0.0
DNS Secondary:	0.0.0.0

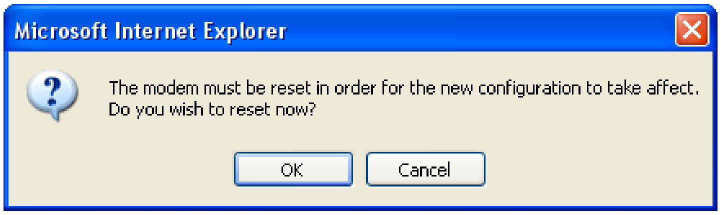
VC 1 Configuration (Classical IPoA)	
VC Status	The protocol status is Enabled.
VPI	This field allows you to change your VPI (Virtual Path Indicator) value for a particular VC, which is defined by your Service Provider.
VCI	This field allows you to change your VCI (Virtual Channel Indicator) value for a particular VC, which is defined by your Service Provider.
PCR	Factory Default = 100% Peak Cell Rate (PCR)-The maximum rate at which cells can be transmitted across a virtual circuit, specified in cells per second and defined by the interval between the transmission of the last bit of one cell and the first bit of the next. This value is a percentage of the current data rate. 100 allows this VC to use 100% of the available bandwidth. 80 allows this VC to use 80% of the available bandwidth.
QoS	Quality of Service, which is determined by your Service Provider.

	Possible Responses:
	CBR = Constant Bit Rate
	UBR = Unspecified Bit Rate
	VBR = Variable Bit Rate

Protocol	The Protocol for each VC, which is specified by your Service Provider.
	Possible Responses:
	PPPoA = Point to Point Protocol over ATM (Asynchronous Transfer Mode)
	PPPoE = Point to Point Protocol over Ethernet
	Bridge = Bridge Protocol
	Classical IPoA = Internet Protocol over ATM (Asynchronous Transfer Mode). This is an ATM encapsulation of the IP protocol.

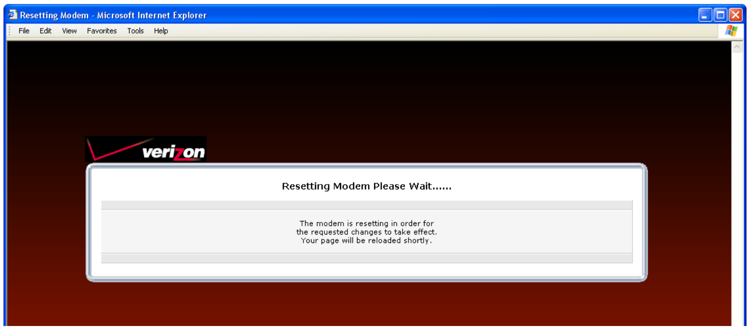
VC Status	The protocol status is Enabled.
IP Address	Displays the IP network address that your modem is on.
Subnet Mask	Displays the subnet mask, which determines if an IP address belongs to your local network.
DNS Primary	Provided by your Service Provider.
DNS Secondary	Provided by your Service Provider.

If you clicked **Apply** in the preceding screen, the following pop-up screen will appear. The Router must be reset to allow the new configuration to take effect. Click **OK** to continue.



The modem must be reset in order for the new configuration to take affect.
Do you wish to reset now?

If you clicked **OK**, the following screen will appear. After a brief delay, the home page will be displayed.



Resetting Modem Please Wait......

The modem is resetting in order for
the requested changes to take effect.
Your page will be reloaded shortly.

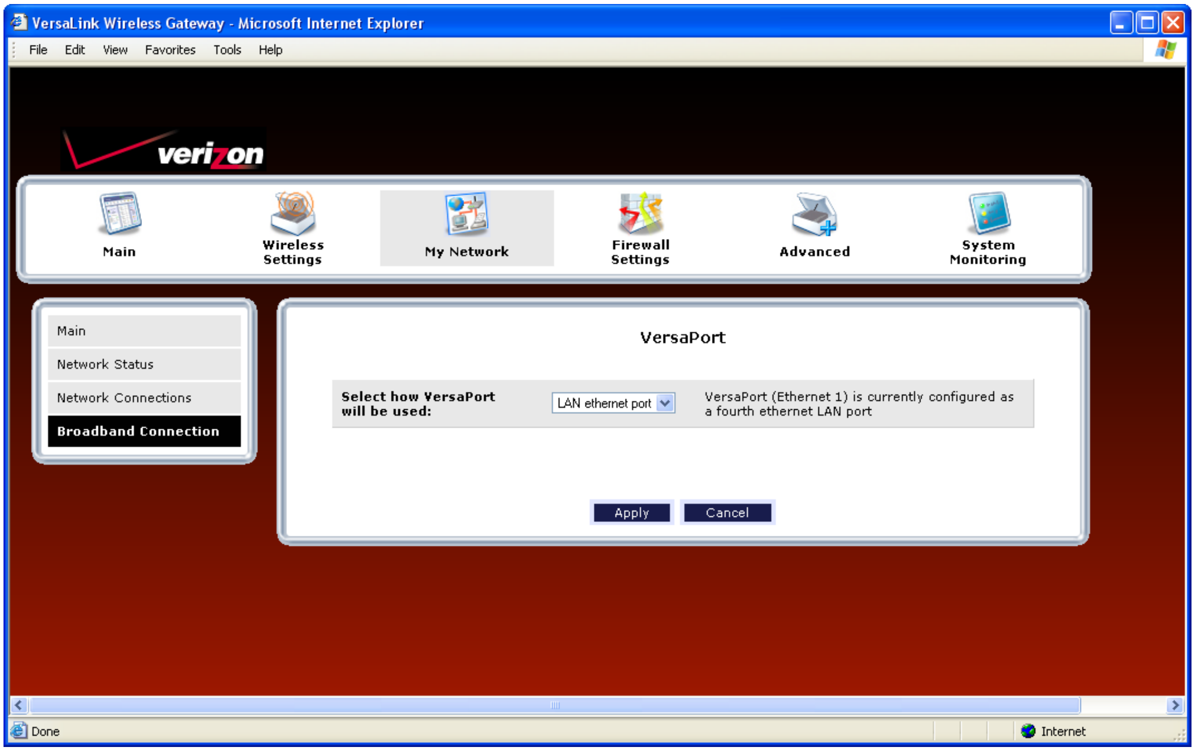
13.2.3 Configuring VersaPort (LAN Ethernet/WAN Uplink)

If you clicked the **VersaPort (Ethernet 1)** link in the **Network Connections** screen, the following screen will appear. This screen allows you to select how the UPLINK/E1 port on the rear of the Router will be used.

Select one of the following modes from the drop-down menu:

- **LAN Ethernet port:** This mode allows you to use the Router's DSL port for WAN access (the Router's DSL functionality is enabled).
- **WAN Uplink port.** This mode allows you to use the Router as an Ethernet Gateway (for example, connecting to a cable modem or to another ADSL device that provides WAN access). In **WAN Uplink** mode, the Router's DSL functionality is disabled.

NOTE: The menu options displayed will vary according to the configuration you have chosen to use, LAN Ethernet port or WAN Uplink port. If you are using WAN Uplink port, some menu options will not be available. However, all menu options will be available when the Router is enabled for LAN Ethernet port. Instructions on enabling and disabling LAN Ethernet port and WAN Uplink port are explained in the following sections. This document was created with the Router configured for LAN Ethernet port.



VersaPort

Select how VersaPort will be used: LAN ethernet port

VersaPort (Ethernet 1) is currently configured as a fourth ethernet LAN port

13.2.3.1 Enabling LAN Ethernet Port—Disabling WAN Uplink Port

If you selected **LAN Ethernet port** in the **VersaPort** screen, this will enable the Router's DSL transceiver, and the Router will use its DSL port as the WAN interface. This configuration will disable the WAN Uplink port (**UPLINK/E1** on the rear of the Router).

- When **LAN Ethernet port** is selected, the **DSL** port on the rear of the Router is enabled and is the WAN interface to the Internet.

- When **WAN Uplink port** is selected, the **UPLINK/E1** port on the rear of the Router is enabled and is the WAN uplink to another ADSL device through which you will make your Internet connection.

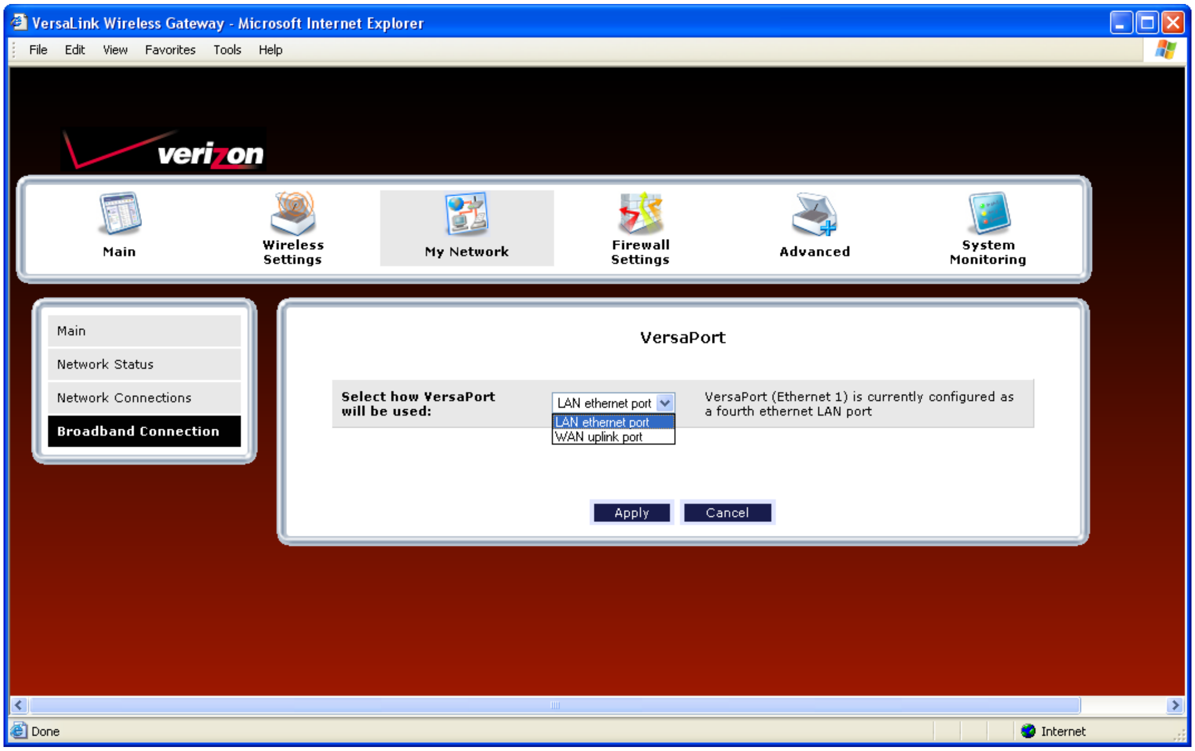
Remember, you must click **Apply** to allow the settings to take effect in the Router.

NOTE:

1. When using the optional UPLINK/E1 port, Ethernet LAN connection is limited to E2, E3, and E4. The WAN Uplink feature is optional and, if it is disabled, the Router will use DSL only as the WAN interface.

2. Some menu options are unavailable when the Router is configured for **WAN Uplink port.** However, all of the Router's menu options are displayed when the Router is configured for **LAN Ethernet port**. 3. The Router's factory default setting is **LAN Ethernet port.**

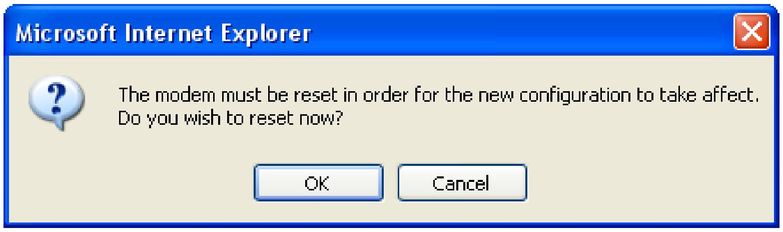
4. If WAN Uplink is not enabled in the .ini file, the Router will use DSL only as the WAN interface.



Select how VersaPort will be used: LAN ethernet port

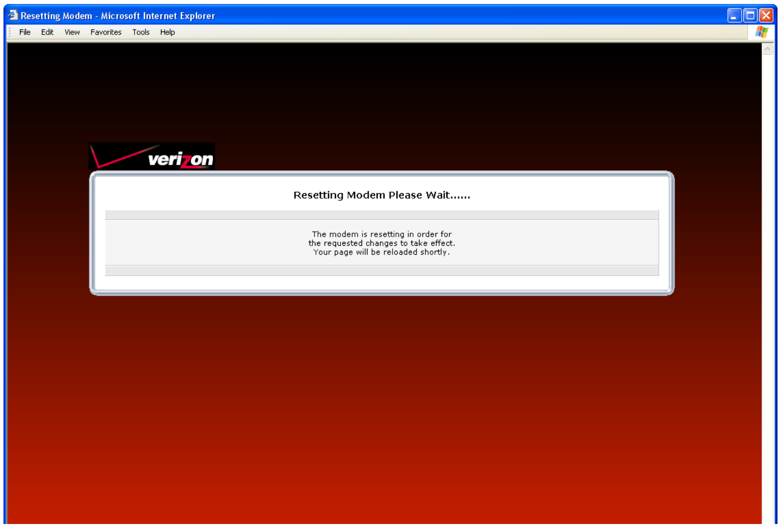
VersaPort (Ethernet 1) is currently configured as a fourth ethernet LAN port

If you selected **LAN Ethernet port** in the **VersaPort** screen, the following pop-up screen will be displayed. The Router must be reset to allow the new configuration to take effect. Click **OK** to continue.



The modem must be reset in order for the new configuration to take affect.
Do you wish to reset now?

If you clicked **OK**, the following screen will appear. After a brief delay, the home page will be displayed. Confirm that you have a DSL link and that your PPP Status displays **UP.** (If necessary, click the **connect** button to establish a PPP session).


Resetting Modem - Microsoft Internet Explorer
File Edit View Favorites Tools Help
verizon

Resetting Modem Please Wait......

The modem is resetting in order for
the requested changes to take effect.
Your page will be reloaded shortly.

13.2.3.2 Enabling WAN Uplink Port—Disabling LAN Ethernet Port

If you selected **WAN Uplink port** in the **VersaPort** screen, this will disable the Router's DSL transceiver and the DSL port. This configuration allows the port labeled **UPLINK/E1** on the rear of the Router to become the WAN interface port. Then, you can use **UPLINK/E1** to uplink to another ADSL device, through which you can connect to the Internet.

- When **LAN Ethernet port** is selected, the **DSL** port on the rear of the Router is enabled and is the WAN interface to the Internet.

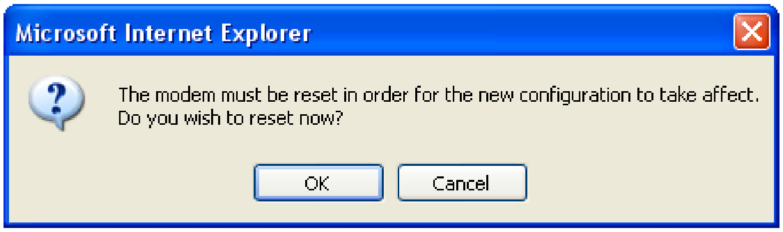
- When **WAN Uplink port** is selected, the **UPLINK/E1** port on the rear of the Router is enabled and is the WAN uplink to another ADSL device through which you will make your Internet connection.

Remember, you must click **Apply** to allow the settings to take effect in the Router.

NOTE:

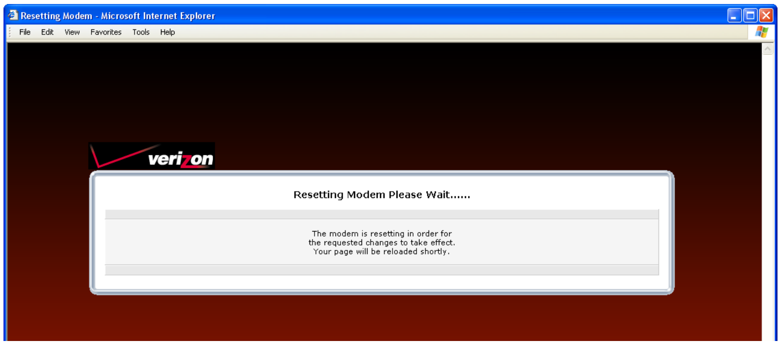
1. When using the optional UPLINK/E1 port, Ethernet LAN connection is limited to E2, E3, and E4.
   The UPLINK feature is optional and, if it is disabled, the Router will use DSL only as the WAN interface.
2. All of the Router's menu options are displayed when the Router is configured for **LAN Ethernet port**. However, some menu options are unavailable when the Router is configured for **WAN Uplink port.** The sections explained throughout this document will indicate when a menu item is unavailable.
3. The Router's factory default setting is **LAN Ethernet port.**
4. If UPLINK is not enabled in the .ini file, the Router will use DSL only.

If you selected **WAN Uplink port**, the following pop-up screen will be displayed. The Router must be reset to allow the new configuration to take effect. Click **OK** to continue.



The modem must be reset in order for the new configuration to take affect.
Do you wish to reset now?

If you clicked **OK**, the following screen will appear. After a brief delay, the home page will be displayed. Remember, when WAN Uplink port is configured, the Router will not have a DSL link.



Resetting Modem Please Wait......

The modem is resetting in order for
the requested changes to take effect.
Your page will be reloaded shortly.

13.2.3.3 Editing the VC Protocol Settings for WAN Uplink Port

After you have configured the Router for **WAN Uplink port**, in the preceding steps, select **My Network** from the top navigational menu, and then select **Network Connections** from the menu options at the left of the screen. The following screen will appear.

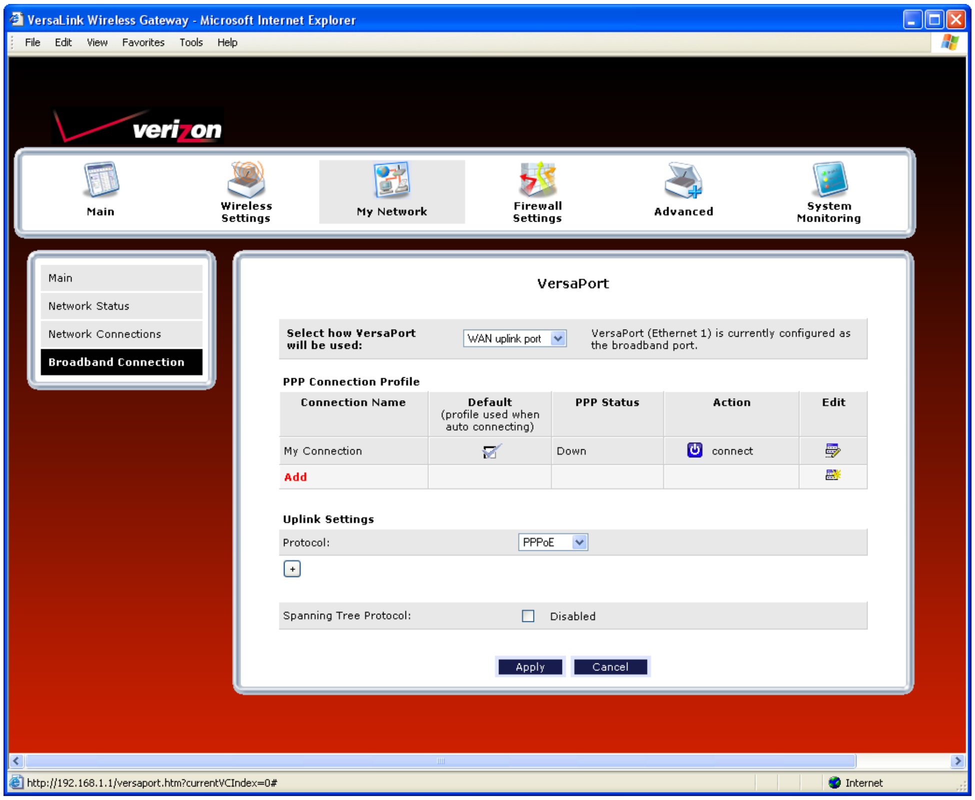
To edit the Uplink settings, do the following:

- To enable Spanning Tree Protocol, click the adjacent check box (a check mark will appear in the box). Then click **Apply** to allow the setting to take effect.

> **NOTE:** Spanning Tree Protocol is a link management protocol that provides path redundancy while preventing undesirable loops in the network. For Ethernet network to function properly, only one active path can exist between two stations. When Spanning Tree Protocol is enabled, two bridges are used to interconnect the same two computer network segments. Spanning Tree Protocol will allow the bridges to exchange information so that only one of them will handle a given message that is being sent between two computers within the network. Spanning Tree cannot be enabled if VLAN is enabled. Details on VLAN will be discussed later in this User Guide.

- To edit the Uplink Settings, select the desired protocol from the **Protocol** drop-down menu.

> **NOTE:** If you experience any problems, reset the Router by pressing the reset button on the rear of the Router. Or follow the instructions in section 15.2, “Restore Defaults,” to restore the Router to factory default settings. The actual information displayed in this screen may vary, depending on network connection established.



VersaPort

Select how VersaPort will be used: WAN uplink port

VersaPort (Ethernet 1) is currently configured as the broadband port.

PPP Connection Profile

Connection Name	Default (profile used when auto connecting)	PPP Status	Action	Edit
My Connection	✓	Down	connect	
Add				

Uplink Settings

Protocol: PPPoE

Spanning Tree Protocol: □ Disabled

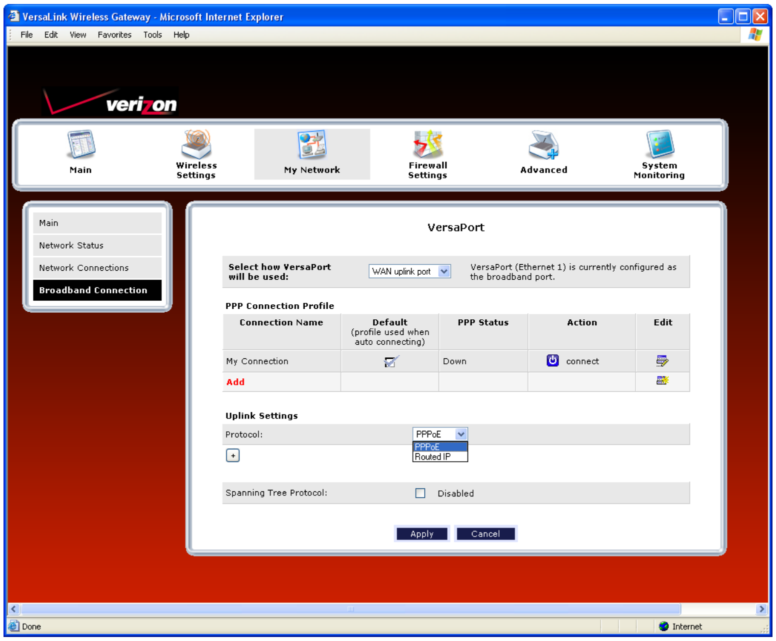
http://192.168.1.1/versaport.htm?currentVCIndex=0#

13.2.3.3.1 Configuring the WAN Uplink Protocol Settings for PPPoE

NOTE: The instructions in this section refer to the Router configured for WAN Uplink mode. Be sure that you have selected **WAN Uplink port** from the drop-down menu in the **VersaPort** screen.

To set the Uplink protocol to PPPoE, from the **Protocol** drop-down menu, select **PPPoE**.

NOTE: PPPoE is the factory default setting for WAN Uplink port.



VersaPort

Select how VersaPort will be used: WAN uplink port — VersaPort (Ethernet 1) is currently configured as the broadband port.

PPP Connection Profile

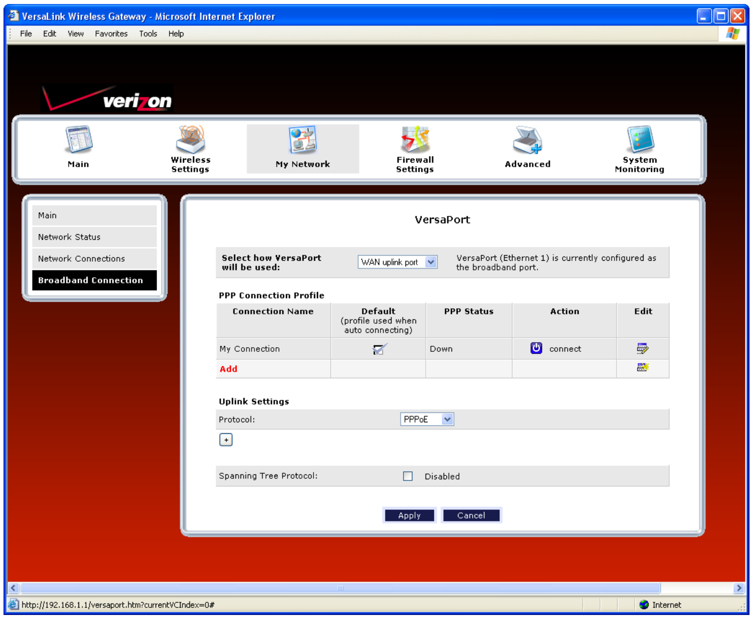
Connection Name	Default (profile used when auto connecting)	PPP Status	Action	Edit
My Connection	☑	Down	connect	
Add				

Uplink Settings

Protocol: PPPoE (PPPoE, Routed IP)

Spanning Tree Protocol: ☐ Disabled

If you selected **PPPoE**, the following screen will be displayed. Next, click the expand button to expand the page.



VersaPort

Select how VersaPort will be used: WAN uplink port — VersaPort (Ethernet 1) is currently configured as the broadband port.

PPP Connection Profile

Connection Name	Default (profile used when auto connecting)	PPP Status	Action	Edit
My Connection	☑	Down	connect	
Add				

Uplink Settings

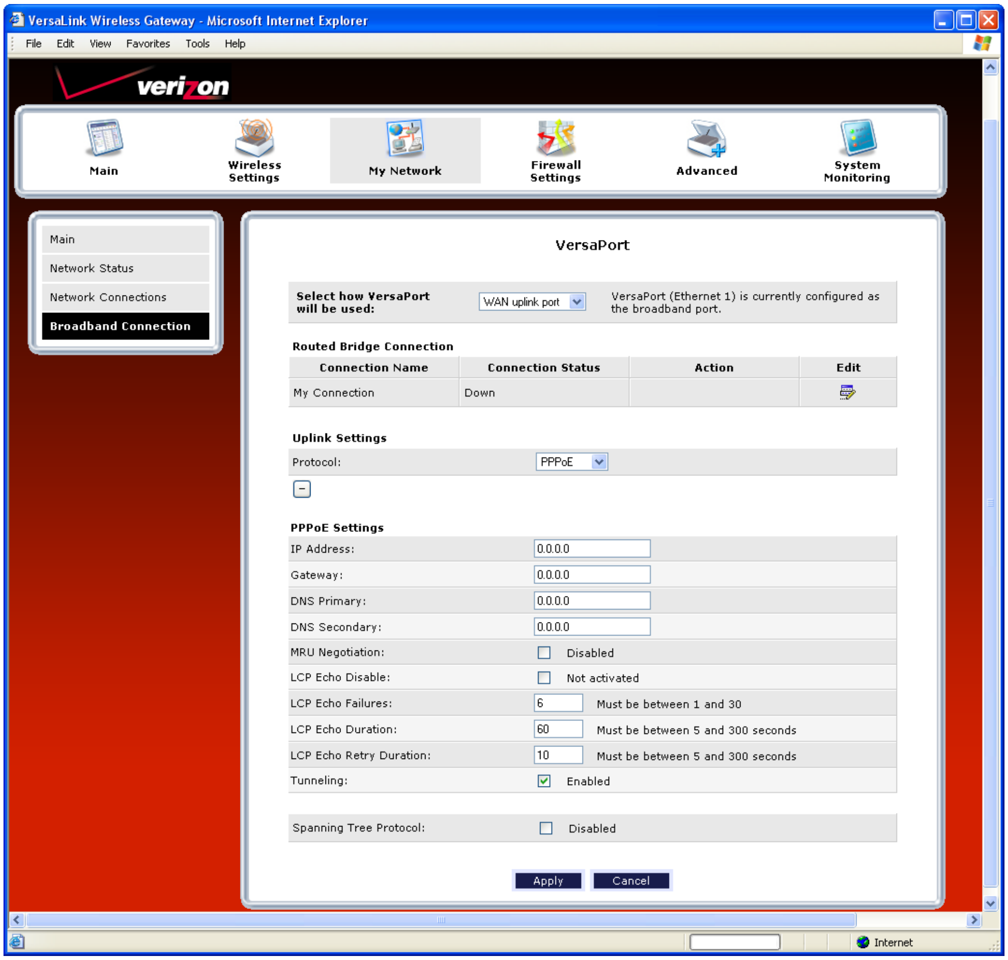
Protocol: PPPoE

Spanning Tree Protocol: ☐ Disabled

If you clicked the expand button, the following screen will appear. This screen allows you to configure the desired PPPoE settings for WAN Uplink port.

At the **VersaPort** screen, do the following:

1. Confirm that **PPPoE** is selected in the **Protocol** drop-down menu.
2. Enter the appropriate values in the **PPPoE Settings** fields.
3. Set the desired Tunneling setting (to enable the setting, click the box to place a check mark in the box) or to disabled the setting, click to clear the box). By default, Tunneling is Enabled.
4. Set the desired Spanning Tree setting (to enable the setting, click the box to place a check mark in the box) or to disabled the setting, click to clear the box). By default, Spanning Tree is Disabled.
5. Click **Apply** to allow the settings to take effect.
6. Click **OK** in the pop-up screen to allow the Router to be reset and the new configuration to take effect.



VersaPort

Select how VersaPort will be used: WAN uplink port — VersaPort (Ethernet 1) is currently configured as the broadband port.

Routed Bridge Connection

Connection Name	Connection Status	Action	Edit
My Connection	Down		✎

Uplink Settings

Protocol: PPPoE

PPPoE Settings

IP Address:	0.0.0.0	
Gateway:	0.0.0.0	
DNS Primary:	0.0.0.0	
DNS Secondary:	0.0.0.0	
MRU Negotiation:	□ Disabled	
LCP Echo Disable:	□ Not activated	
LCP Echo Failures:	6	Must be between 1 and 30
LCP Echo Duration:	60	Must be between 5 and 300 seconds
LCP Echo Retry Duration:	10	Must be between 5 and 300 seconds
Tunneling:	☑ Enabled	

Spanning Tree Protocol: □ Disabled

Apply Cancel

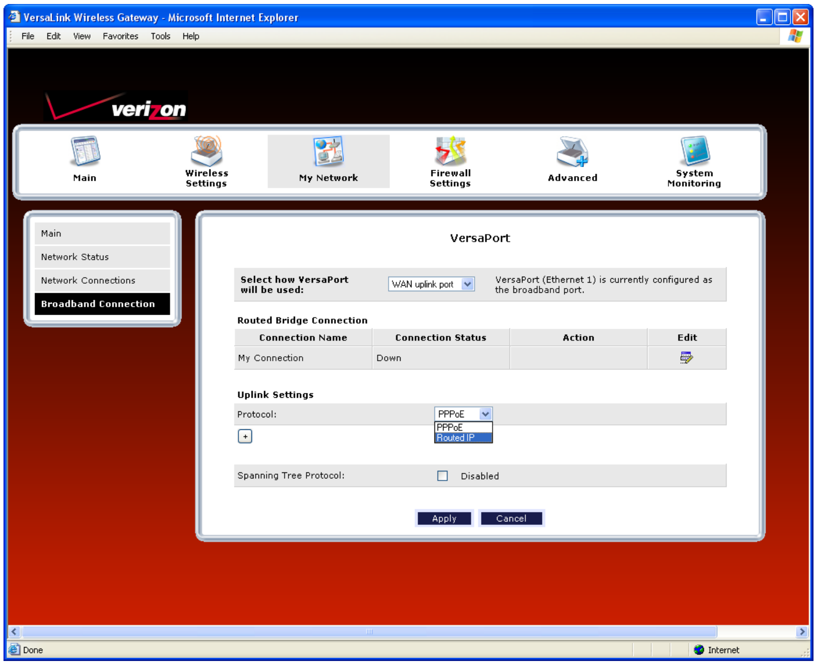
Uplink Settings (PPPoE protocol)	
DHCP Client	Selecting a option button allows you to either Enable or Disable the DHCP Client. Click the top option button labeled (enable DHCP Client) to allow the Router to obtain an IP address automatically from your service provider. Click the bottom option button labeled (disable DHCP Client) to allow the Router to

<table>
<tr><td></td><td>accept static IP address information. Then, manually enter the IP values into the fields. Obtain these values from Verizon.</td></tr>
<tr><td>IP Address</td><td>The IP network address that your Router is on.</td></tr>
<tr><td>Gateway</td><td>The Router’s IP gateway address.</td></tr>
<tr><td>DNS Primary</td><td>Provided by Verizon.</td></tr>
<tr><td>DNS Secondary</td><td>Provided by Verizon.</td></tr>
<tr><td>MRU Negotiation</td><td>Factory Default = Disabled
If Enabled, the Maximum Received Unit (MRU) would enforce MRU negotiations.
Note: Enable this option only at your Internet Service Provider’s request.</td></tr>
<tr><td>LCP Echo Disable</td><td>Factory Default = Enable
If checked, this option will disable the modem LCP Echo transmissions.</td></tr>
<tr><td>LCP Echo Failures</td><td>Indicates number of continuous LCP echo non-responses received before the PPP session is terminated.</td></tr>
<tr><td>LCP Echo Duration</td><td>The interval between LCP Echo transmissions with responses.</td></tr>
<tr><td>LCP Echo Retry Duration</td><td>The interval between LCP. Echo after no response.</td></tr>
<tr><td>Tunneling</td><td>Factory Default = Enabled
To disable Tunneling, click the box to clear the check mark.
When Enabled, this option allows PPP traffic to be bridged to the WAN. This feature allows you to use a PPPoE shim on the host computer to connect to the Internet Service Provider, by bypassing the Router’s capability to do this.
Note: Tunneling is available in PPPoE mode only.</td></tr>
<tr><td>Spanning Tree Protocol</td><td>Factory Default = Disabled
To enable Spanning Tree Protocol, click the box. A check mark will appear in the box.</td></tr>
<tr><td colspan="2">Note: The values for the IP Address, Gateway, DNS Primary, and DNS Secondary are all “Override of the values obtained from the PPP connection,” They default to “0.0.0.0,” in which case the override is ignored. It is recommended that you do not change the values unless your service provider instructs you to change them.</td></tr>
</table>

13.2.3.3.2 Configuring the WAN Uplink Protocol Settings for Routed IP

NOTE: The instructions in this section refer to the Router when it is configured for WAN Uplink mode. In the **VersaPort** screen, be sure that you have selected **WAN Uplink port** from drop-down menu.

To set the Uplink protocol to Routed IP, from the **Protocol** drop-down menu, select **Routed IP**.



VersaPort

Select how VersaPort will be used:	WAN uplink port	VersaPort (Ethernet 1) is currently configured as the broadband port.

Routed Bridge Connection

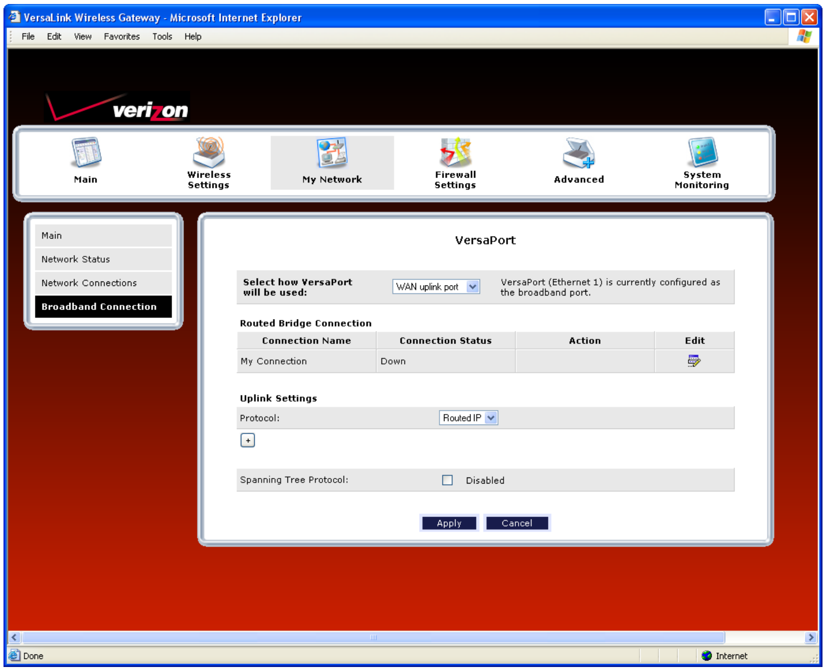
Connection Name	Connection Status	Action	Edit
My Connection	Down		

Uplink Settings

Protocol: PPPoE (PPPoE / Routed IP)

Spanning Tree Protocol: □ Disabled

If you selected **Routed IP**, the following screen will be displayed. Next, click the expand button to expand the page.



VersaPort

Select how VersaPort will be used:	WAN uplink port	VersaPort (Ethernet 1) is currently configured as the broadband port.

Routed Bridge Connection

Connection Name	Connection Status	Action	Edit
My Connection	Down		

Uplink Settings

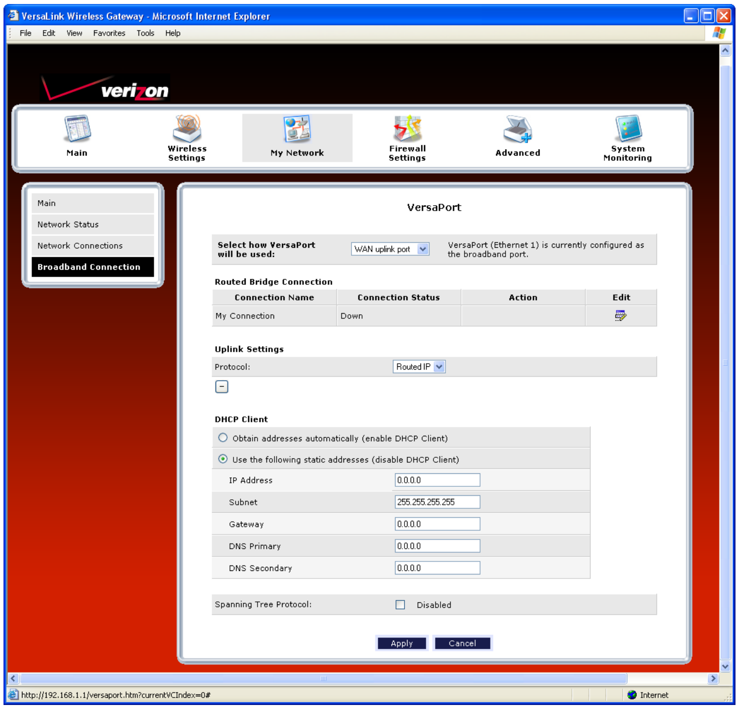
Protocol: Routed IP

Spanning Tree Protocol: □ Disabled

If you clicked the expand button, the following screen will appear. This screen allows you to configure the desired Routed IP settings for WAN Uplink port.

At the **VersaPort** screen, do the following:

1. Confirm that **Routed IP** is selected in the **Protocol** drop-down menu.
2. Enter the appropriate values in the **DHCP Client** fields.
3. Set the desired Spanning Tree setting. By default, Spanning Tree is Disabled.
4. Click **Apply** to allow the settings to take effect.
5. Click **OK** in the pop-up screen to allow the Router to be reset and the new configuration to take effect.



VersaPort

Select how VersaPort will be used: WAN uplink port — VersaPort (Ethernet 1) is currently configured as the broadband port.

Routed Bridge Connection

Connection Name	Connection Status	Action	Edit
My Connection	Down		

Uplink Settings

Protocol: Routed IP

DHCP Client

○ Obtain addresses automatically (enable DHCP Client)

● Use the following static addresses (disable DHCP Client)

IP Address	0.0.0.0
Subnet	255.255.255.255
Gateway	0.0.0.0
DNS Primary	0.0.0.0
DNS Secondary	0.0.0.0

Spanning Tree Protocol: □ Disabled

<table>
<tr><th colspan="2">Uplink Settings (Routed IP protocol)</th></tr>
<tr><td>DHCP Client</td><td>Selecting a option button allows you to either Enable or Disable the DHCP Client.
Click the top option button labeled (enable DHCP Client<b>)</b> to allow the Router to obtain an IP address automatically from your service provider.
Click the bottom option button labeled (disable DHCP Client) to allow the Router to accept static IP address information. Then manually enter the IP values into the fields. Obtain these values from your service provider.</td></tr>
<tr><td>IP Address</td><td>The IP network address that your Router is on.</td></tr>
<tr><td>Subnet Mask</td><td>The subnet mask, which determines if an IP address belongs to your local network.</td></tr>
<tr><td>Gateway</td><td>The Router’s IP gateway address.</td></tr>
<tr><td>DNS Primary</td><td>Provided by Verizon.</td></tr>
<tr><td>DNS Secondary</td><td>Provided by Verizon.</td></tr>
<tr><td>Spanning Tree Protocol</td><td>Factory Default = Disabled
To enable Spanning Tree Protocol, click the box. A check mark will appear in the box.</td></tr>
<tr><td colspan="2">Note: The values for the IP Address, Gateway, DNS Primary, and DNS Secondary are all “Override of the values obtained from the PPP connection,” They default to “0.0.0.0,” in which case the override is ignored. It is recommended that you do not change the values unless your service provider instructs you to change them.</td></tr>
</table>

14. FIREWALL SETTINGS

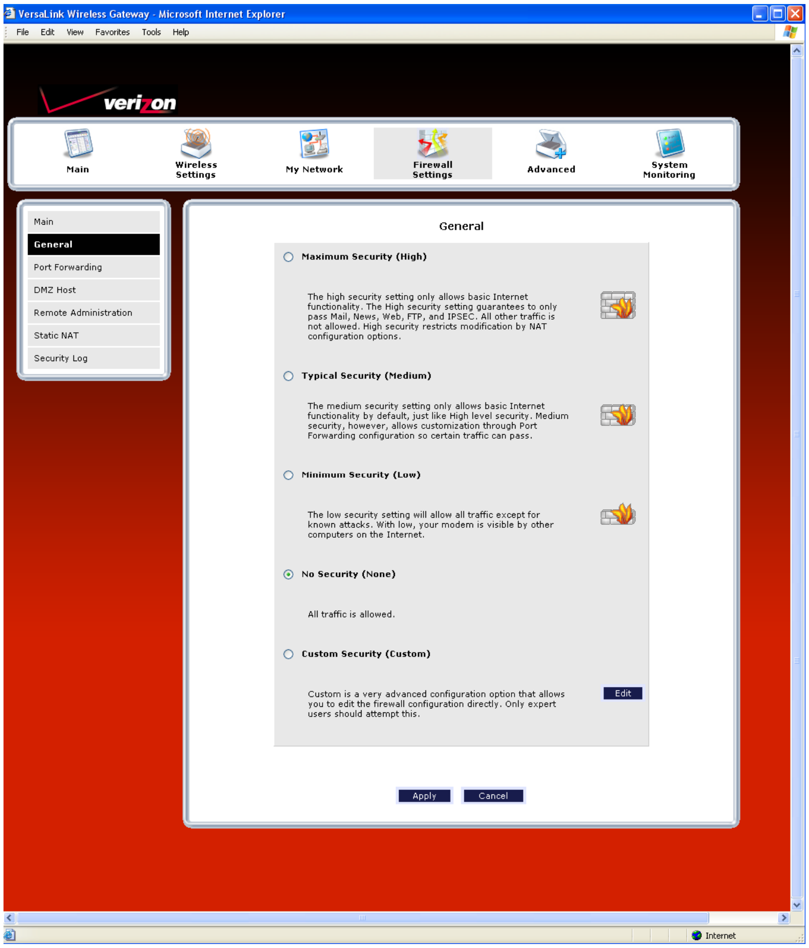
14.1 General Firewall Security Settings

This section explains how to configure your Router's firewall security features. The Router's firewall security settings allow you reduce the risk of unauthorized access to your network by prohibiting certain types of inbound and outbound network traffic and by allowing you to configure specific firewall rules.

IMPORTANT: If you need help, click **Main** in the top navigational menu to go to the home page. In the **Quick Links** section of the home page, click **Verizon Help**. Clicking this link takes you to Verizon's OnLine Help site, where you can access additional information about your DSL Router.

To change your firewall security level, click the option button next to the desired security setting. Next, click **Apply** to allow the changes to take effect.

IMPORTANT: It is recommended that you do not change the settings in this **User Defined Firewall Rules** screen. If you need to reset your Router to factory default settings, push the reset button on the rear of the Router. Or follow the instructions in section 15.2, "Restore Defaults," to restore the Router to factory default settings.
The factory default security level for your Router is **No Security (None).**



General

○ Maximum Security (High)

The high security setting only allows basic Internet functionality. The High security setting guarantees to only pass Mail, News, Web, FTP, and IPSEC. All other traffic is not allowed. High security restricts modification by NAT configuration options.

○ Typical Security (Medium)

The medium security setting only allows basic Internet functionality by default, just like High level security. Medium security, however, allows customization through Port Forwarding configuration so certain traffic can pass.

○ Minimum Security (Low)

The low security setting will allow all traffic except for known attacks. With low, your modem is visible by other computers on the Internet.

● No Security (None)

All traffic is allowed.

○ Custom Security (Custom)

Custom is a very advanced configuration option that allows you to edit the firewall configuration directly. Only expert users should attempt this.

General Firewall Settings	
Maximum Security (High)	High security level only allows basic Internet functionality. Only Mail, News, Web, FTP, and IPSEC are allowed. All other traffic is prohibited.
Typical Security (Medium)	Like High security, Medium security only allows basic Internet functionality by default. However, Medium security allows customization through NAT configuration so that you can enable the traffic that you want to pass.
Minimum Security (Low)	Low security setting will allow all traffic except for known attacks. With Low security, your Router is visible to other computers on the Internet.
No Security (None)	Factory Default = No Security (None) The Firewall is disabled. (All traffic is passed)
Custom Security (Custom)	Custom is a security option that allows you to edit the firewall configuration directly. Note: Only the most advanced users should try this.

14.2 Editing Firewall Security Rules

To edit the firewall security rules for the setting you selected in the **General** screen, click **Edit** to go to the **User Defined Firewall Rules** screen.

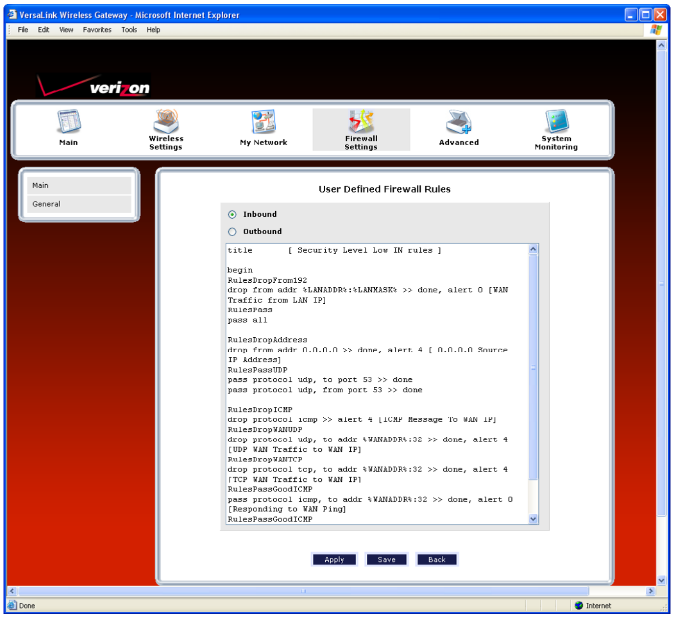
IMPORTANT: It is recommended that you do not change the settings in this screen. If you need to reset your Router to factory default settings, push the reset button on the rear of the Router. Or follow the instructions in section 15.2, “Restore Defaults,” to restore the Router to factory default settings.

The information displayed in this screen depends on the firewall security setting you have selected. You can change the security parameters on your Inbound and Outbound firewall rules by selecting the desired option button. If you select the **Inbound** option button, this will restrict inbound traffic from the WAN to the LAN. If you select the **Outbound** option button, this will restrict outbound traffic from the LAN to WAN.

NOTE: If you selected **No Security** in the **General** screen, no rules will be displayed in the **User Defined Firewall Rules** screen. You must first select, High, Medium, Low, or Custom and then click **Apply** in the **General** screen if you want to view or edit firewall rules. If you need help, click **Main** in the top navigational menu to go to the home page, and then click **Verizon Help** to access Online Help for your DSL Router.

After you have edited your firewall rules, clicked **Save**. The settings will be saved to flash (a temporary storage area in your Router). Next, click **Apply** to apply the settings to your Router. The Router's security level will automatically switch to **Custom Security.**

NOTE: The information displayed in this screen will depend on the level of security you have selected.



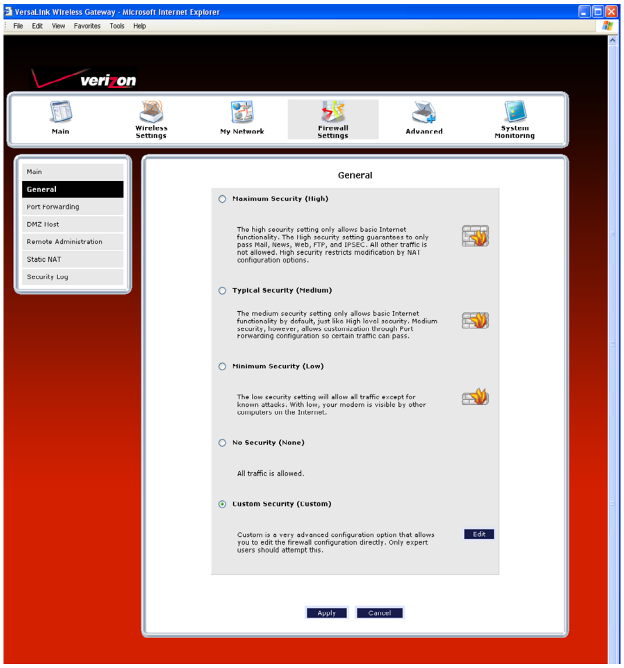
User Defined Firewall Rules

● Inbound

○ Outbound

```
title       [ Security Level Low IN rules ]

begin
RulesDropFrom192
drop from addr %LANADDR%:%LANMASK% >> done, alert 0 [WAN
Traffic from LAN IP]
RulesPass
pass all

RulesDropAddress
drop from addr 0.0.0.0 >> done, alert 4 [ 0.0.0.0 Source
IP Address]
RulesPassUDP
pass protocol udp, to port 53 >> done
pass protocol udp, from port 53 >> done

RulesDropICMP
drop protocol icmp >> alert 4 [ICMP Message To WAN IP]
RulesDropWANUDP
drop protocol udp, to addr %WANADDR%:32 >> done, alert 4
[UDP WAN Traffic to WAN IP]
RulesDropWANTCP
drop protocol tcp, to addr %WANADDR%:32 >> done, alert 4
[TCP WAN Traffic to WAN IP]
RulesPassGoodICMP
pass protocol icmp, to addr %WANADDR%:32 >> done, alert 0
[Responding to WAN Ping]
RulesPassGoodICMP
```

After you have clicked **Apply** in the **User Defined Firewall Rules** screen, click **Back** to return to the **General** screen. In the **General** screen, the **Custom Security** option button will be selected (as shown below), indicating that your Router is using a customized firewall security setting.



General

○ Maximum Security (High)

The high security setting only allows basic Internet functionality. The High security setting guarantees to only pass Mail, News, Web, FTP, and IPSEC. All other traffic is not allowed. High security restricts modification by NAT configuration options.

○ Typical Security (Medium)

The medium security setting only allows basic Internet functionality by default, just like High level security. Medium security, however, allows customization through Port Forwarding configuration so certain traffic can pass.

○ Minimum Security (Low)

The low security setting will allow all traffic except for known attacks. With low, your modem is visible by other computers on the Internet.

○ No Security (None)

All traffic is allowed.

● Custom Security (Custom)

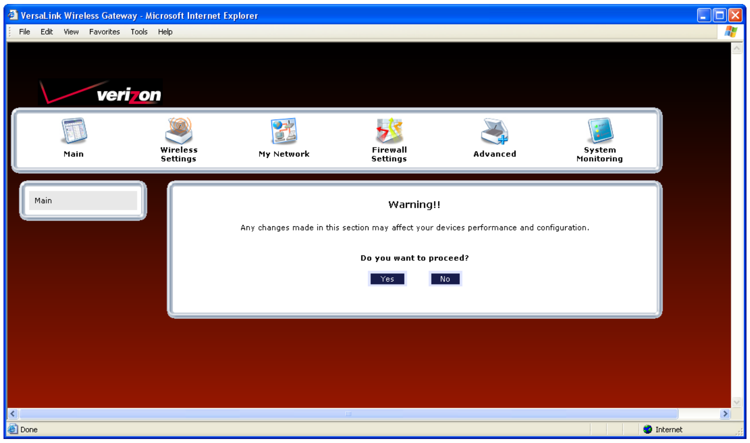
Custom is a very advanced configuration option that allows you to edit the firewall configuration directly. Only expert users should attempt this.

14.3 Port Forwarding

To access the Port Forwarding screen, from the top navigational menu, select **Firewall Settings.** Then select **Port Forwarding** from the menu options at the left of the screen. A warning screen will display the following message:

> **Any changes made in this section may affect your device's performance and configuration. Do you want to proceed?**

Click **Yes** to proceed.



Warning!!

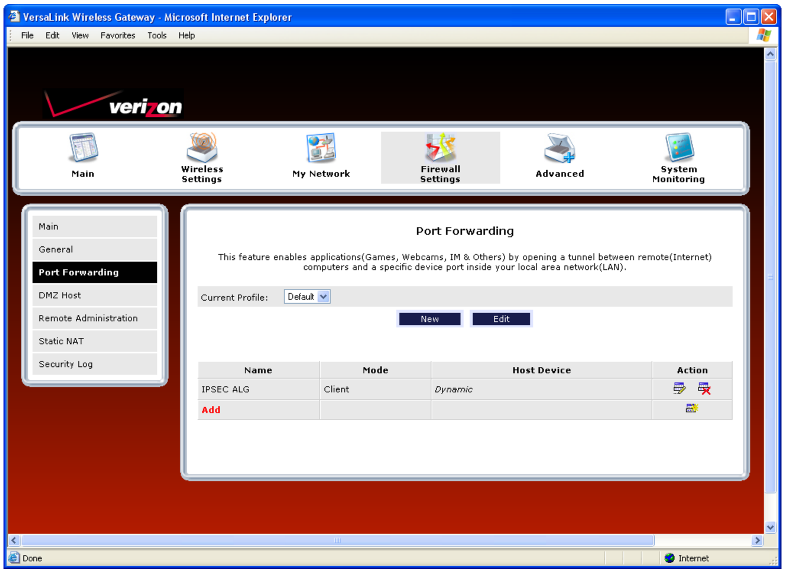
Any changes made in this section may affect your devices performance and configuration.

Do you want to proceed?

If you clicked **Yes**, in the preceding warning screen, the following **Port Forwarding** screen will be displayed. This feature enables applications (Games, Webcams, IM & Others) by opening a tunnel between remote (Internet) computers and a specific device port inside your local area network (LAN).

The **Port Forwarding** screen allows you to do the following:

- Edit connection profiles, create new connection profiles
- Configure port forwarding services: predefined, customized, and port forwarding/port triggering services



Port Forwarding

This feature enables applications(Games, Webcams, IM & Others) by opening a tunnel between remote(Internet) computers and a specific device port inside your local area network(LAN).

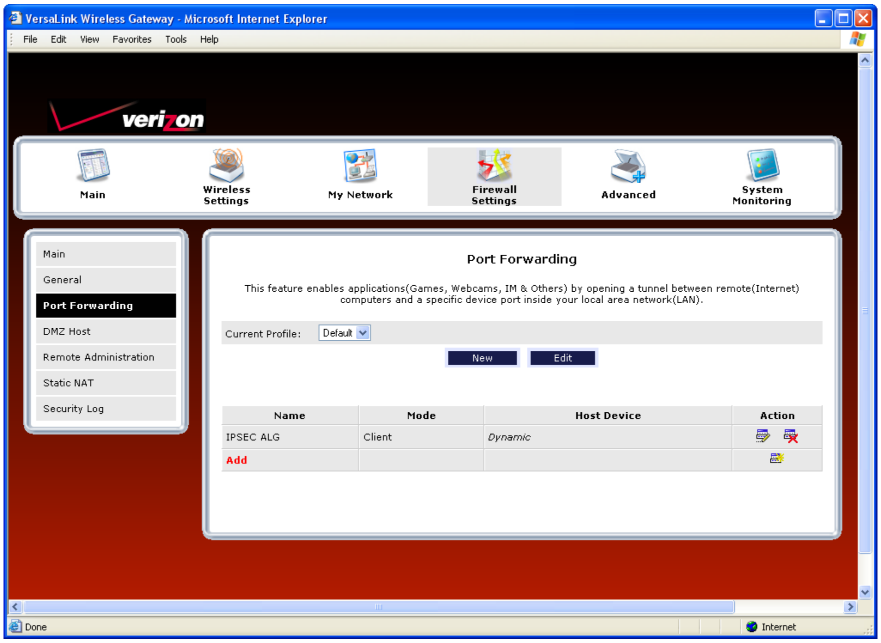
Current Profile: Default

Name	Mode	Host Device	Action
IPSEC ALG	Client	*Dynamic*	✎ ✗
Add			✎

14.3.1 Editing a Connection Profile

Port Forwarding services can be added to connection profiles. To edit an existing profile, and then later add port forwarding services to the profile, follow the instructions in this section.

To edit a connection profile, in the **Port Forwarding** screen, click the **Current Profile** drop-down menu, and then select the name of the profile that you want to edit. Next, click **Edit** .



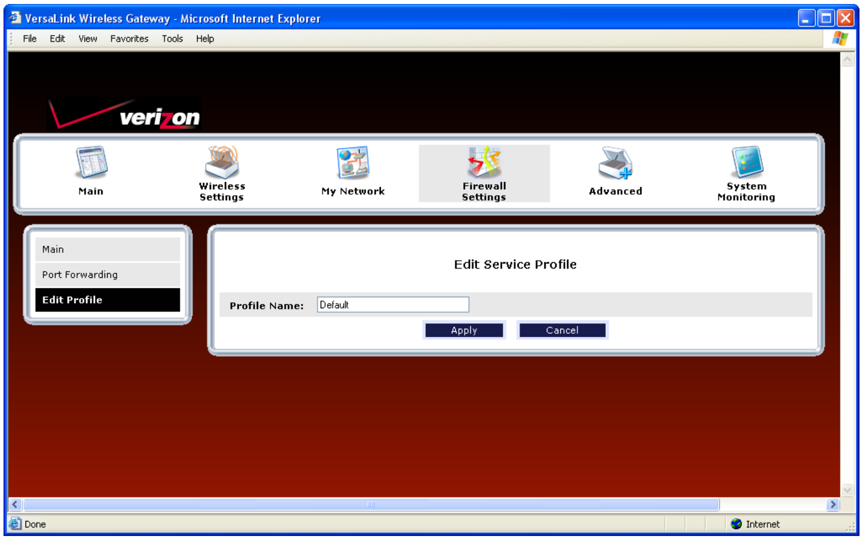
Port Forwarding

This feature enables applications(Games, Webcams, IM & Others) by opening a tunnel between remote(Internet) computers and a specific device port inside your local area network(LAN).

Current Profile: Default

Name	Mode	Host Device	Action
IPSEC ALG	Client	*Dynamic*	
Add			

If you have selected a profile and clicked **Edit**, the following screen will appear. In the following example, "Default" has been selected from the **Current Profile** drop-down menu displayed in the preceding screen. This is the profile name that will be edited.

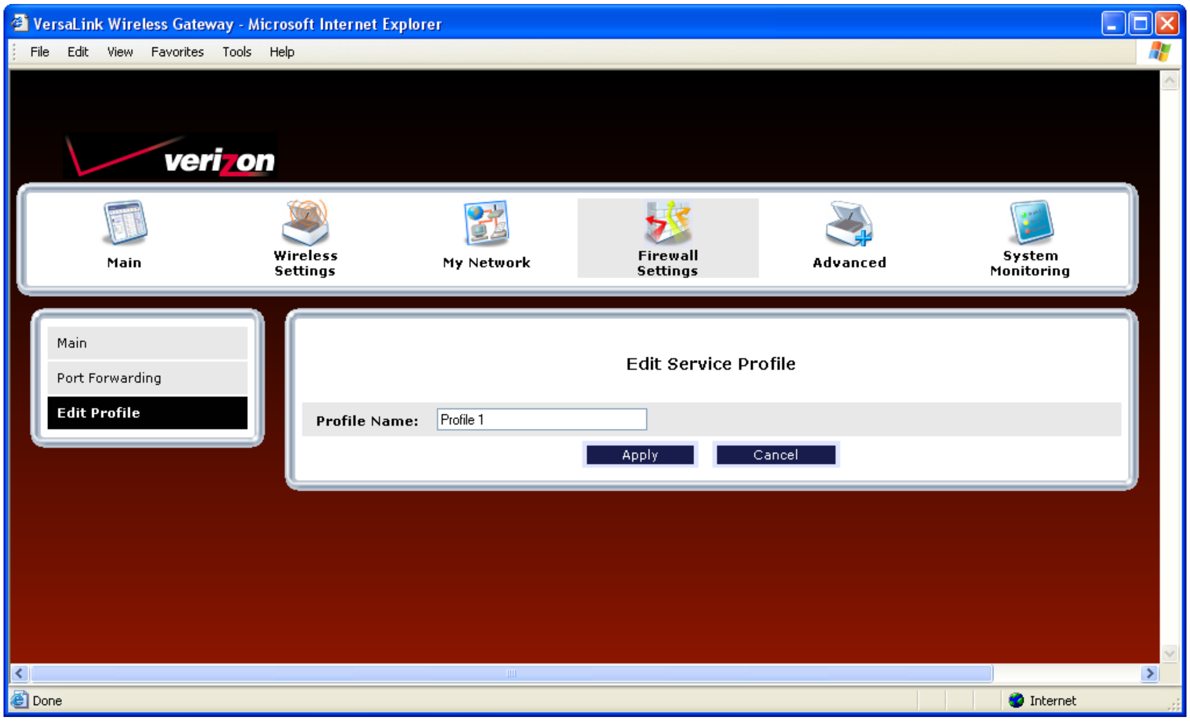


Edit Service Profile

Profile Name: Default

Type the name of your choice in the field provided. Click **Apply** to allow the change to take effect. The name you entered should now be displayed in the **Current Profile** drop-down menu. Notice that “Default” is no longer displayed.

NOTE: If you reset your Router to factory default settings, the default profile “Default” will be displayed, and any previously configured settings will be lost.



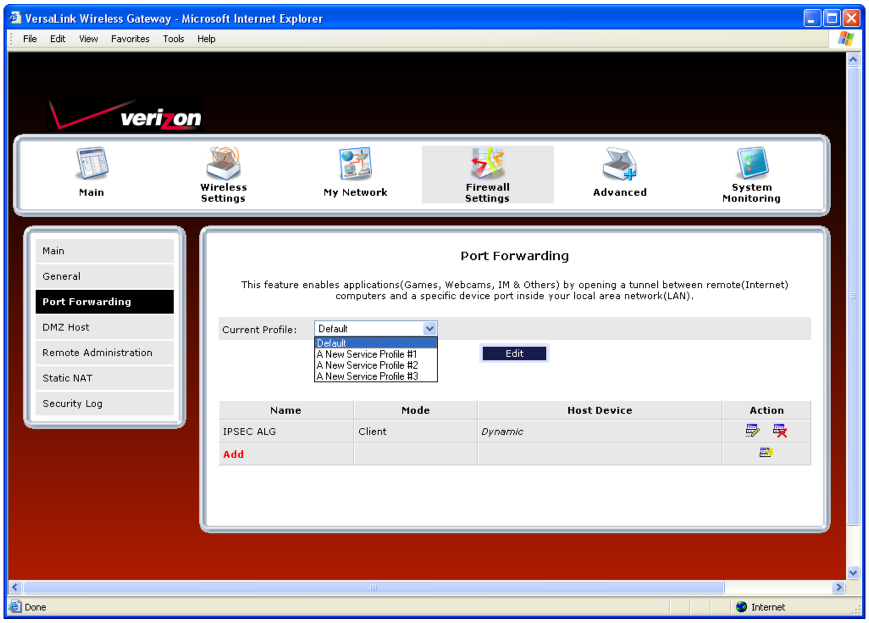
Edit Service Profile

Profile Name: Profile 1

14.3.2 Creating a New Connection Profile

If you desire to create a new profile, and then later add port forwarding services to the new profile, follow the instructions in this section.

To create a new connection profile, in the **Port Forwarding** screen, click the **Current Profile** drop-down menu, and then select **A New Service Profile #1.** Click the **New** button to continue.



Port Forwarding

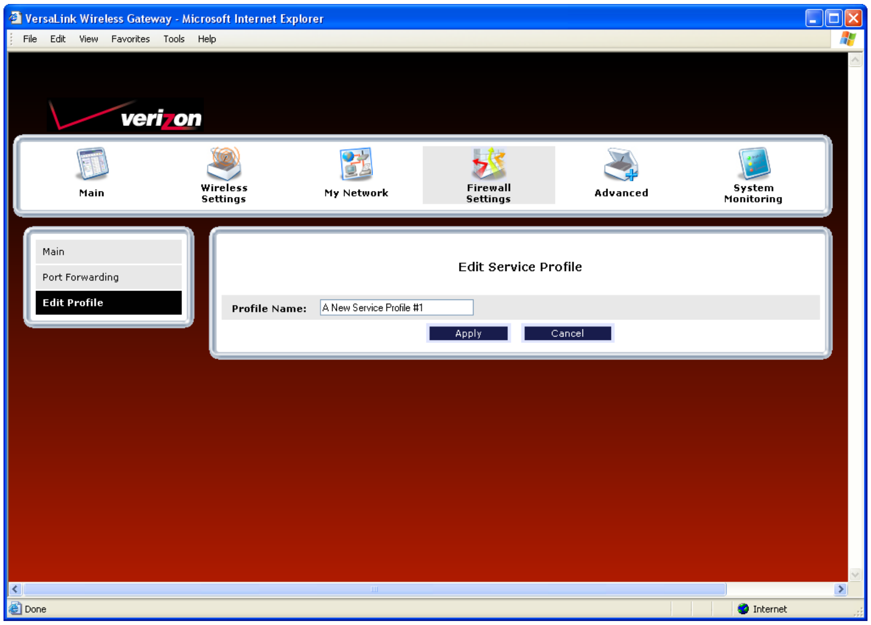
This feature enables applications(Games, Webcams, IM & Others) by opening a tunnel between remote(Internet) computers and a specific device port inside your local area network(LAN).

Current Profile: Default

Default
A New Service Profile #1
A New Service Profile #2
A New Service Profile #3

Name	Mode	Host Device	Action
IPSEC ALG	Client	*Dynamic*	
Add			

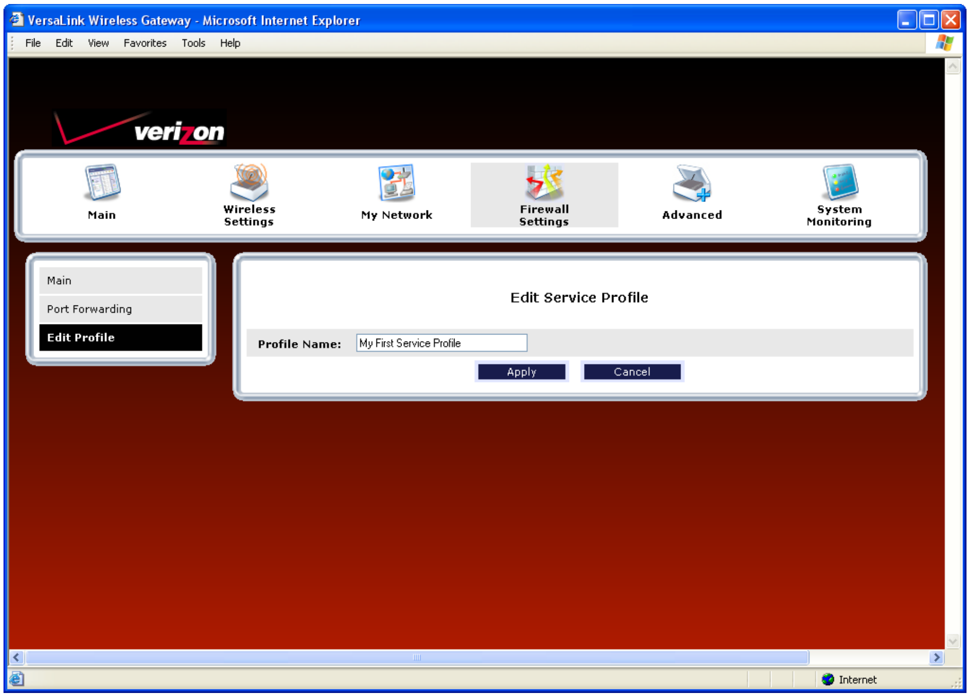
If you clicked the **New** button, the following screen will appear. Type the profile name of your choice in the field, and then click **Apply** to allow the change to take effect.



Edit Service Profile

Profile Name: A New Service Profile #1

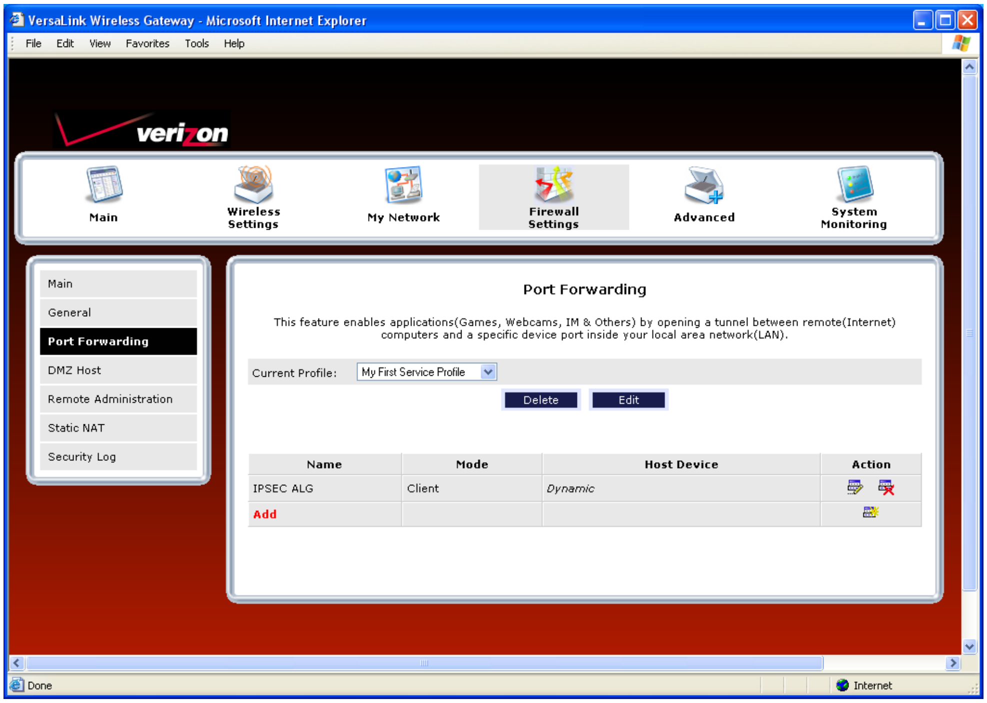
For example, **"My First Service Profile"** is the name that has been entered in the **Profile Name** field. Click **Apply**.



Edit Service Profile

Profile Name: My First Service Profile

If you clicked **Apply**, the following screen will be displayed. The **Current Profile** field now displays the profile name that you entered.



Port Forwarding

This feature enables applications(Games, Webcams, IM & Others) by opening a tunnel between remote(Internet) computers and a specific device port inside your local area network(LAN).

Current Profile: My First Service Profile

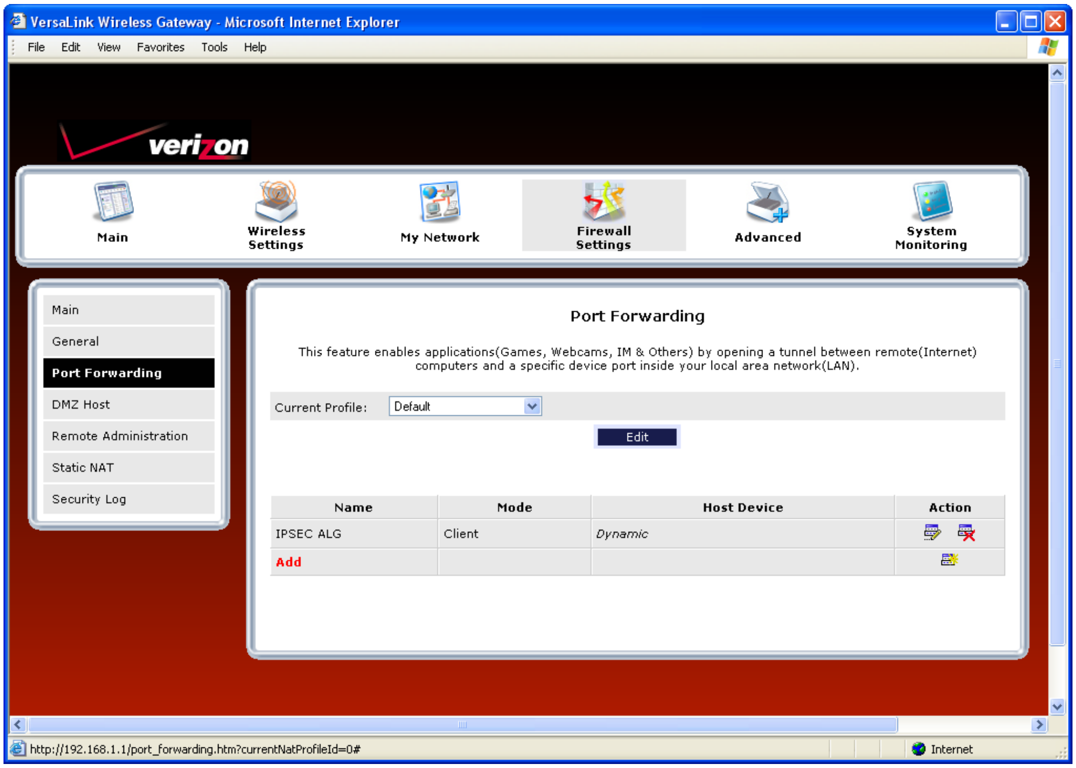
Name	Mode	Host Device	Action
IPSEC ALG	Client	*Dynamic*	
Add			

14.3.3 Configuring Port Forwarding Services

Port Forwarding Services contain specific service settings. The service can then be associated with connection profiles, allowing you to customize profiles for specific users. For example, if you want to attach specific services to a profile or if you want to set up a different connection setting for a profile. You can create new service profiles and customize them to your preference.

Your Router contains a list of predefined Port Forwarding services, and you can select any service from this list. By selecting your specific service and setting up a profile, you will ensure that the appropriate ports on your Router are open and that the required application traffic can pass through your local area network (LAN). For a list of supported services, go to section 17, “Port Forwarding Services.”

NOTE: You can create up to four service profiles and attach an unlimited number of services to each profile. The current profile labeled “Default” is the factory default profile.



Port Forwarding

This feature enables applications(Games, Webcams, IM & Others) by opening a tunnel between remote(Internet) computers and a specific device port inside your local area network(LAN).

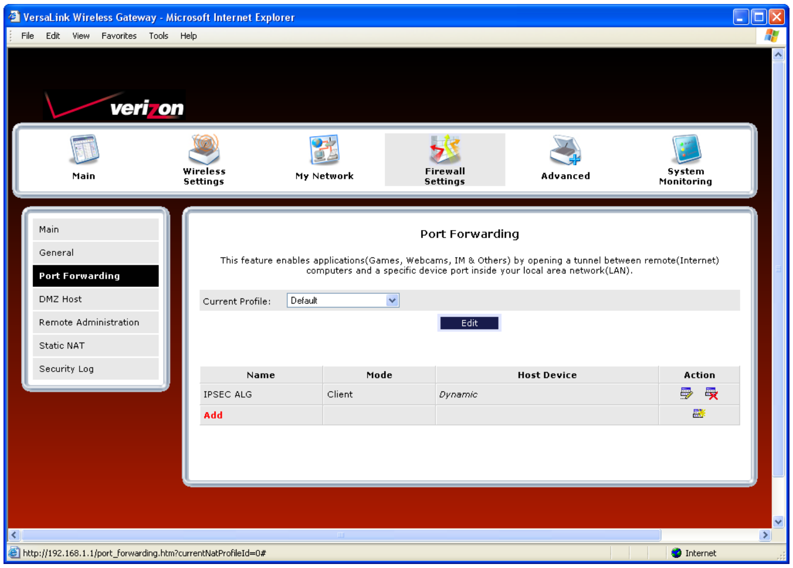
Current Profile: Default

Name	Mode	Host Device	Action
IPSEC ALG	Client	*Dynamic*	✎ ✗
Add			✎

http://192.168.1.1/port_forwarding.htm?currentNatProfileId=0#

14.3.3.1 Adding Port Forwarding Services to a Profile

To add a predefined service to a profile, in the **Port Forwarding** screen, click the **Current Profile** drop-down menu, and then select the name of the profile to which you want to add services. Next, click **Add.**



Port Forwarding

This feature enables applications(Games, Webcams, IM & Others) by opening a tunnel between remote(Internet) computers and a specific device port inside your local area network(LAN).

Current Profile: Default

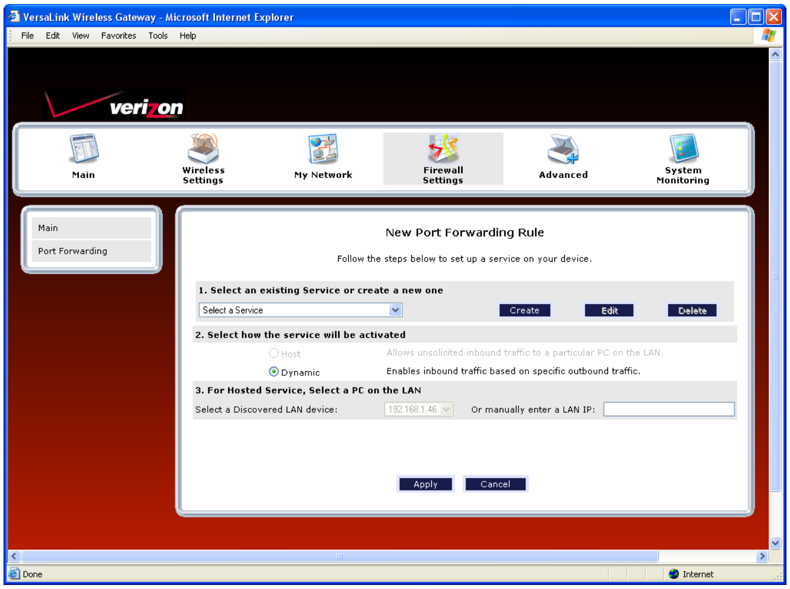
Name	Mode	Host Device	Action
IPSEC ALG	Client	*Dynamic*	
Add			

http://192.168.1.1/port_forwarding.htm?currentNatProfileId=0#

Internet

If you clicked **Add**, the following **New Port Forwarding Rule** screen will appear. Using this screen, you can do any of the following:

- Add a predefined service to a profile
- Create a customized service
- Edit an existing service profile
- Delete an existing profile



New Port Forwarding Rule

Follow the steps below to set up a service on your device.

1. Select an existing Service or create a new one

Select a Service

2. Select how the service will be activated

○ Host — Allows unsolicited inbound traffic to a particular PC on the LAN.

● Dynamic — Enables inbound traffic based on specific outbound traffic.

3. For Hosted Service, Select a PC on the LAN

Select a Discovered LAN device: 192.168.1.46 Or manually enter a LAN IP:

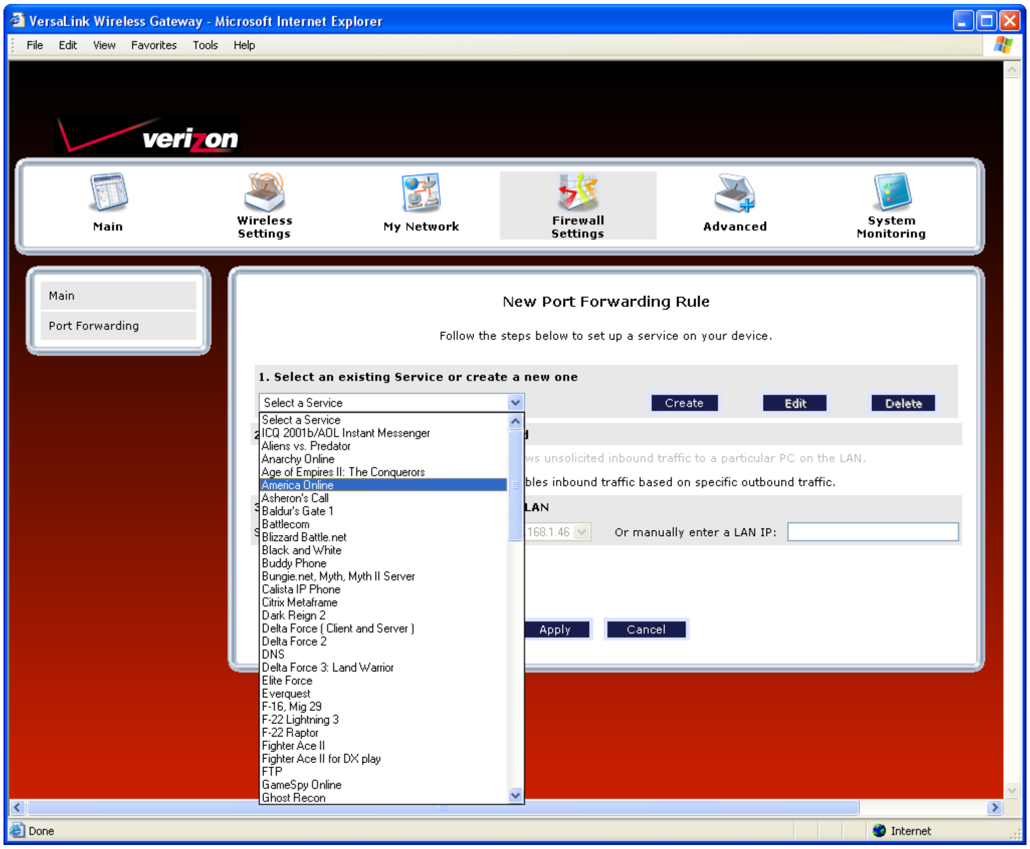
Done

Internet

14.3.3.2 Adding a Predefined Port Forwarding Service to a Profile

To add a predefined port forwarding service to a profile, in the **New Port Forwarding Rule** screen, perform the following steps:

1. Select the desired service from the **Select a Service** drop-down menu. After you have selected a service, it will appear in the window.



New Port Forwarding Rule

Follow the steps below to set up a service on your device.

1. Select an existing Service or create a new one

...ws unsolicited inbound traffic to a particular PC on the LAN.

...bles inbound traffic based on specific outbound traffic.

Or manually enter a LAN IP:

2. Select the option button that describes how you want the service to be activated.

   - **Host:** Allows the unsolicited inbound traffic to a particular PC on the LAN
   - **Dynamic:** Enables inbound traffic based on specific outbound traffic

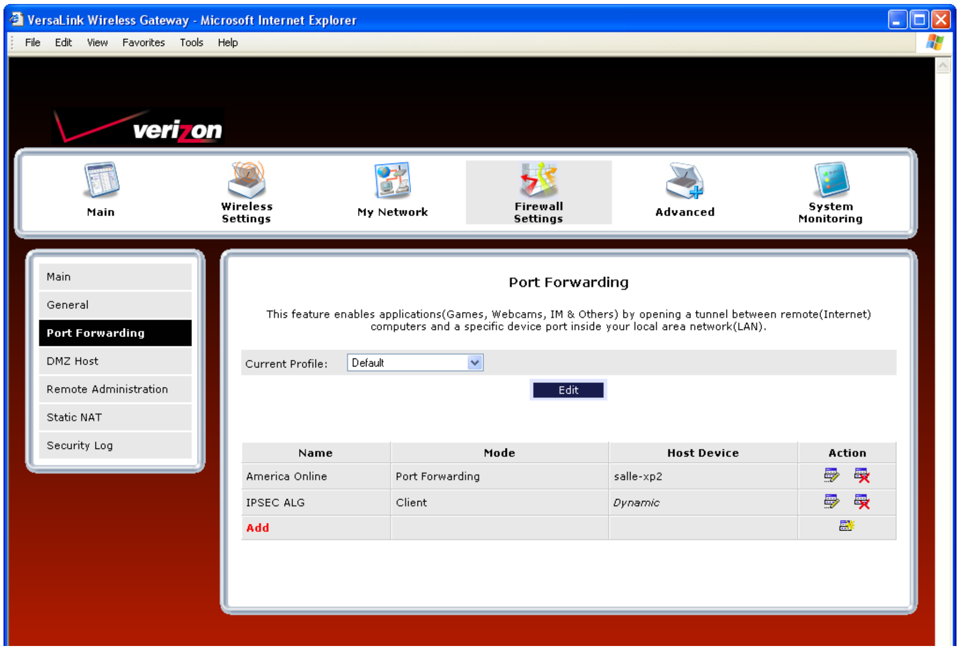
3. Select the desired IP address from the drop-down menu or manually enter the IP address of the device that you want to host the service.

4. Click **Apply** to allow the settings to take effect.

NOTE: If you click **Cancel** in the **New Port Forwarding Rule** screen, the service you will be displayed; however, it will not be assigned to a device on the LAN. You must click **Apply** to allow the settings to take effect.

If you clicked **Apply**, the following screen will be displayed. In this example, the screen shows that service "America Online" has been added to the "Default" profile.

- To add additional predefined services, in the **Port Forwarding** screen, first select the desired profile from the **Current Profile** drop-down menu. Next, click **Add** and then repeat the preceding steps 1 through 4.
- To view the details of a service you have added, in the **Action field** click the details icon .
- To delete a service from your list of active services, at the **Port Forwarding** screen, click the delete icon next to the service that you want to delete. The selected service will be deleted from the Router's list of active services.



Port Forwarding

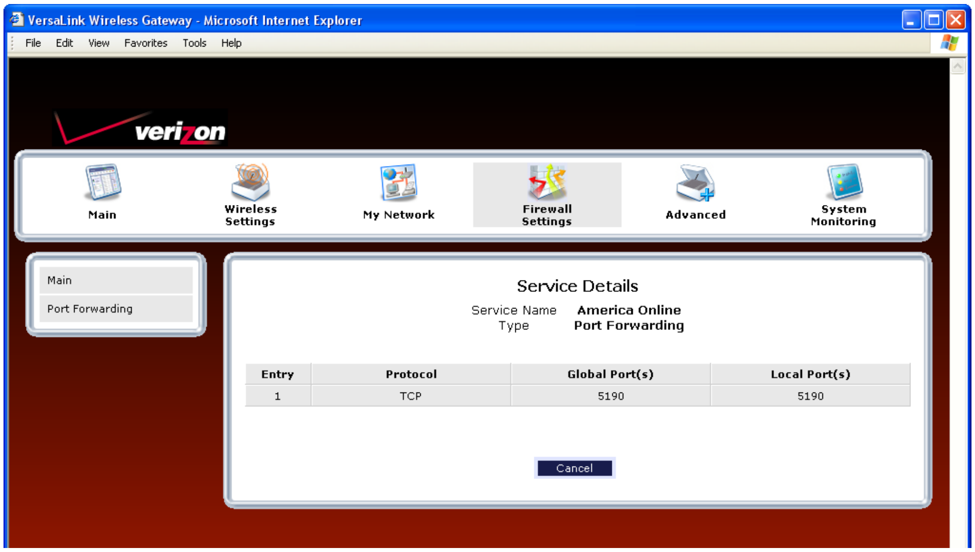
This feature enables applications(Games, Webcams, IM & Others) by opening a tunnel between remote(Internet) computers and a specific device port inside your local area network(LAN).

Current Profile: Default

Edit

Name	Mode	Host Device	Action
America Online	Port Forwarding	salle-xp2	
IPSEC ALG	Client	*Dynamic*	
Add			

If you click the details icon in the preceding screen, the following screen will be displayed. Click **Cancel** when you are ready to return to the **Port Forwarding** screen.



Service Details

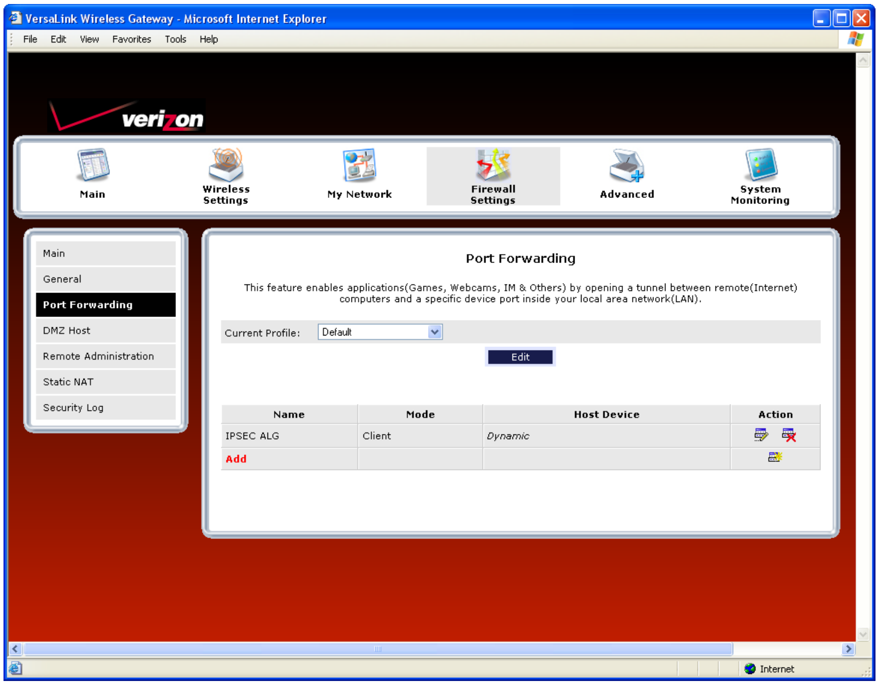
Service Name **America Online**
Type **Port Forwarding**

Entry	Protocol	Global Port(s)	Local Port(s)
1	TCP	5190	5190

Cancel

14.3.3.3 Creating a Customized Port Forwarding Service

To create a customized port forwarding service, click **Add** in the **Port Forwarding** screen.



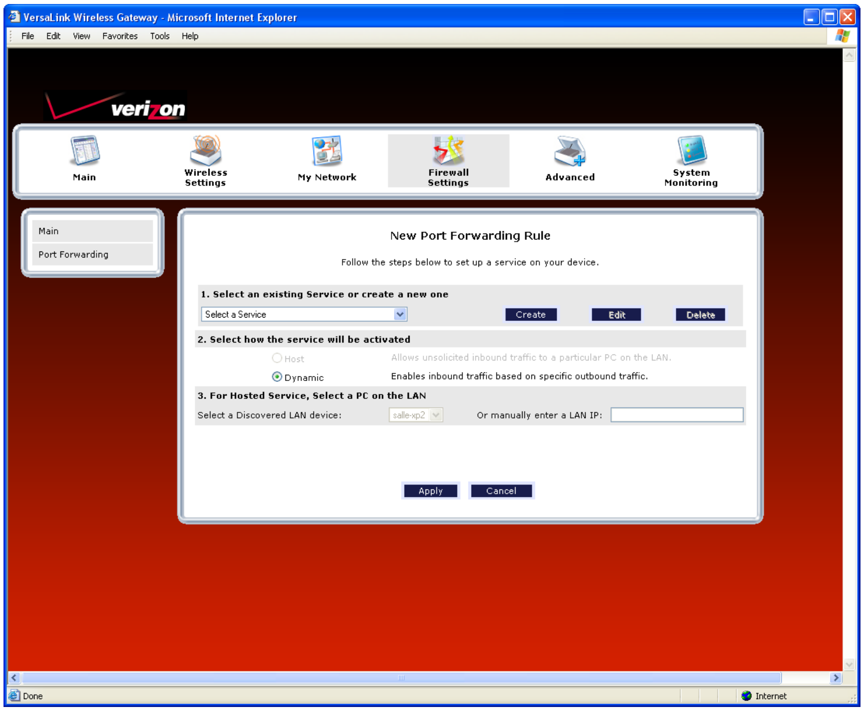
Port Forwarding

This feature enables applications(Games, Webcams, IM & Others) by opening a tunnel between remote(Internet) computers and a specific device port inside your local area network(LAN).

Current Profile: Default

Name	Mode	Host Device	Action
IPSEC ALG	Client	Dynamic	
Add			

If you clicked **Add,** the following screen will be displayed. Click **Create.**



New Port Forwarding Rule

Follow the steps below to set up a service on your device.

1. Select an existing Service or create a new one

Select a Service

2. Select how the service will be activated

○ Host Allows unsolicited inbound traffic to a particular PC on the LAN.

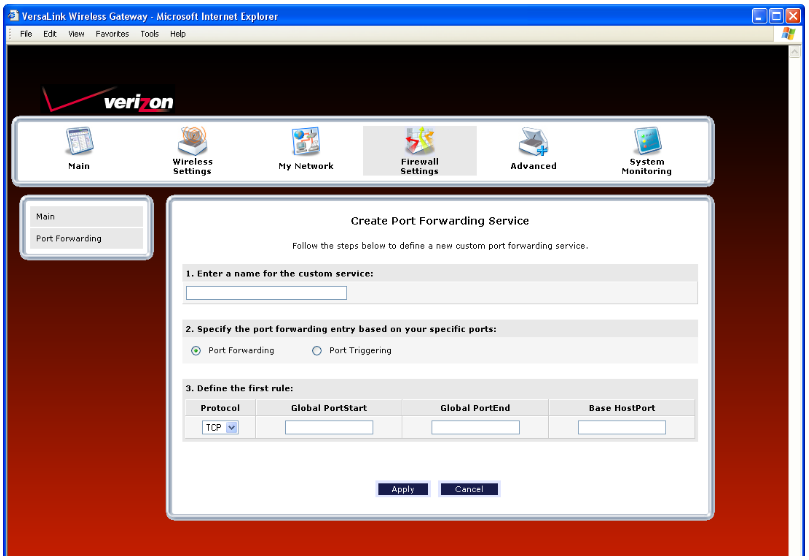
● Dynamic Enables inbound traffic based on specific outbound traffic.

3. For Hosted Service, Select a PC on the LAN

Select a Discovered LAN device: salle-xp2 Or manually enter a LAN IP:

If you clicked **Create**, the following **Create Port Forwarding Service** screen will appear. Using this screen, you can create port forwarding and port triggering services for your Router. The following sections explain how to customize these services in your Router.

- **Port Forwarding Ranges of Ports**: This option allows you to forward a range of WAN ports to an IP address on the LAN.
- **Trigger Ports:** This option allows you to forward a range of ports to an IP address on the LAN only after specific outbound traffic.



Create Port Forwarding Service

Follow the steps below to define a new custom port forwarding service.

1. Enter a name for the custom service:

2. Specify the port forwarding entry based on your specific ports:

● Port Forwarding ○ Port Triggering

3. Define the first rule:

Protocol	Global PortStart	Global PortEnd	Base HostPort
TCP			

14.3.3.3.1 Creating a Service Based on Specific Port Forwarding Ports

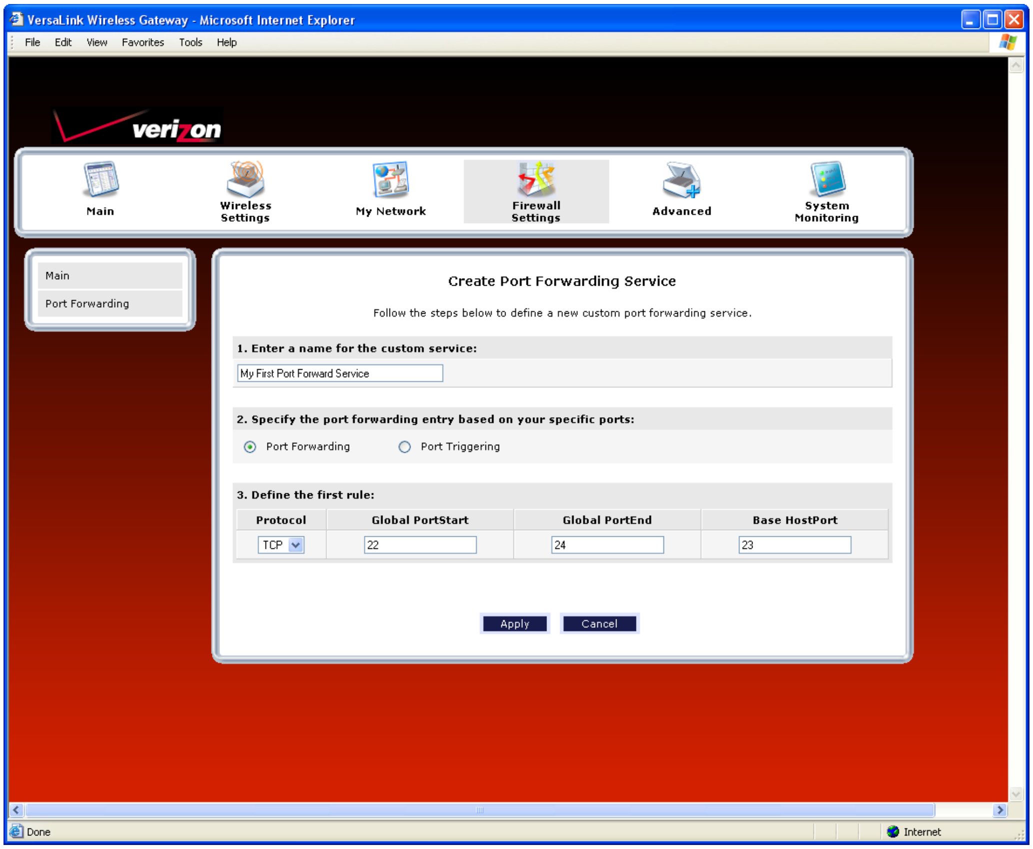
The Port Forwarding feature allows you to forward a range of WAN ports to an IP address on the LAN. You can set up a port forwarding entry based on your specific ports.

IMPORTANT: Using various Internet applications depends on the Router's firewall settings. Make sure that the Router's firewall is set to Medium Security or lower to take advantage of all the port forwarding features. Firewall settings take precedence over port forwarding services configured in the Router. For example, if the firewall is set to Medium Security, this will block ICMP packets even if the ICMP service is enabled. If a port forwarding service is not working, try setting the firewall to a lower setting.

To create a port forwarding service based on specific port forwarding ports, at the **Create Port Forwarding Service** screen, do the following:

1. Type the name of the custom service that you are creating in the field provided. This will be the name of the port forwarding service for which you are configuring specific Port Forwarding rules.
2. Click the **Port Forwarding** option button.
3. Select the desired protocol from the **Protoco**l drop-down menu.
4. Enter the desired Global Port Start, Global Port End, and Base Host Port values in the fields provided, as shown in the example below.
5. Click **Apply** to allow the changes to take effect.

NOTE: If you clicked **Cancel** in the **Create Port Forwarding Service** screen, the service you created will be displayed; however, it will not be activated in your Router. You must click **Apply** to allow the settings to take effect.



Create Port Forwarding Service

Follow the steps below to define a new custom port forwarding service.

1. Enter a name for the custom service:

My First Port Forward Service

2. Specify the port forwarding entry based on your specific ports:

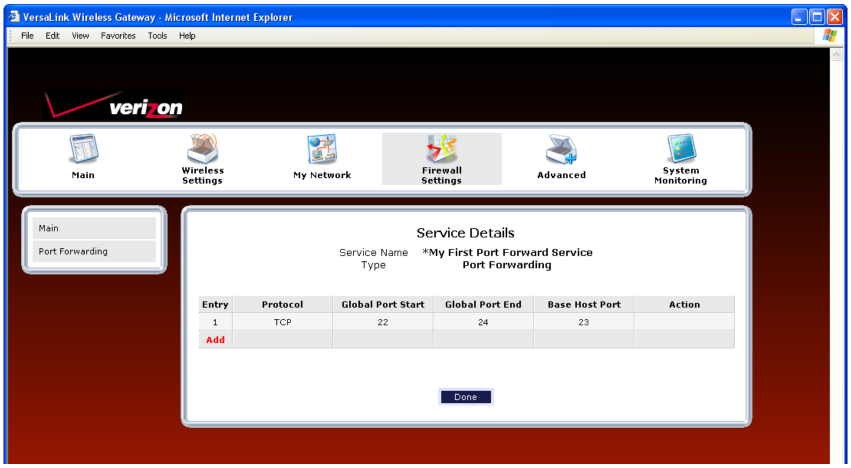
● Port Forwarding ○ Port Triggering

3. Define the first rule:

Protocol	Global PortStart	Global PortEnd	Base HostPort
TCP	22	24	23

Port Forwarding Service	
Protocol	TCP – Transmission Control Protocol UDP – User Datagram Protocol
Global Port Start	The WAN-side TCP/UDP start port.
Global Port End	The WAN-side TCP/UDP end port.
Base Host Port	The port on the WAN that will host the port forwarding service selected. Base Host Port is the first port that will be used for a specific service when configured for a range of ports.

If you clicked **Apply,** the following **Service Details** screen will be displayed. Click **Done**.

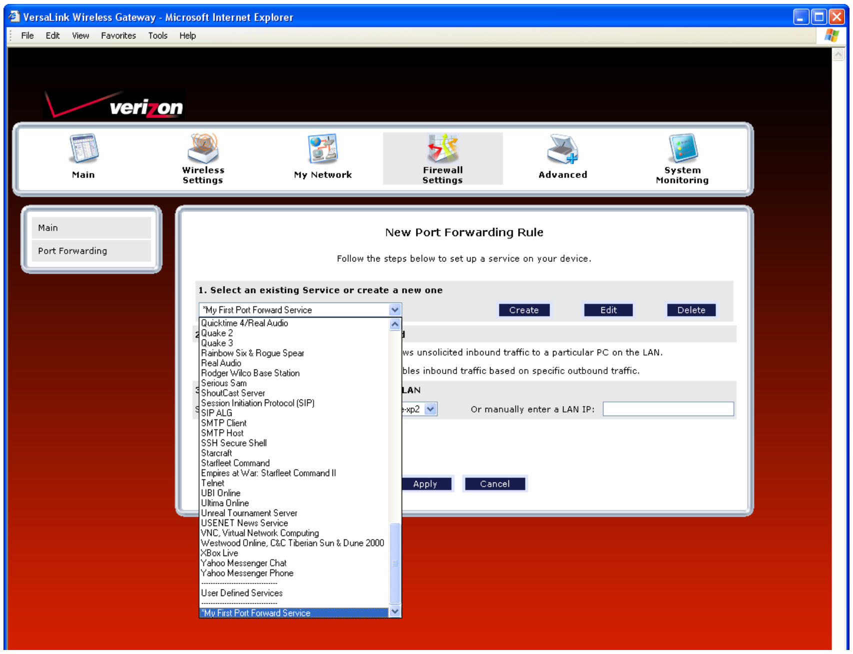


Service Details

Service Name *My First Port Forward Service
Type Port Forwarding

Entry	Protocol	Global Port Start	Global Port End	Base Host Port	Action
1	TCP	22	24	23	
Add					

6. Return to the **New Port Forwarding Rule** screen and, from the drop-down menu, select the name of the service that you created in Step 1 (the name will appear at the bottom of the list under **User Defined Services**).



New Port Forwarding Rule

Follow the steps below to set up a service on your device.

1. Select an existing Service or create a new one

*My First Port Forward Service

ws unsolicited inbound traffic to a particular PC on the LAN.

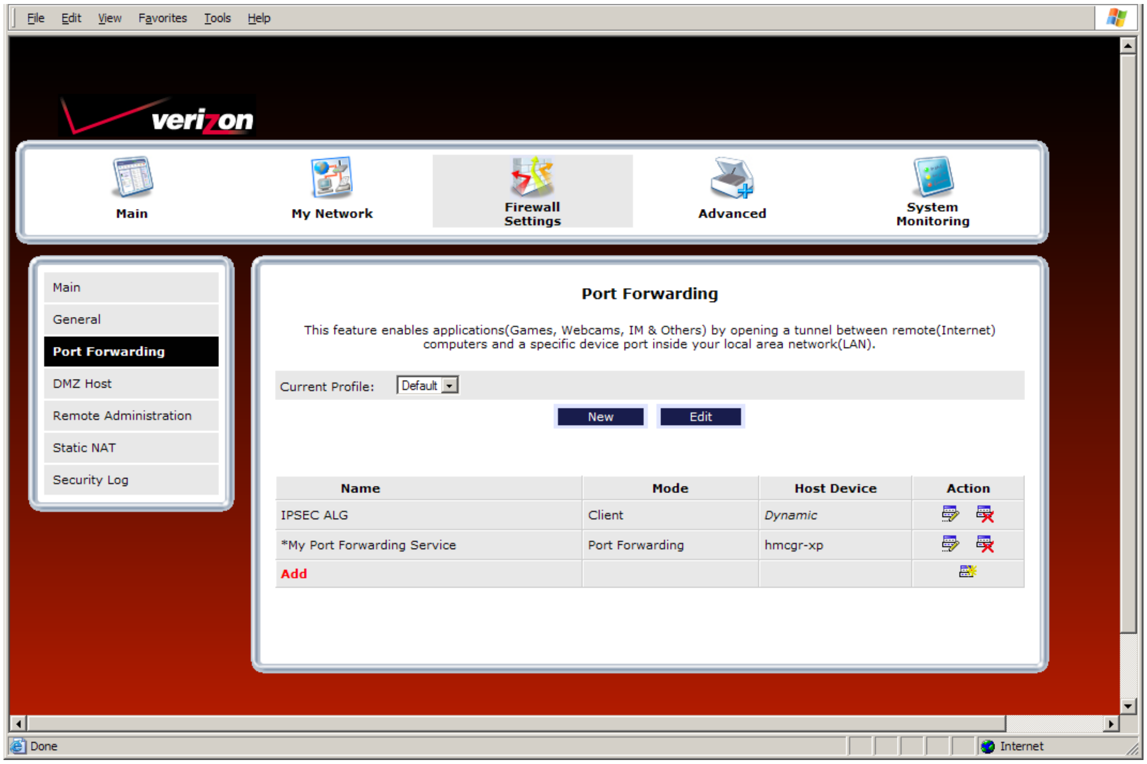
bles inbound traffic based on specific outbound traffic.

LAN

-xp2 Or manually enter a LAN IP:

7. Select how the service will be activated.
   - Host allows unsolicited inbound traffic to a particular PC on the LAN.
   - Dynamic enables inbound traffic based on specific outbound traffic.
8. Select the IP address of the device that will host the service (select a device from the **Select a Discovered LAN device** drop-down menu or type an IP address in the field provided).
9. Click **Apply** to allow the service to be added to the Router's list of active services.

If you clicked **Apply**, the following screen will appear. The Port Forwarding service has been added to the list of active services. To add additional port forwarding services to your Router, repeat steps 1 through 9.



Port Forwarding

This feature enables applications(Games, Webcams, IM & Others) by opening a tunnel between remote(Internet) computers and a specific device port inside your local area network(LAN).

Current Profile: Default

Name	Mode	Host Device	Action
IPSEC ALG	Client	*Dynamic*	
*My Port Forwarding Service	Port Forwarding	hmcgr-xp	
Add			

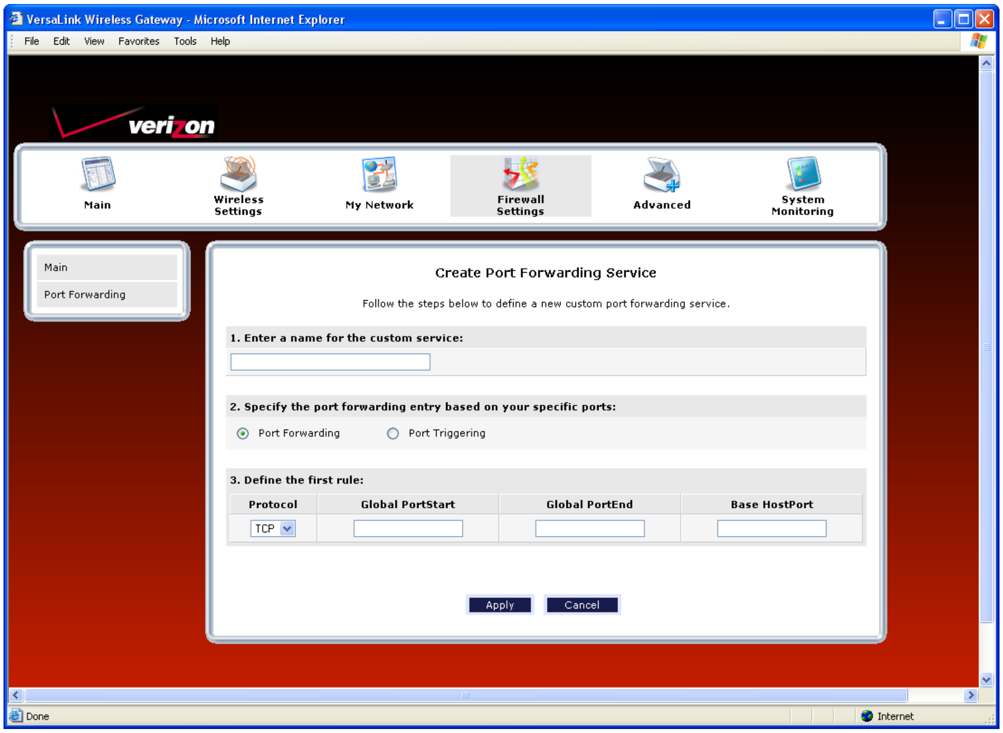
14.3.3.3.2 Creating a Service Based on Specific Port Triggering Ports

The Trigger Ports feature allows you to forward a range of ports to an IP address on the LAN only after specific outbound traffic. You can set up a port triggering entry based on your specific ports.

> **IMPORTANT:** Using various Internet applications depends on the Router’s firewall settings. Make sure that the Router’s firewall is set to Medium Security or lower to take advantage of all the port forwarding features. Firewall settings take precedence over port forwarding services configured in the Router. For example, if the firewall is set to Medium Security, this will block ICMP packets even if the ICMP service is enabled. If a port forwarding service is not working, try setting the firewall to a lower setting.

To create a port forwarding service based on specific port triggering ports, at the **Create Port Forwarding Service** screen, do the following:

1. Click the **Port Triggering** option button. (By factory default, the **Port Forwarding** option button will be selected.)



Create Port Forwarding Service

Follow the steps below to define a new custom port forwarding service.

1. Enter a name for the custom service:

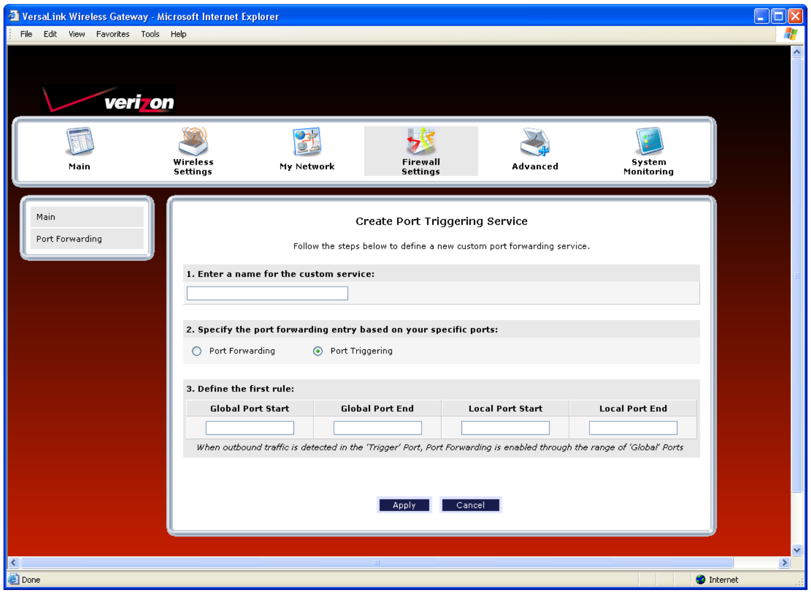
2. Specify the port forwarding entry based on your specific ports:

● Port Forwarding ○ Port Triggering

3. Define the first rule:

Protocol	Global PortStart	Global PortEnd	Base HostPort
TCP			

If you clicked the **Port Triggering** option button in the preceding screen, the following **Create Port Triggering Service** screen will be displayed.



Create Port Triggering Service

Follow the steps below to define a new custom port forwarding service.

1. Enter a name for the custom service:

2. Specify the port forwarding entry based on your specific ports:

○ Port Forwarding ● Port Triggering

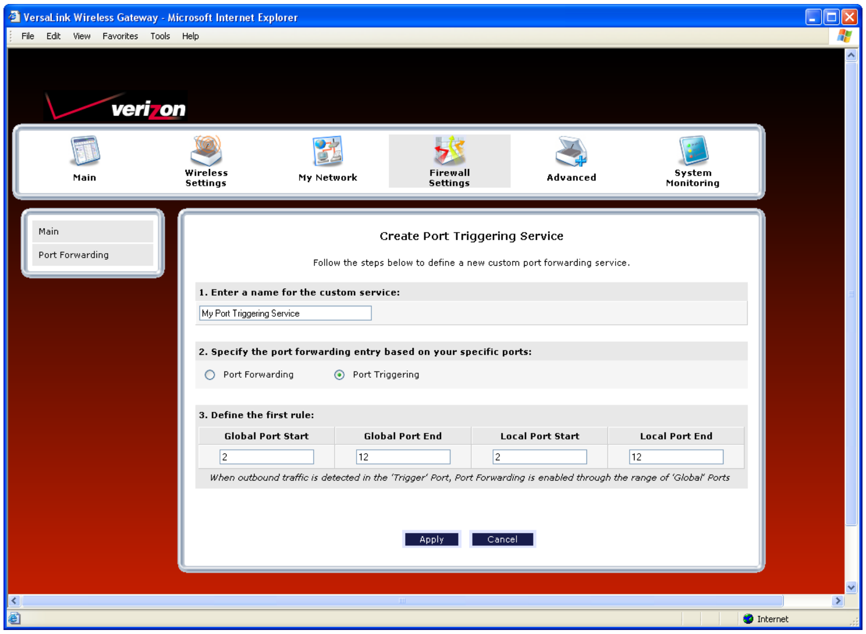
3. Define the first rule:

Global Port Start	Global Port End	Local Port Start	Local Port End

When outbound traffic is detected in the 'Trigger' Port, Port Forwarding is enabled through the range of 'Global' Ports

2. Type the name of the custom service that you are creating in the field provided. This will be the name of the port forwarding service for which you are configuring specific Port Triggering rules.
3. Enter the desired Global Port Start, Global Port End, Local Port Start, and Local Port End values in the fields provided, as shown in the example below.
4. Click **Apply** to allow the changes to take effect.

NOTE: If you clicked **Cancel** in the **Create Port Triggering Service** screen, the values you entered will be displayed; however, they will not be active in your Router. You must click **Apply** to allow the settings to take effect.



Create Port Triggering Service

Follow the steps below to define a new custom port forwarding service.

1. Enter a name for the custom service: My Port Triggering Service

2. Specify the port forwarding entry based on your specific ports:

○ Port Forwarding ● Port Triggering

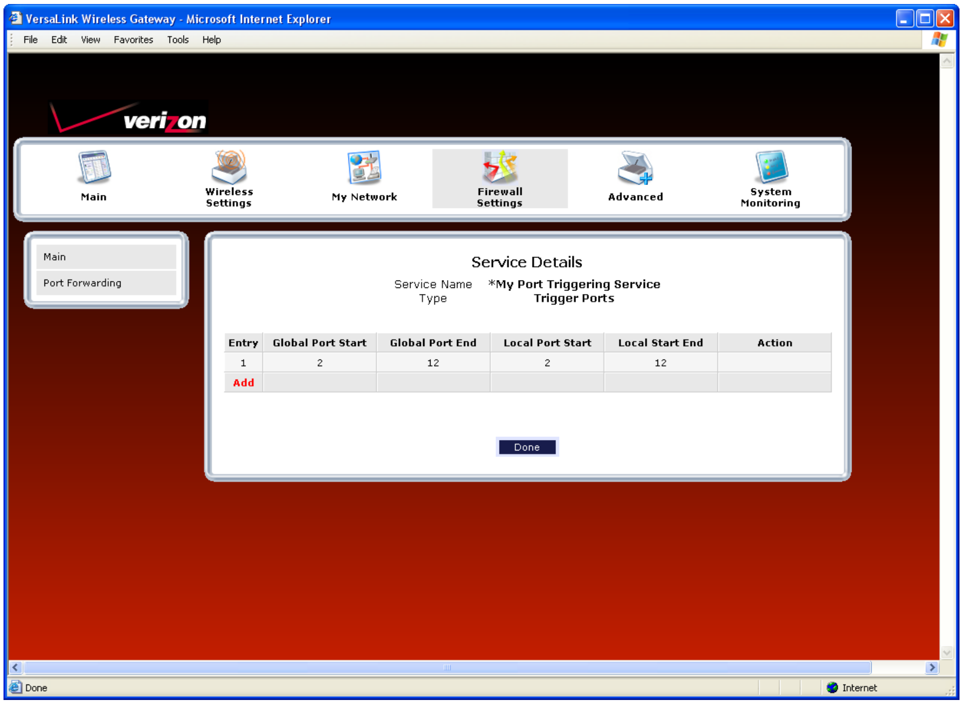
3. Define the first rule:

Global Port Start	Global Port End	Local Port Start	Local Port End
2	12	2	12

When outbound traffic is detected in the 'Trigger' Port, Port Forwarding is enabled through the range of 'Global' Ports

Port Triggering Service	
Global Port Start	The WAN side TCP/UDP start port.
Global Port End	The WAN side TCP/UDP end port.
Local Port Start	The local LAN side TCP/UDP start port.
Local Port End	The local LAN side TCP/UDP end port.

After you clicked **Apply,** the following **Service Details** screen will be displayed. Click **Done**.

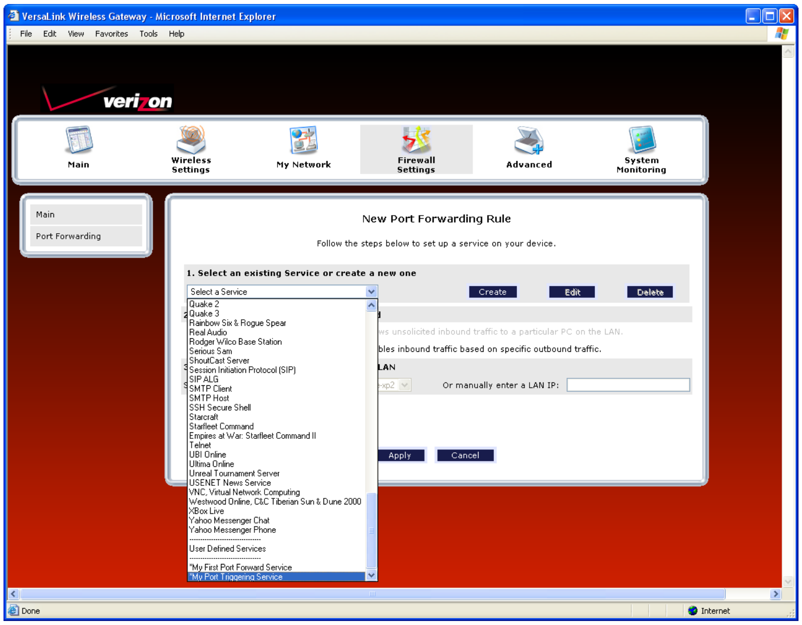


Service Details

Service Name *My Port Triggering Service
Type Trigger Ports

Entry	Global Port Start	Global Port End	Local Port Start	Local Start End	Action
1	2	12	2	12	
Add					

5. Return to the **New Port Forwarding Rule** screen and, from the **Select a Service** drop-down menu, select the name of the service that you created in Step 2 (the name will appear at the bottom of the list under **User Defined Services**).



New Port Forwarding Rule

Follow the steps below to set up a service on your device.

1. Select an existing Service or create a new one

...ws unsolicited inbound traffic to a particular PC on the LAN.

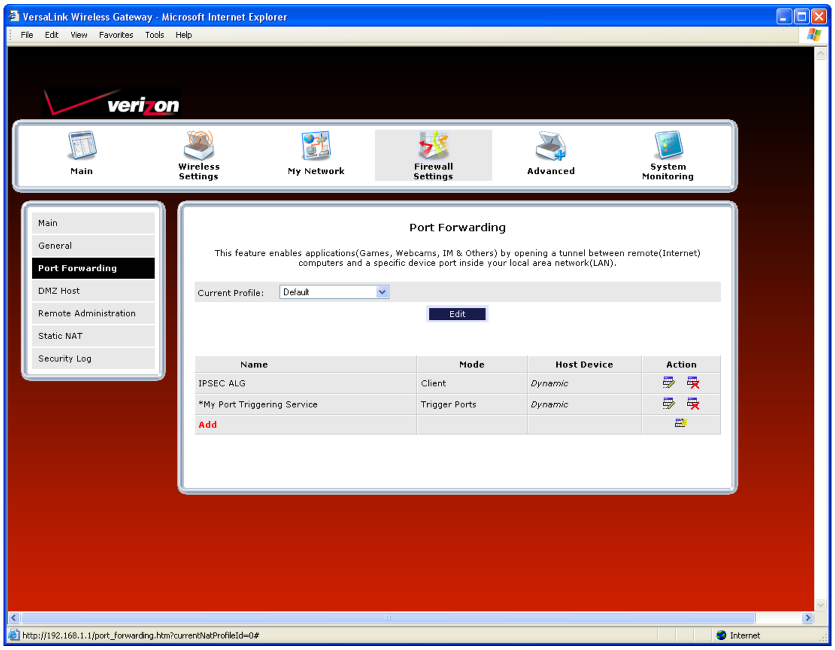
...bles inbound traffic based on specific outbound traffic.

LAN

Or manually enter a LAN IP:

6. After you have selected the service, click **Apply** to allow the service to be added to the Router's list of active services.

If you clicked **Apply**, the following screen will appear. The Port Triggering service has been added to the list of active services. To add additional port triggering services to your Router, repeat steps 1 through 6.



Port Forwarding

This feature enables applications(Games, Webcams, IM & Others) by opening a tunnel between remote(Internet) computers and a specific device port inside your local area network(LAN).

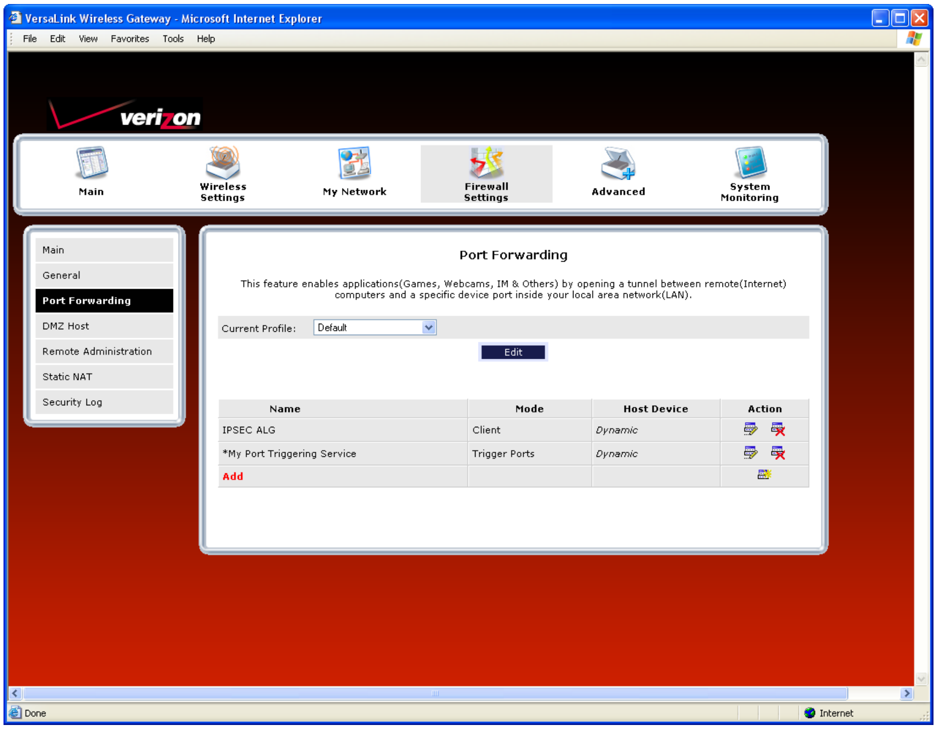
Current Profile: Default

Name	Mode	Host Device	Action
IPSEC ALG	Client	*Dynamic*	
*My Port Triggering Service	Trigger Ports	*Dynamic*	
Add			

14.3.3.4 Deleting a Port Forwarding Service

If you have created a port forwarding or port triggering service and have added it to your Router’s list of active services, at the **Port Forwarding** screen you can do one of the following:

- Click the delete icon adjacent to the service you want to delete.
- Click the details icon adjacent to the service you want to view.



Port Forwarding

This feature enables applications(Games, Webcams, IM & Others) by opening a tunnel between remote(Internet) computers and a specific device port inside your local area network(LAN).

Current Profile: Default

Edit

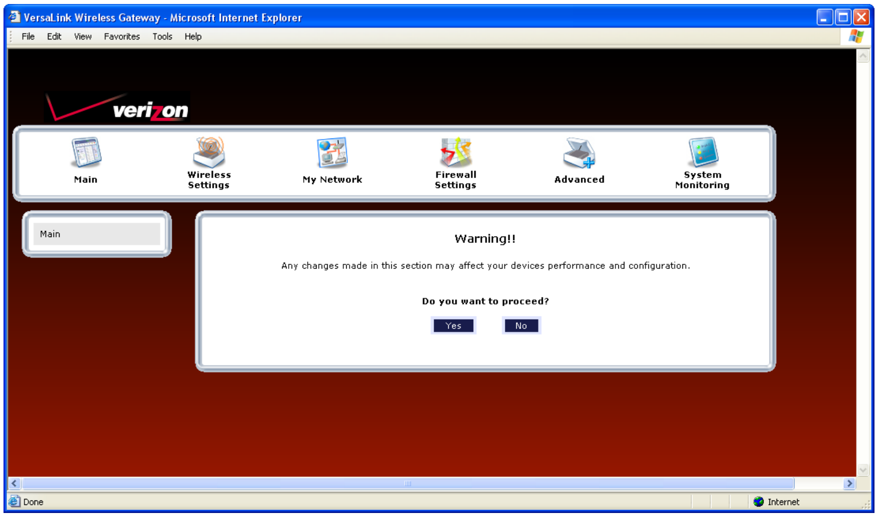
Name	Mode	Host Device	Action
IPSEC ALG	Client	*Dynamic*	
*My Port Triggering Service	Trigger Ports	*Dynamic*	
Add			

14.4 DMZ Host—Single IP Address Passthrough

In the **Firewall Settings** screen, select **DMZ Host** from the submenu options displayed at the left of the screen. A warning screen will display the following message:

> **Any changes made in this section may affect your device's performance and configuration. Do you want to proceed?**

Click **Yes** to proceed.



Warning!!

Any changes made in this section may affect your devices performance and configuration.

Do you want to proceed?

14.4.1 Enabling DMZ Host

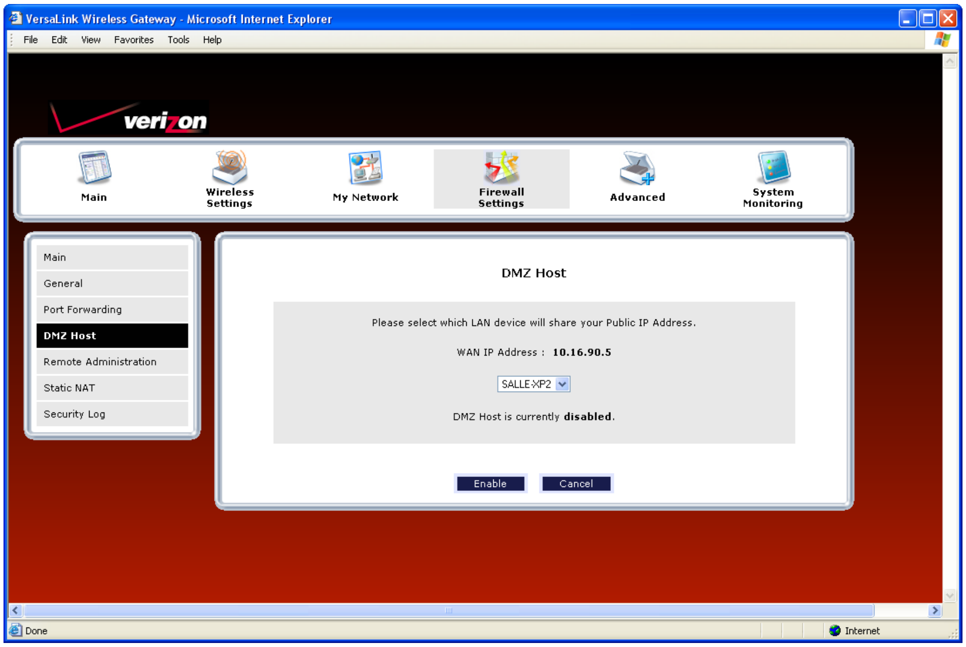
If you clicked **Yes**, in the preceding warning screen, the following **DMZ Host** screen will be displayed. The demilitarized zone (DMZ) feature allows you to select one device on the LAN that will share the WAN-assigned IP address. By enabling DMZ, the selected device becomes visible on the Internet. Network Address Translation (NAT) and Firewall rules do not apply to the device configured for DMZ. If you are using Bridge protocol, you will not be able to configure DMZ Host in the Router.

IMPORTANT:

1. Before you configure DMZ Host, configure your PC settings to obtain an IP address from VersaLink automatically. If needed, refer to your computer's Windows help screen for instructions.
2. If you have previously enabled Public LAN, you will need to disable Public LAN and enable the DHCP for Private LAN and the Private LAN settings before you configure DMZ Host.
3. DMZ Host and Static NAT are mutually exclusive features. Before you enable DMZ Host, confirm that Static NAT is disabled. If needed, refer to section 14.6.2 for details on disabling Static NAT.

To configure DMZ Host, in the **DMZ Host** screen, select a device from the drop-down menu. The selected device will share your WAN IP address. Next, click **Enable** to allow the setting to take effect.

NOTE: The actual device name may differ from the name displayed in this screen.



DMZ Host

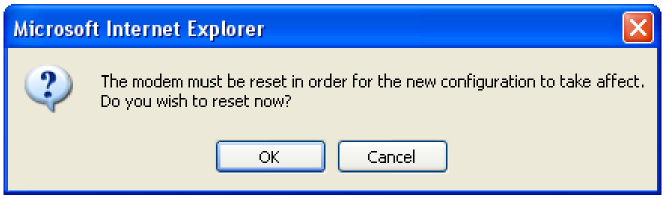
Please select which LAN device will share your Public IP Address.

WAN IP Address : **10.16.90.5**

SALLE-XP2

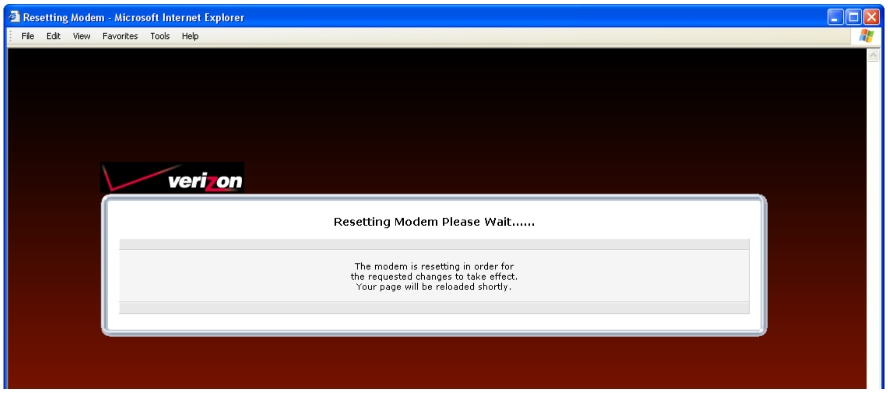
DMZ Host is currently **disabled**.

If you clicked **Enable** in the preceding screen, the following pop-up screen will appear. The Router must be reset to allow the new configuration to take effect. Click **OK** to continue.



The modem must be reset in order for the new configuration to take affect.
Do you wish to reset now?

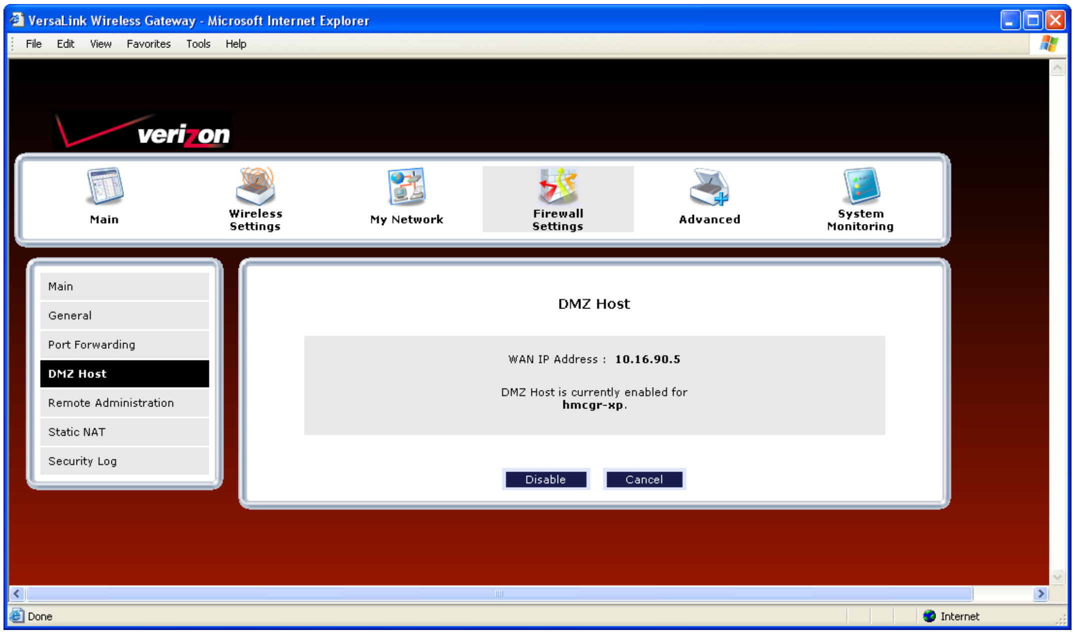
If you clicked **OK**, the following screen will appear. After a brief delay, the home page will be displayed. Confirm that you have a DSL link and that your PPP Status displays **UP.** (If necessary, click the **Connect** button to establish a PPP session).


Resetting Modem - Microsoft Internet Explorer
File Edit View Favorites Tools Help
verizon

Resetting Modem Please Wait......

The modem is resetting in order for the requested changes to take effect. Your page will be reloaded shortly.

To confirm that DMZ Host has been enabled, select **Firewall Settings** in the top navigational menu, and then click **DMZ Host** in the submenu options at the left of the screen. Next, click **Yes** in the warning screen. The following **DMZ Host** screen will be displayed. This screen shows that DMZ Host is currently enabled for the selected device.



DMZ Host

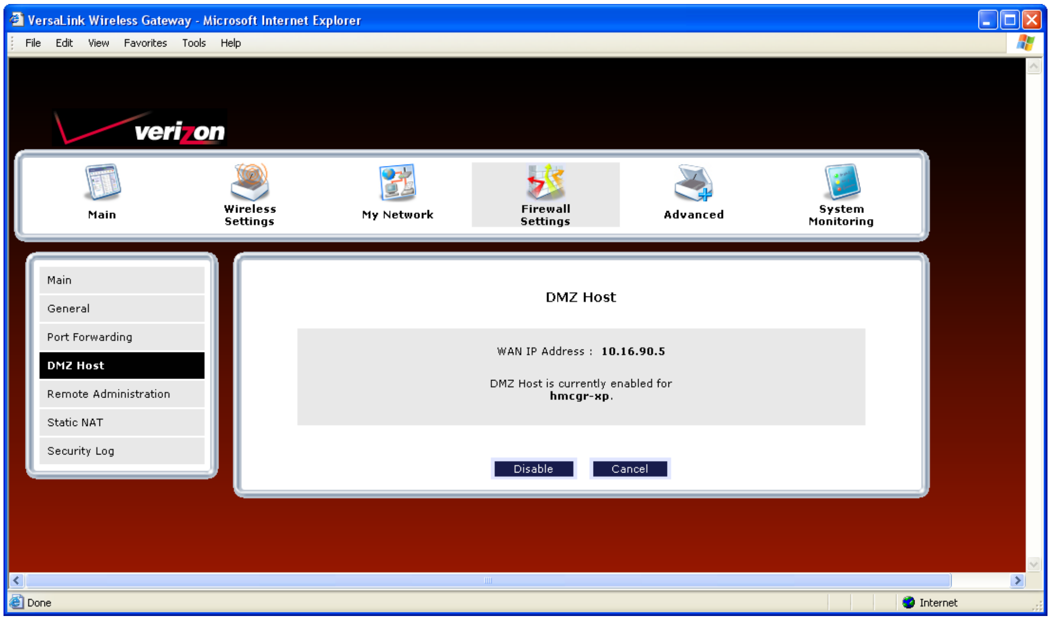
WAN IP Address : **10.16.90.5**

DMZ Host is currently enabled for **hmcgr-xp**.

IMPORTANT: After you enable DMZ Host, you will need to reboot your computer.

14.4.2 Disabling DMZ Host

To disable DMZ Host (if it has been previously enabled), click **Disable** in the DMZ Host screen.

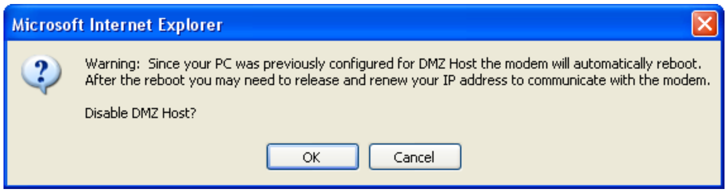


DMZ Host

WAN IP Address : **10.16.90.5**

DMZ Host is currently enabled for **hmcgr-xp**.

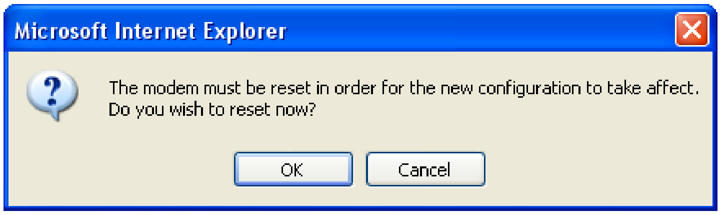
If you clicked **Disable**, the following screen will be displayed. Click **OK** to continue.



Warning: Since your PC was previously configured for DMZ Host the modem will automatically reboot. After the reboot you may need to release and renew your IP address to communicate with the modem.

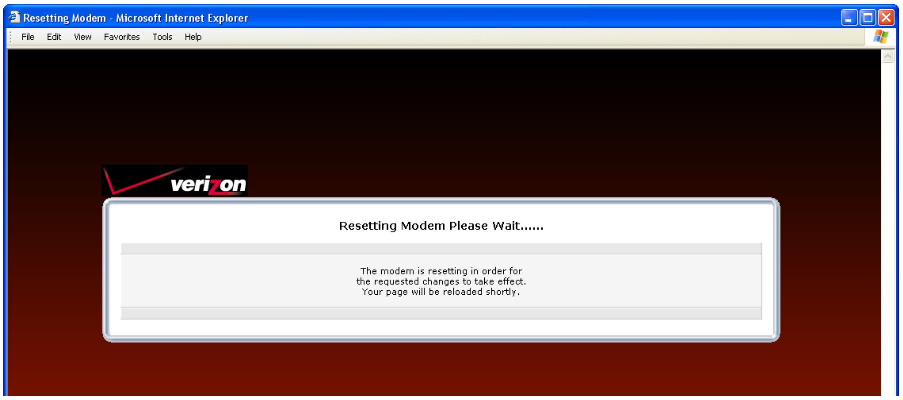
Disable DMZ Host?

If you clicked **OK**, the following pop-up screen will appear. The Router must be reset to allow the new configuration to take effect. Click **OK** to continue.



The modem must be reset in order for the new configuration to take affect. Do you wish to reset now?

If you clicked **OK**, the following screen will appear. After a brief delay, the home page will be displayed. Confirm that you have a DSL link and that your PPP Status displays **UP.** (If necessary, click the **Connect** button to establish a PPP session).



Resetting Modem Please Wait......

The modem is resetting in order for the requested changes to take effect. Your page will be reloaded shortly.

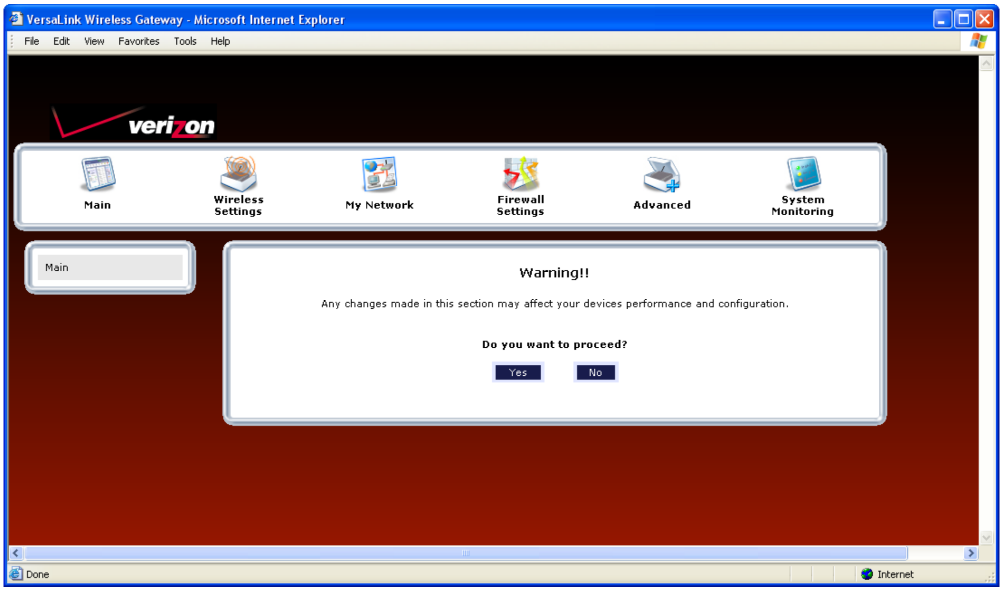
IMPORTANT: After you disable DMZ Host, you will need to reboot your computer.

14.5 Remote Administration

In the **Firewall Settings** screen, select **Remote Administration** from the submenu options displayed at the left of the screen. A warning screen will display the following message:

> **Any changes made in this section may affect your device's performance and configuration.**
> **Do you want to proceed?**

Click **Yes** to proceed.



Warning!!

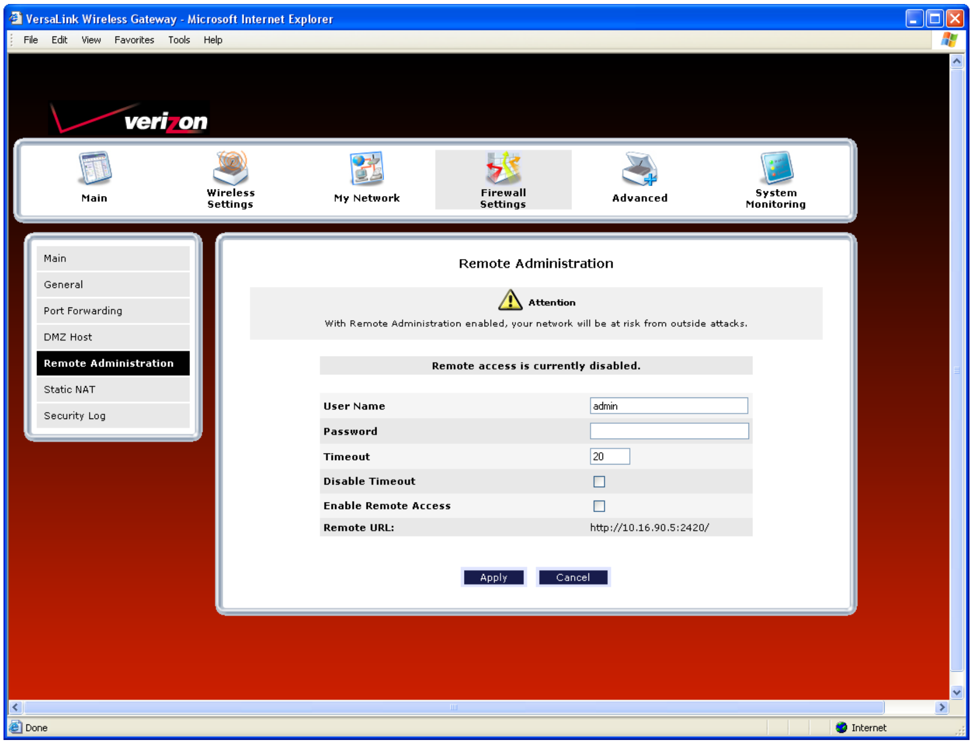
Any changes made in this section may affect your devices performance and configuration.

Do you want to proceed?

If you clicked **Yes** in the warning screen, the following **Remote Administration** screen will appear. Follow the steps below to configure Remote Administration in your Router.

NOTE: The User Name and Password should be at least 4 characters long and should not exceed 32 characters. Do not type a blank space or asterisks. The user name and password are case sensitive.

1. Type the administrator's User Name. (By default **admin** appears in this field; however, you can change this value, if desired).
2. Type the administrator's Password.
3. Enter the number of minutes after which you want remote access to time out.
4. Click the **Enable Remote Access** box (a check mark will appear in the box).
5. Click **Apply** to allow the settings to take effect.



Remote Administration

⚠ Attention

With Remote Administration enabled, your network will be at risk from outside attacks.

Remote access is currently disabled.

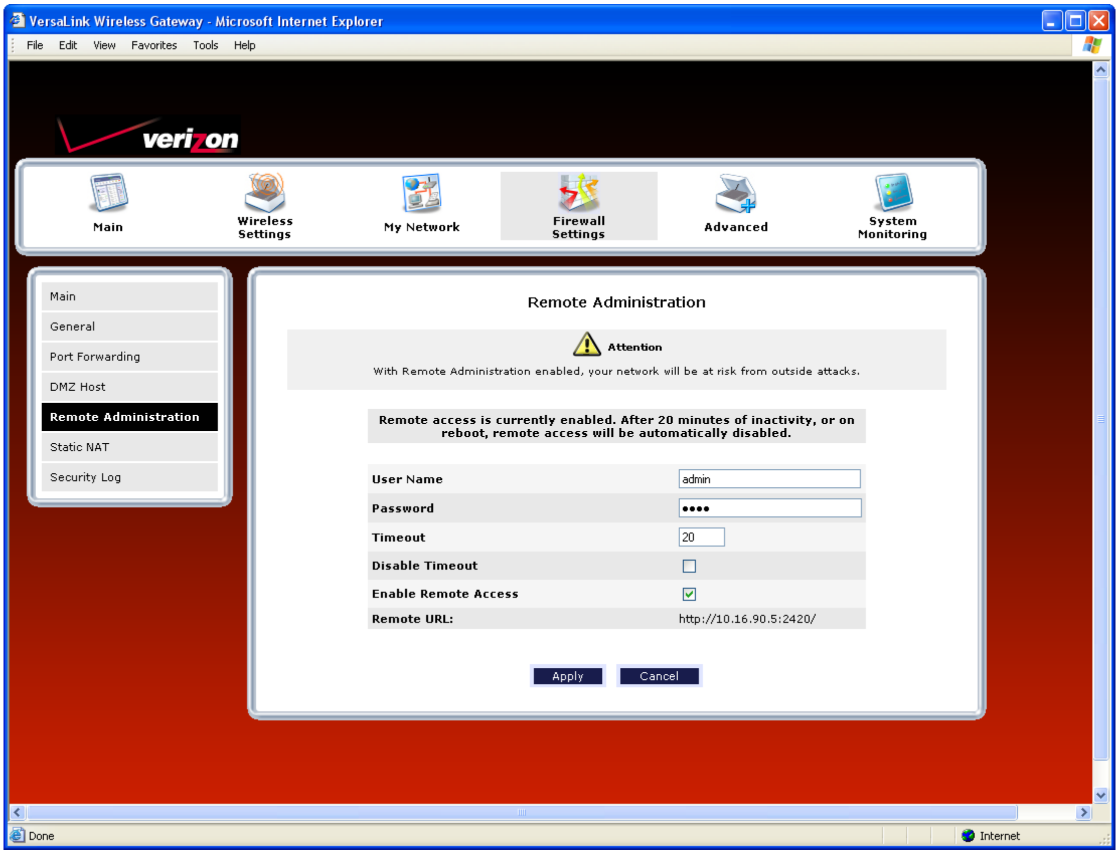
User Name	admin
Password	
Timeout	20
Disable Timeout	□
Enable Remote Access	□
Remote URL:	http://10.16.90.5:2420/

Remote Administration	
User Name	Enter the user name in this field.
Password	Enter your password in this field.
Timeout	Default = 20 minutes Enter the number of minutes after which remote access will be deactivated. (It will also be deactivated if the Router is reset to factory defaults).
Disable Timeout	Click this box (a check mark will appear) to activate the Disable Timeout feature. This means that once you enable Remote Access, it will remain on until you reset the Router to factory defaults. This function overrides any timeout values. Deselect the box to deactivate this feature.
Enable Remote Access	Click this box (a check mark will appear) to enable Remote Access. Deselect the box to disable this feature.
Remote URL	Displays the URL of the remote management device (VersaLink).

The following screen shows a check mark in the **Enable Remote Access** box, and displays the following message:

Remote access is currently enabled. After 20 minutes of inactivity, or on reboot, remote access will be automatically disabled.

After 20 minutes of inactivity or on reboot, Remote Access will be automatically disabled. To manually disable Remote Access, click the **Enable Remote Access** box to clear the check mark. Then click **Apply** to allow the change to take effect.



Remote Administration

Attention

With Remote Administration enabled, your network will be at risk from outside attacks.

Remote access is currently enabled. After 20 minutes of inactivity, or on reboot, remote access will be automatically disabled.

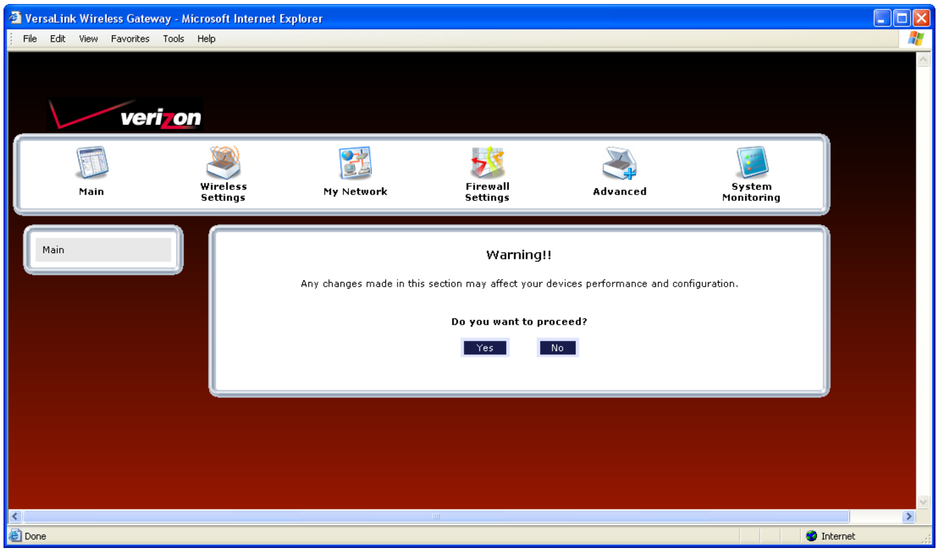
User Name	admin
Password	••••
Timeout	20
Disable Timeout	□
Enable Remote Access	☑
Remote URL:	http://10.16.90.5:2420/

14.6 Static NAT

In the **Firewall Settings** screen, select **Static NAT** from the submenu options displayed at the left of the screen. A warning screen will display the following message:

> **Any changes made in this section may affect your device's performance and configuration. Do you want to proceed?**

Click **Yes** to proceed.



Warning!!

Any changes made in this section may affect your devices performance and configuration.

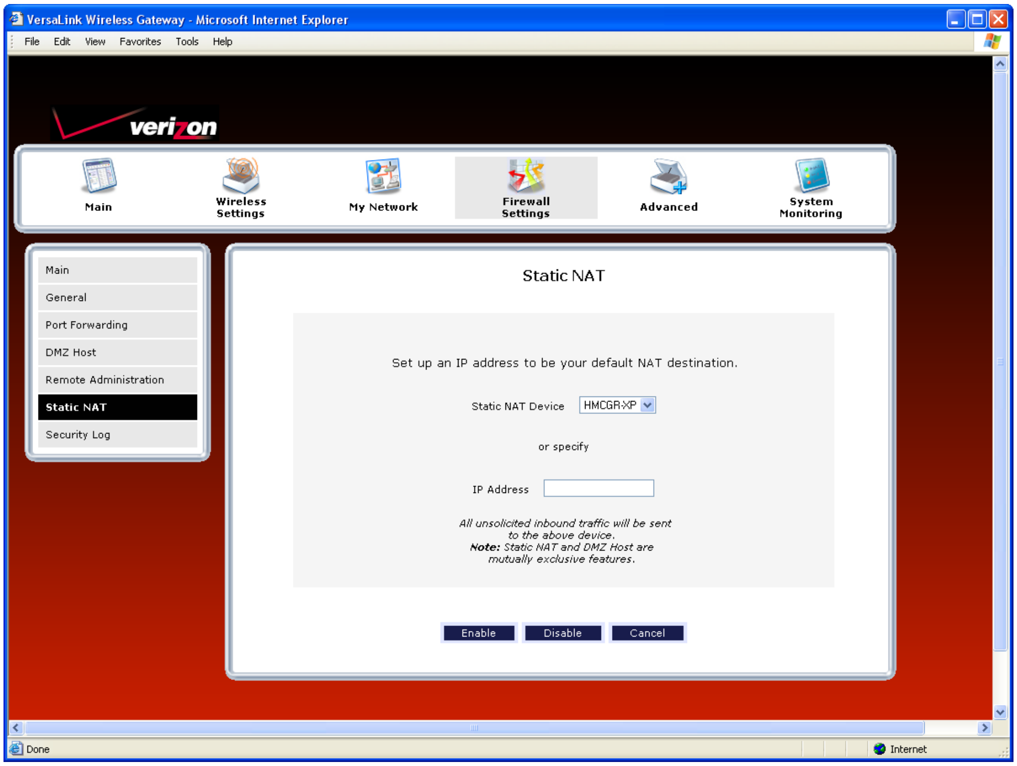
Do you want to proceed?

14.6.1 Enabling Static NAT

If you clicked **Yes** in the warning screen, the following **Static NAT** screen will appear. The **Static NAT** screen allows you to configure your Router to work with the special NAT services. When the Router is configured for Static NAT, any unsolicited packets arriving at the WAN will be forwarded to the selected device. This feature can be used when you want to host a server for a specific application.

IMPORTANT:
Static NAT and DMZ Host are mutually exclusive features. Before you enable static NAT, confirm that DMZ Host is disabled. If needed, refer to section 14.4.2 for details on disabling DMZ Host.

To enable Static NAT, select a device from the **Static NAT Device** drop-down menu, or enter the IP address of the device to which you want to assign Static NAT. Next, click **Enable.**



Static NAT

Set up an IP address to be your default NAT destination.

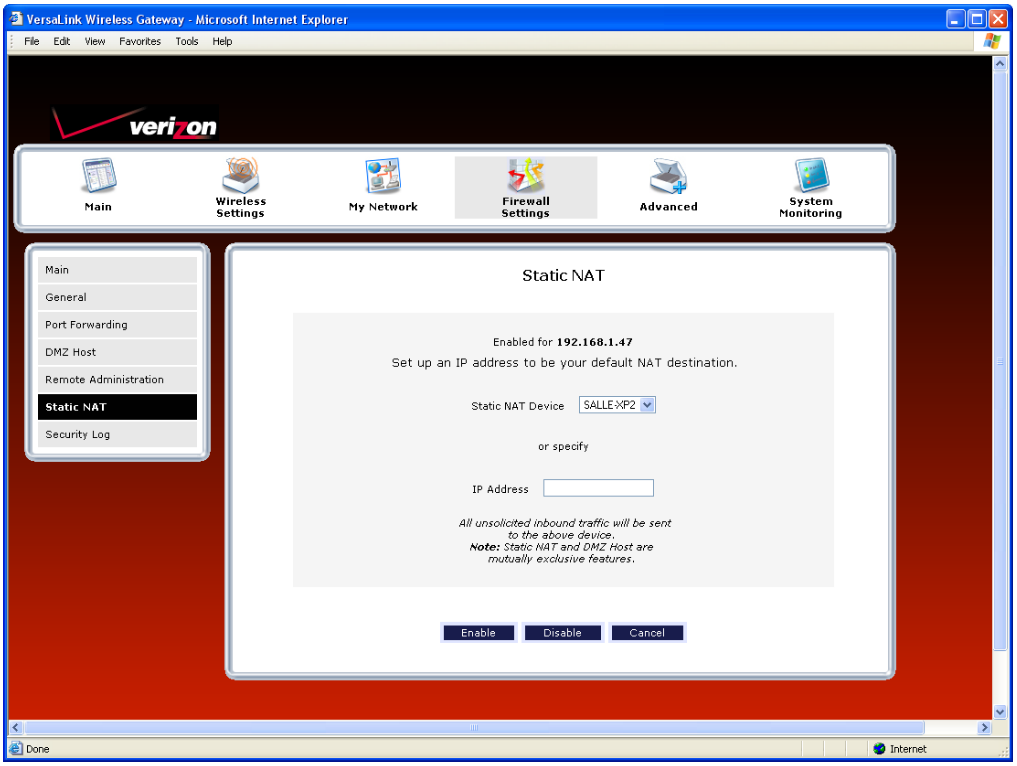
Static NAT Device HMCGR-XP

or specify

IP Address

All unsolicited inbound traffic will be sent to the above device.
Note: *Static NAT and DMZ Host are mutually exclusive features.*

The following screen shows that Static NAT has been enabled for the device you selected.



Static NAT

Enabled for **192.168.1.47**

Set up an IP address to be your default NAT destination.

Static NAT Device SALLE-XP2

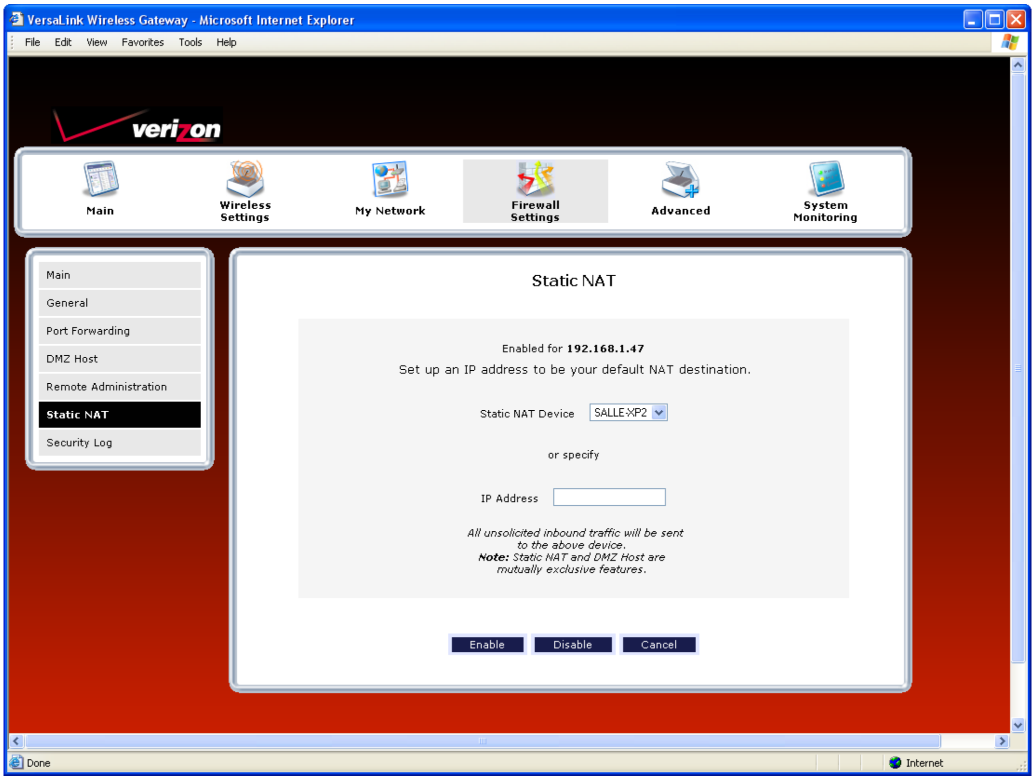
or specify

IP Address

All unsolicited inbound traffic will be sent to the above device.
Note: *Static NAT and DMZ Host are mutually exclusive features.*

14.6.2 Disabling Static NAT

To disable Static NAT (if it has been previously enabled), click **Disable** in the **Static NAT** screen.



Static NAT

Enabled for **192.168.1.47**

Set up an IP address to be your default NAT destination.

Static NAT Device: SALLE-XP2

or specify

IP Address

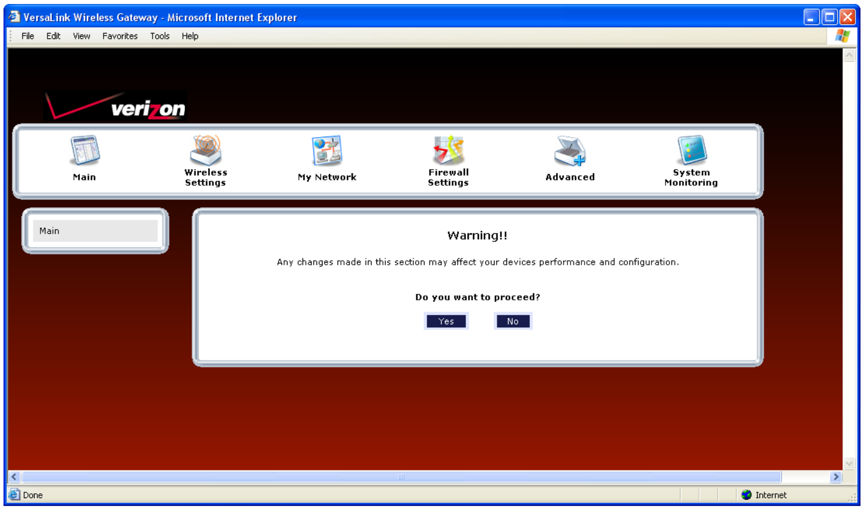
All unsolicited inbound traffic will be sent to the above device.
Note: *Static NAT and DMZ Host are mutually exclusive features.*

14.7 Security Log

In the **Firewall Settings** screen, select **Security Log** from the submenu options displayed at the left of the screen. A warning screen will display the following message:

> **Any changes made in this section may affect your device's performance and configuration. Do you want to proceed?**

Click **Yes** to proceed.

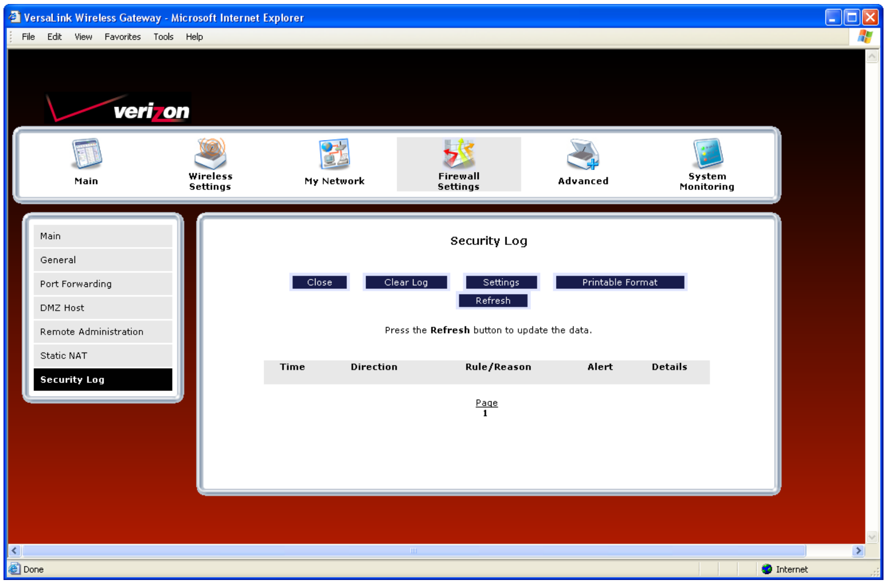


Warning!!

Any changes made in this section may affect your devices performance and configuration.

Do you want to proceed?

If you clicked **Yes** in the warning screen, the following **Security Log** screen will appear. This screen alerts you of noteworthy information sent to VersaLink from the Internet. The screen can contain 1000 entries, but a maximum of 50 entries are displayed at a time. Once 1000 entries have been logged, the oldest entry is removed to make space for the new entries as they occur.



Security Log

Press the **Refresh** button to update the data.

Time	Direction	Rule/Reason	Alert	Details

Page
1

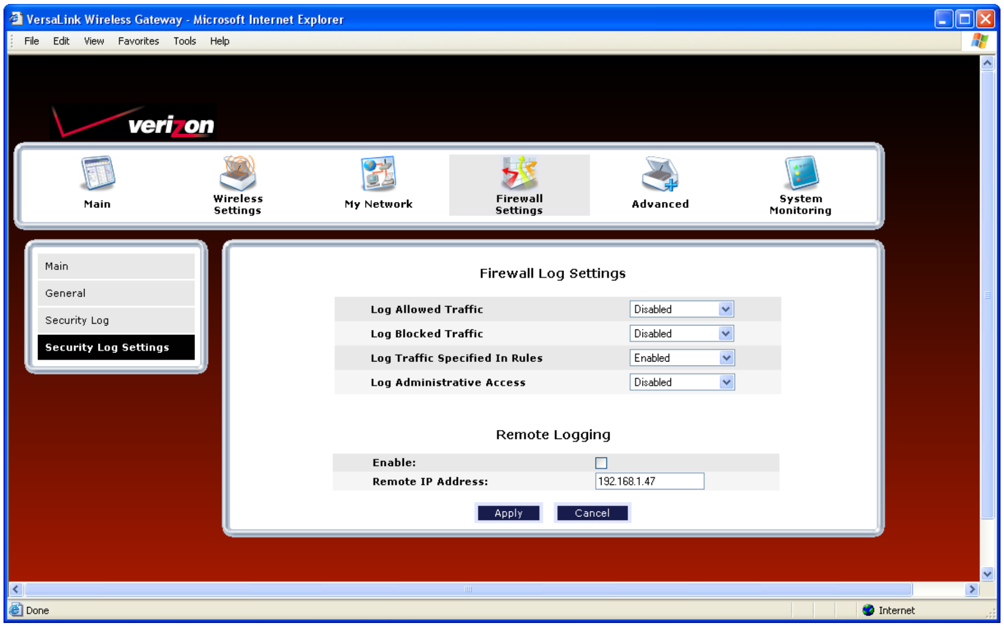
Security Log	
Close	Clicking this button closes the security log screen.
Clear log	Clicking this button removes all entries from the log.
Settings	Clicking this button opens a new window that contains configuration settings for selecting the information that you want logged.
Printable/savable format	Clicking this button opens a new window that contains a list of all the logged packets that can be saved or printed. You can send a copy of the Firewall log to a designated printer.
Refresh	Clicking this button updates the screen so that it displays the most current data.
Time	Displays the time that the packet was sent.
Direction/Source	Displays the direction of transmission.
Rule/Reason	Displays the internal rule that caused the logged event. The internal rule is set up under Firewall rules.
Alert	Displays a description of the logged event.
Details	Displays details about logged event.

If you clicked **Settings** in the preceding **Security Log** screen, the following **Firewall Log Settings** screen will appear. This screen allows you to configure firewall remote logging. Remote logging allows the firewall logs to be sent to a machine running a syslog server.

NOTE: The syslog server must be configured to isten on udp port 514, which is usually the default port. In order for the logs to be saved to the syslog server, the server should be configured to save the logs to a file. Some of the free syslog servers available on the Internet are kiwisyslog, MT_syslog and 3Csyslog.

To configure Remote Logging, do the following:

1. Select the desired firewall log settings from the drop-down menus.
2. Click the **Enable** check box below **Remote Logging** (a check mark will appear in the box).
3. Type the IP address of the syslog server in the **Remote IP Address** field.
4. Click **Apply** to allow the settings to take effect.



Firewall Log Settings

Log Allowed Traffic	Disabled
Log Blocked Traffic	Disabled
Log Traffic Specified In Rules	Enabled
Log Administrative Access	Disabled

Remote Logging

Enable:	□
Remote IP Address:	192.168.1.47

Apply Cancel

15. ADVANCED

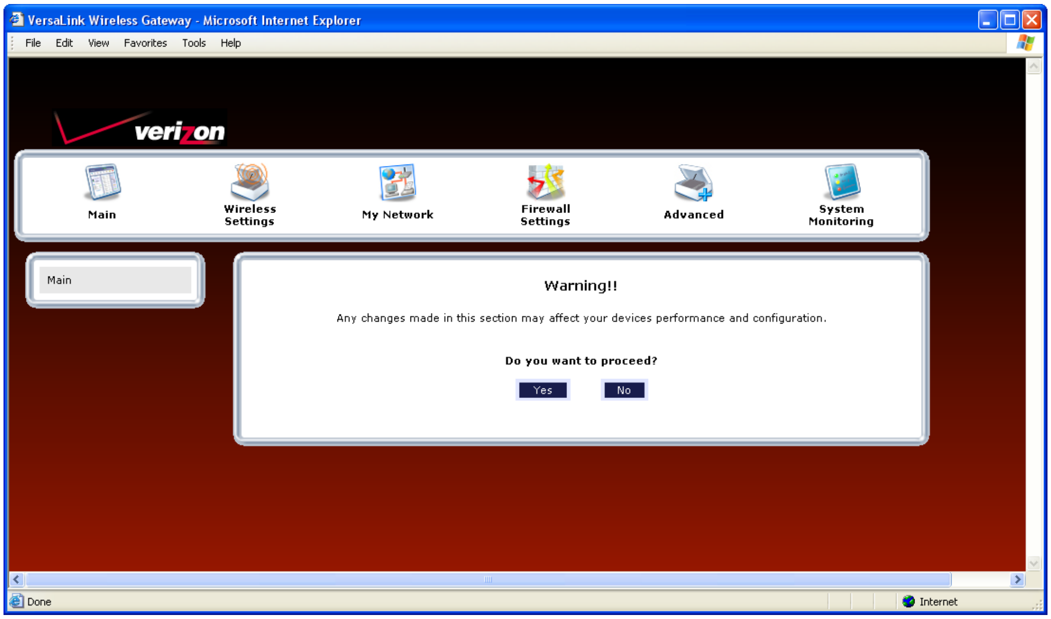
The following sections discuss the advanced features of your Router, such as IP address distribution, firmware upgrades, etc.

IMPORTANT: This section assumes that you have active DSL and Internet service.

If you select **Advanced** in the top navigational menu, a warning screen will display the following message:

> **Any changes made in this section may affect your device's performance and configuration. Do you want to proceed?**

Click **Yes** to proceed.

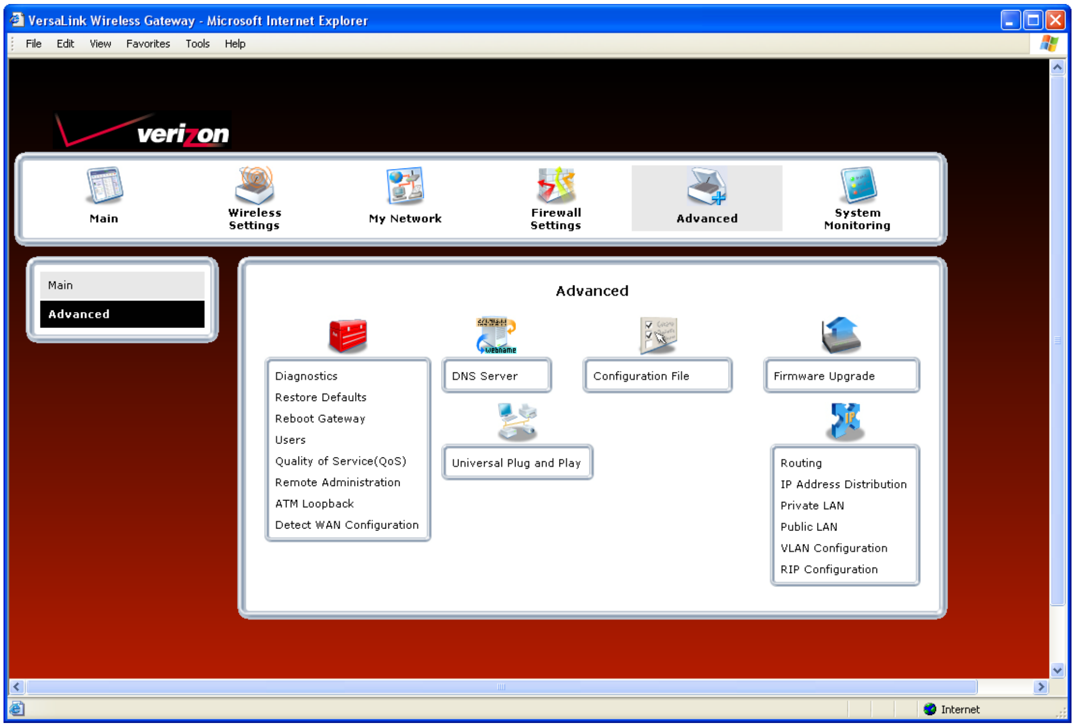


Warning!!

Any changes made in this section may affect your devices performance and configuration.

Do you want to proceed?

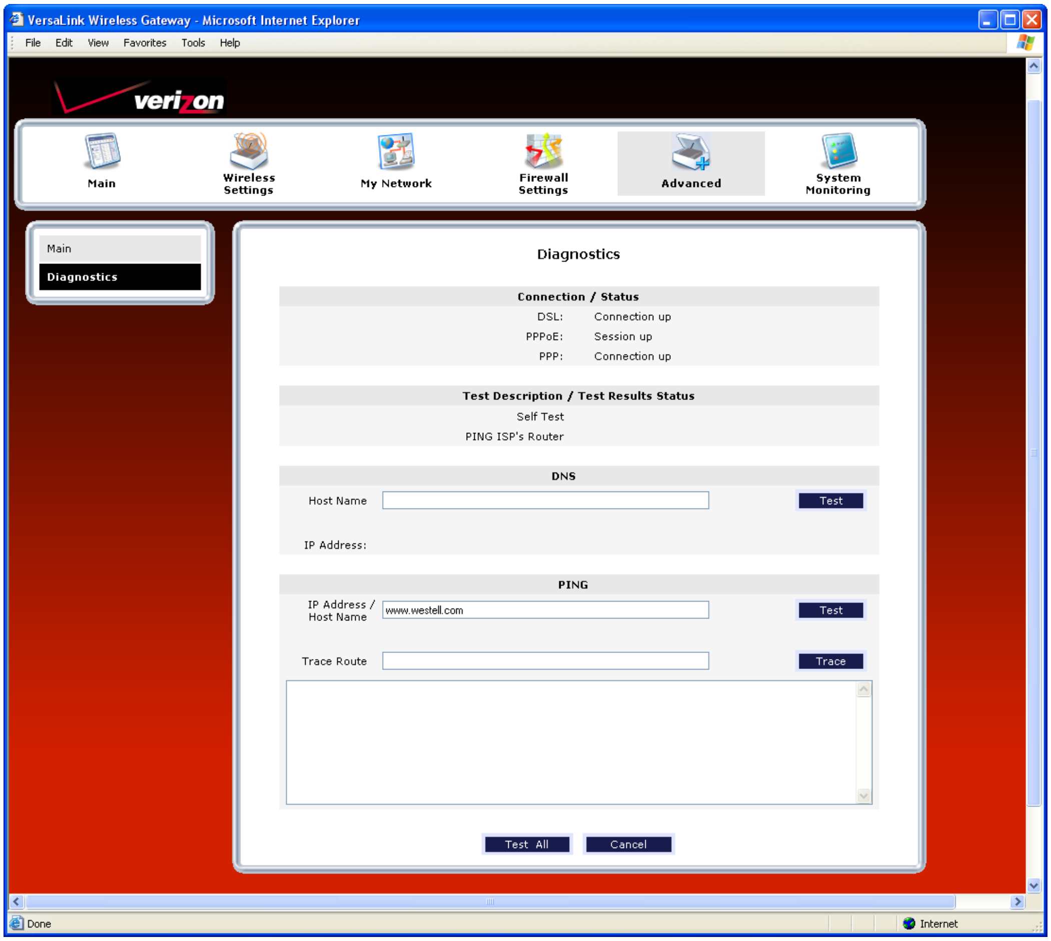
If you clicked **Yes** in the warning screen, the following screen will appear. The **Advanced** screen allows you to access various configurable features in your Router. To access a feature, click the link of the feature that you want to access. The features shown in this page will be discussed in the following sections.



15.1 Diagnostics

In the **Advanced** screen, click **Diagnostics.** The following screen will appear. Using this screen, you can run the following diagnostics tests:

- To run a DNS test, type the appropriate host name in the field provided, and then click **test.**
- To run a PING test, type the appropriate IP address or host name in the field provided, and then click **test.**
- To run a Trace Route, type the appropriate IP address or host name in the field provided, and then click **trace.**
- To run a full diagnostic test on your Router, click **Test All.**



Diagnostics

Connection / Status

DSL: Connection up

PPPoE: Session up

PPP: Connection up

Test Description / Test Results Status

Self Test

PING ISP's Router

DNS

Host Name

IP Address:

PING

IP Address / Host Name: www.westell.com

Trace Route

If you want to PING using the System Self Test screen (diagnostics page) shown above, enter your **DNS** or **IP** address in the fields provided and click on the **test** button. The System Self Test will run a diagnostic test that executes independent of firewall security settings. See the following table for test descriptions and possible responses.

If you want to PING using the MS-DOS (shell) window, first you will need to check your firewall security setting. (If you PING via DOS shell you are susceptible to firewall rules, as this PING is dependent on VersaLink's firewall settings.) If your firewall is set to **Medium** or **High**, you will not be able to PING. You must set your firewall security setting to **Low** or **None**.

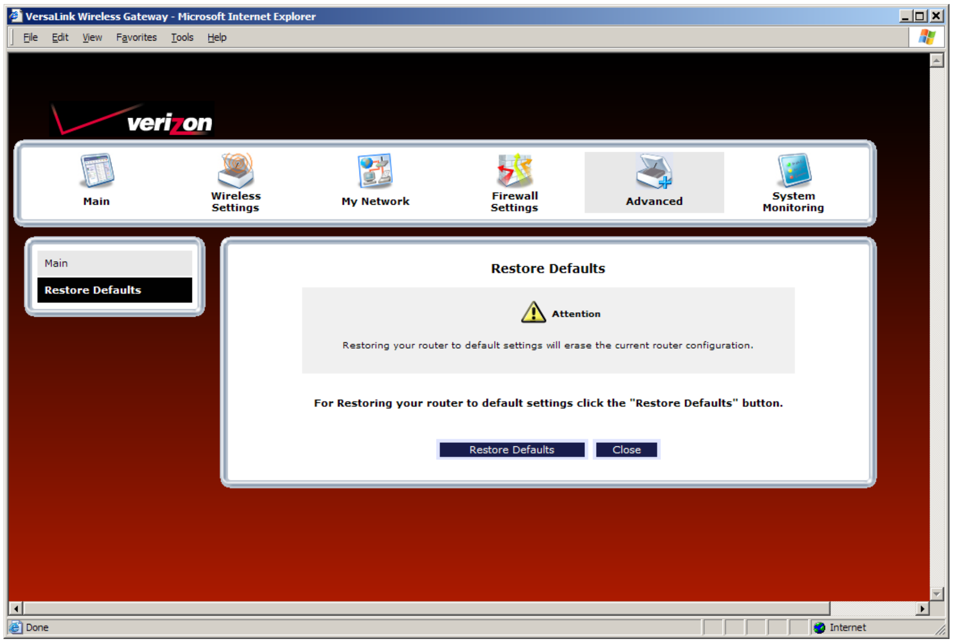
Diagnostics	
DSL	VersaLink checks the status of the DSL connection. Possible Responses: Connection Up: VersaLink is operating correctly and has obtained synchronization with the opposing network device. Connection down: VersaLink is operating correctly, but has not synchronized with the opposing device.
PPPoE	Indicates that a PPPoE session is or is not established. Possible Responses: Session Up: A valid PPPoE session has been detected. No Session: Currently there is no active PPPoE session established. Initiating Session: A PPP session must be connected from the home page.
PPP	Indicates that a PPPoE or PPPoA session must already be established.

	Possible Responses: Connection Up: VersaLink has established a connection No Connection: There is no PPP connection Initiating Connection: The PPP connection process has been initiated Connection Halted: A successful PPP connection was halted Cannot Connect: A PPP connection could not be made because of a PPPoE session failure. Authorization Failure: The user name or password is incorrect. Link Control Protocol Failed: Reestablish the session (from the home page).
Test Description / Test Results	
Self Test	Performs an integrity check of certain internal components of VersaLink.
PING ISP's Router	Performs an IP network check (i.e., an IP Ping) of the service provider's VersaLink. This test verifies that VersaLink can exchange IP traffic with an entity on the other side of the DSL line. Possible Responses: Success: VersaLink has detected an IP Remote Router connection. No Response: The IP Remote Router does not answer the IP Ping. Could not test: The test could not be executed due to Router settings. Check your DSL link or your PPP session. You must have both a DSL link and a PPP connection established to execute a PING.
DNS	Performs a test to try to resolve the name of a particular host. The host name is entered in the input box. Possible Responses: Success: VersaLink has successfully obtained the resolved address. The IP address is shown below the host name input box. No Response: VersaLink has failed to obtain the resolved address. Host not found: The DNS Server was unable to find an address for the given host name. No data, enter host name: No host name is specified. Could not test: The test could not be executed due to VersaLink settings. Check your DSL link or your PPP session. You must have both a DSL link and a PPP connection established to execute a PING.
IP Address	IP Address of the Host Name.
PING (via IP Address or Host Name)	Performs an IP connectivity check to a remote computer either within or beyond the service provider's network. You can PING a remote computer via the IP address or the DNS address. If your PING fails, try a different IP or DNS address. Possible Responses: Success: The Remote Host computer was detected. No Response: There was no response to the Ping from the remote computer. No name or address to PING: No host name or IP address was specified. Could not test: The test could not be executed due to Router settings. Check your DSL link or your PPP session. You must have both a DSL link and a PPP connection established to execute a PING.
Trace Route	Determines the route taken to destination by sending Internet Control Message Protocol (ICMP) echo packets with varying IP Time-To-Live (TTL) values to the destination. Trace Route is used to determine where the packet is stopped on the network.

15.2 Restore Defaults

In the **Advanced** screen, click **Restore Defaults.** This screen allows you to restore the Router to its factory default settings. To restore the Router, click the **Restore Defaults** button**.**

IMPORTANT: If you click **Restore Defaults**, any settings that you have configured in the Router will be erased, and any data that the Router has reported will be lost.



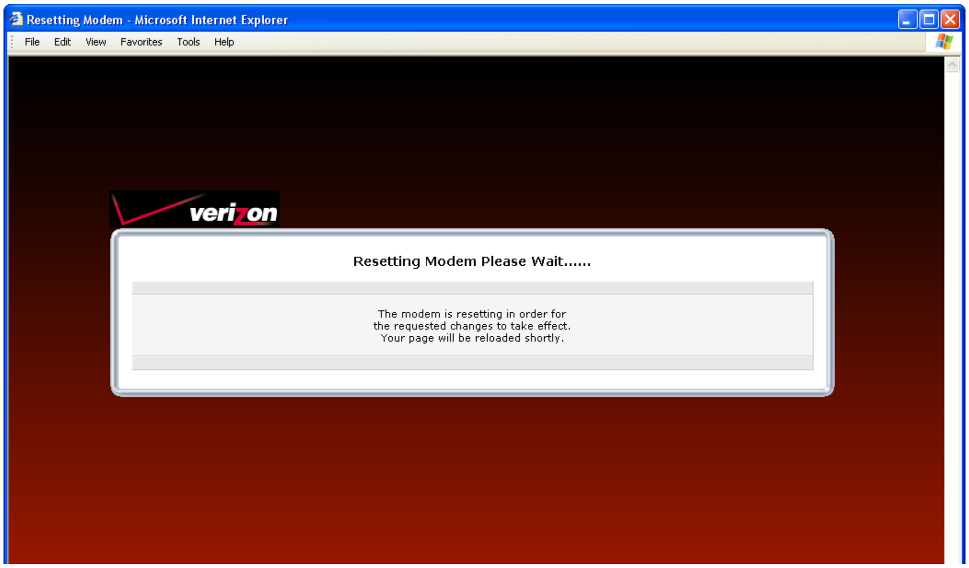
Restore Defaults

Attention

Restoring your router to default settings will erase the current router configuration.

For Restoring your router to default settings click the "Restore Defaults" button.

If you clicked **Restore Defaults**, the following screen will appear. Please wait a brief moment while the Router resets.


Resetting Modem - Microsoft Internet Explorer
File Edit View Favorites Tools Help
verizon

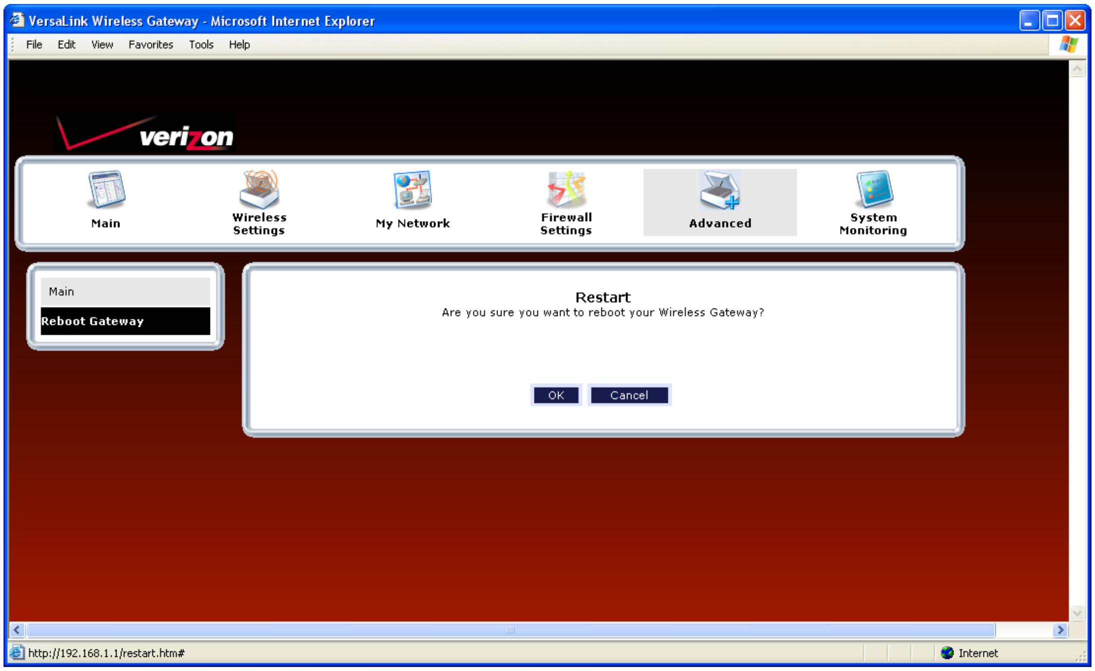
Resetting Modem Please Wait......

The modem is resetting in order for the requested changes to take effect. Your page will be reloaded shortly.

After the Router has reset, the **Router Secure** screen will be displayed. Follow the instructions explained in section 7.1, “Logging on to the Router,” to log on to your Router.

15.3 Reboot Gateway

In the **Advanced** screen, click **Reboot Gateway.** This screen allows you to reboot your Router without losing any customized settings that you have made in the Router. Click **OK** to reboot your Router.


VersaLink Wireless Gateway - Microsoft Internet Explorer
File Edit View Favorites Tools Help
verizon
Main
Wireless Settings
My Network
Firewall Settings
Advanced
System Monitoring
Main
Reboot Gateway
OK
Cancel
http://192.168.1.1/restart.htm#
Internet

Restart

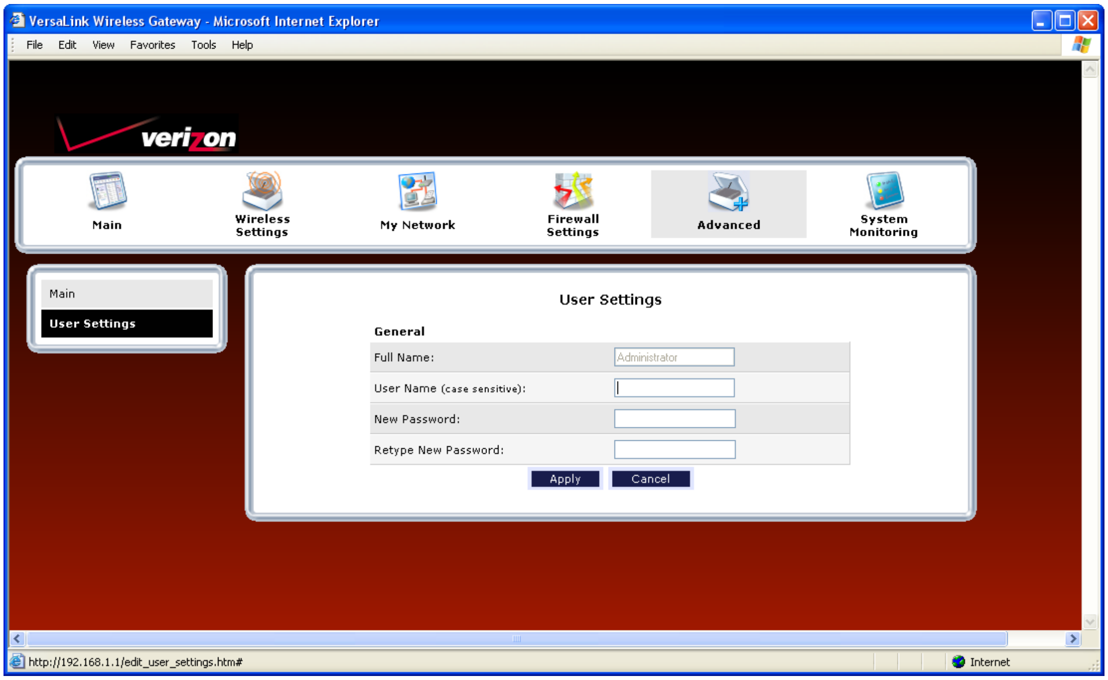
Are you sure you want to reboot your Wireless Gateway?

15.4 Users

In the **Advanced** screen, click **Users**. The following **User Settings** screen allows you to change the administrator's user name and password. Type the desired values in the fields provided, and then click **Apply** to allow the settings to take effect. Refer to section 7.2, "Changing the Password," for details on this feature.

NOTE:

1. If the Router is password protected and you are not an authorized user, you will not be able to change the values in this screen. (The Router cannot be configured unless an authorized user is logged on.) Contact your network administrator for further instructions.
2. The values typed in the password fields will be masked for security purposes.
3. This feature changes the Administrator's password, not the PPP password.



User Settings

General

Full Name: Administrator

User Name (case sensitive):

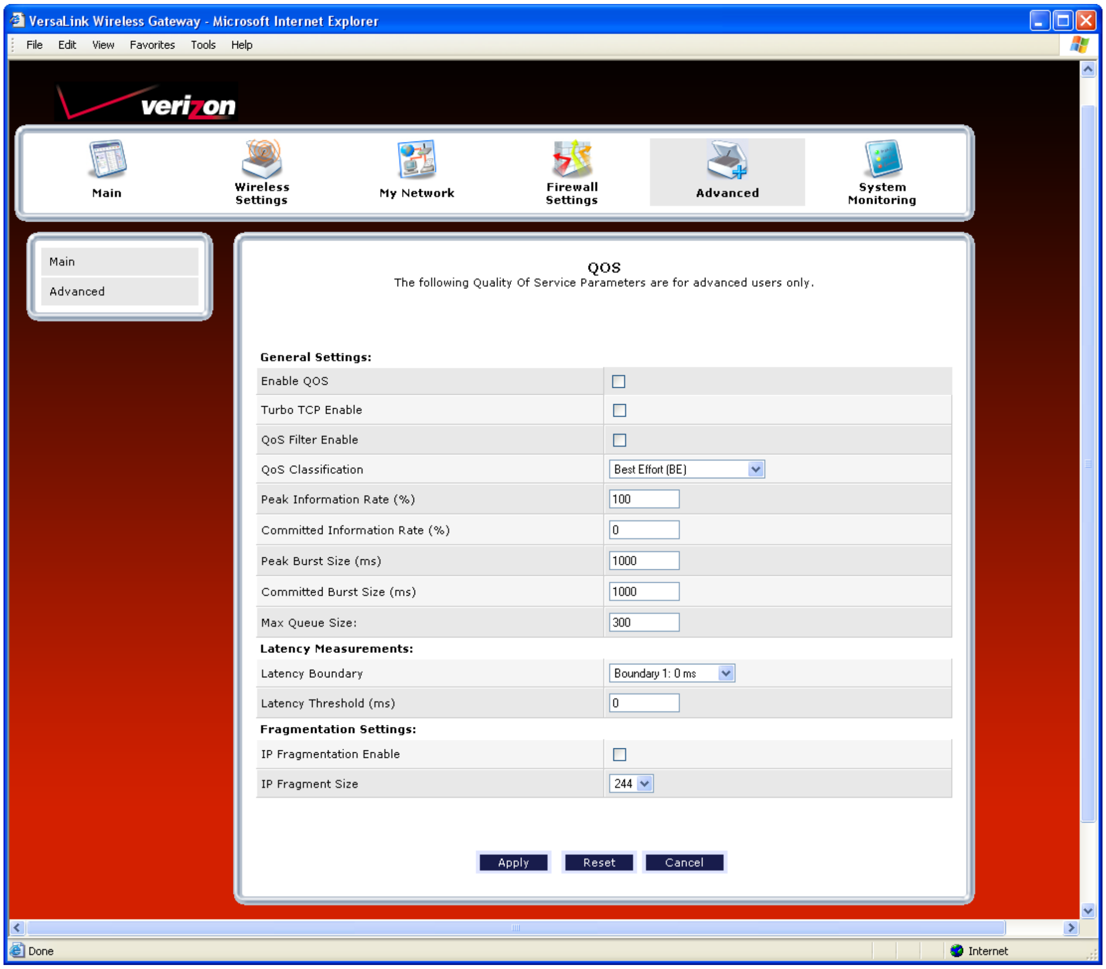
New Password:

Retype New Password:

User Settings	
Full Name	Displays the Administrator name. This field will be dimmed and unavailable for changes.
User Name	Type the Administrators user name. (This field is case sensitive.)
New Password	Type the administrator's new password.
Retype New Password	Confirm the administrator's new password

15.5 QOS

In the **Advanced** screen, click **QOS**. This screen allows you to configure Quality of Service parameters in the Router. Select the desired Quality of Service settings, and then click **Apply** to allow the setting to take effect.



QOS

The following Quality Of Service Parameters are for advanced users only.

General Settings:

Enable QOS	□
Turbo TCP Enable	□
QoS Filter Enable	□
QoS Classification	Best Effort (BE)
Peak Information Rate (%)	100
Committed Information Rate (%)	0
Peak Burst Size (ms)	1000
Committed Burst Size (ms)	1000
Max Queue Size:	300

Latency Measurements:

Latency Boundary	Boundary 1: 0 ms
Latency Threshold (ms)	0

Fragmentation Settings:

IP Fragmentation Enable	□
IP Fragment Size	244

15.6 Remote Administration

In the **Advanced** screen, click **Remote Administration**. This screen allows you to configure your Router so that it can be accessed remotely via a URL. Configure this feature to allow maintenance or troubleshooting for your Router.

WARNING: With Remote Administration enabled, your network will be at risk from outside attacks.

To enable Remote Administration, do the following:

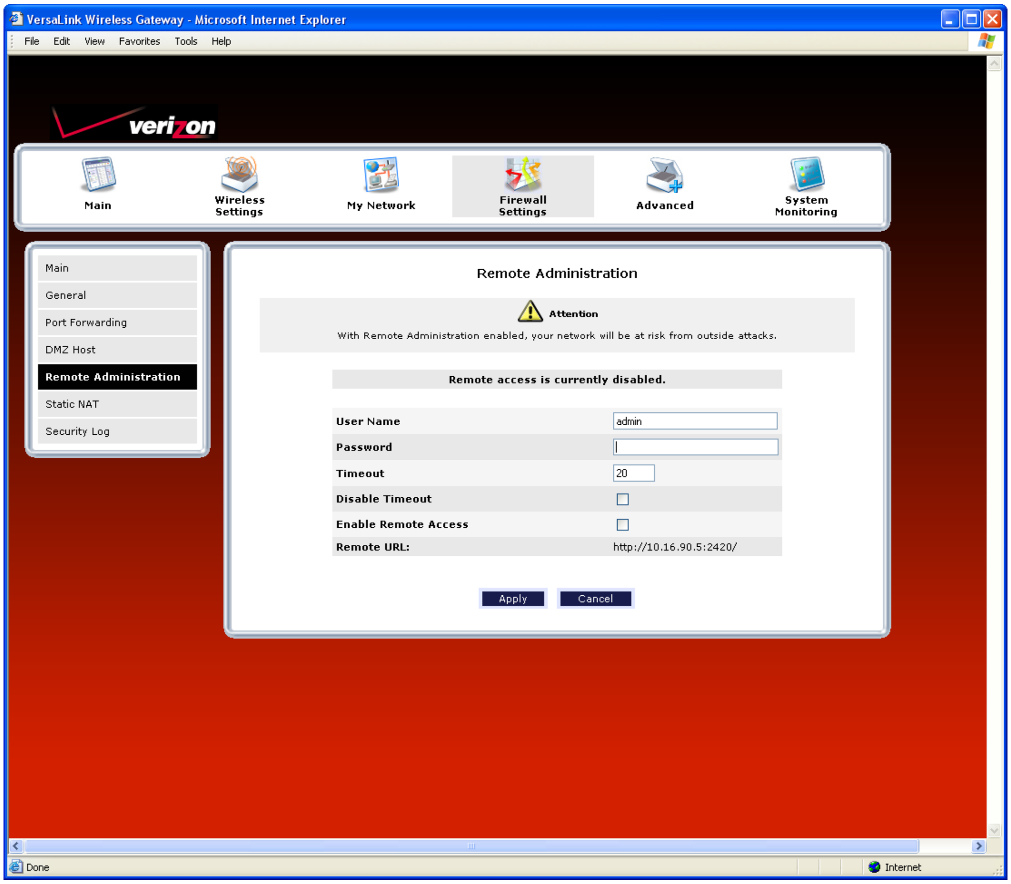
1. Type the desired user name.
2. Type the desired password.

   NOTE: The password should be at least 4 characters long and should not exceed 32 characters. Do not type a blank space or asterisks in the **Password** field. The password is case sensitive.

3. Enter the number of minutes after which remote access will disconnect, if it is idle.

   NOTE: If you click the **Disable Timeout** check box (a check mark will appear in the box), this will override the preceding timeout minutes, and remote access will remain activated once you enable it.

4. Click the **Enable Remote Access** check box (a check mark will appear in the box).
5. Click **Apply** to allow the settings to take effect.



Remote Administration

Attention

With Remote Administration enabled, your network will be at risk from outside attacks.

Remote access is currently disabled.

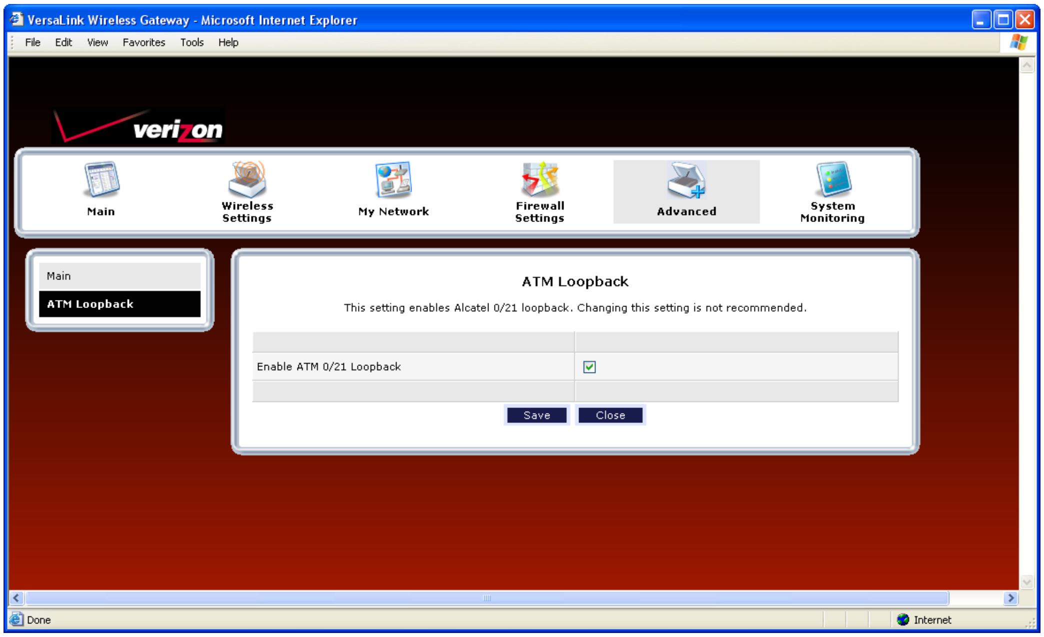
User Name	admin
Password	
Timeout	20
Disable Timeout	□
Enable Remote Access	□
Remote URL:	http://10.16.90.5:2420/

Remote Administration	
User Name	Default = admin The name used for the Remote Administration session. The only valid characters are (a-z, A-Z, 0-9). The user name must be at least 6 characters and must not exceed 12 characters long.
Password	The password used for the remote administration session. Do not use spaces or double-quotes in the password field. The user name must be at least 6 characters and must not exceed 12 characters long.
Timeout	Default = 20 minutes The interval (in minutes) after which the remote access will disconnect, if it is idle.
Disable Timeout	Default = deactivated To activate the Disable Timeout feature, click this box (a check mark will appear). Clear the box to deactivate this feature.
Enable Remote Access	Default = deactivated Click this box (a check mark will appear) to activate Enable Remote Access. Clear the box to deactivate this feature.
Remote URL	Displays the URL for the remote access session.

15.7 ATM Loopback

In the **Advanced** screen, click **ATM Loopback**. If you change the setting in this screen, you must click **Save** to allow the settings to take effect.

NOTE: When the **Enable ATM 0/21** box is checked, this feature enables Alcatel 0/21 loopback. If the box does not display a check mark, this feature is disabled. **It is recommended that you do not change this setting.**



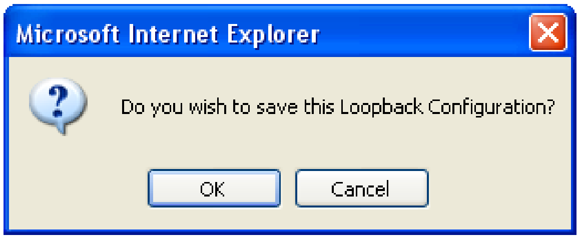
ATM Loopback

This setting enables Alcatel 0/21 loopback. Changing this setting is not recommended.

Enable ATM 0/21 Loopback ☑

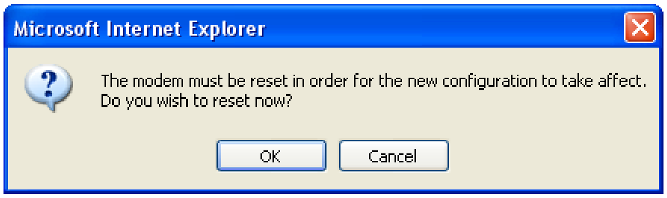
Enable ATM 0/21 Loopback	Factory Default = Enabled This option enables the 0/21 loopback, which is used by Verizon. Note: It is recommended that you do not that you change this setting.

If you changed the ATM Loopback settings and clicked **Save** in the preceding screen, the following screen will be displayed. Click **OK** to continue.



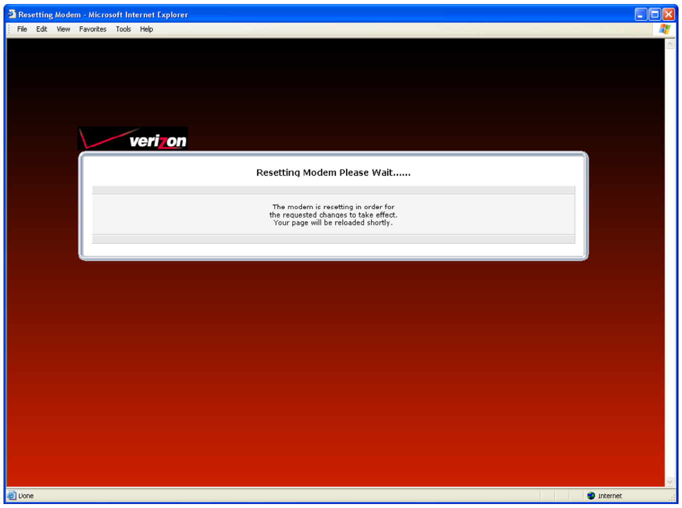
Do you wish to save this Loopback Configuration?

If you clicked **OK** in the preceding screen, the following pop-up screen will appear. The Router must be reset to allow the new configuration to take effect. Click **OK** to continue.



The modem must be reset in order for the new configuration to take affect.
Do you wish to reset now?

If you clicked **OK**, the following screen will appear. After a brief delay, the home page will be displayed. Confirm that you have a DSL link and that your PPP Status displays **UP.**



Resetting Modem Please Wait......

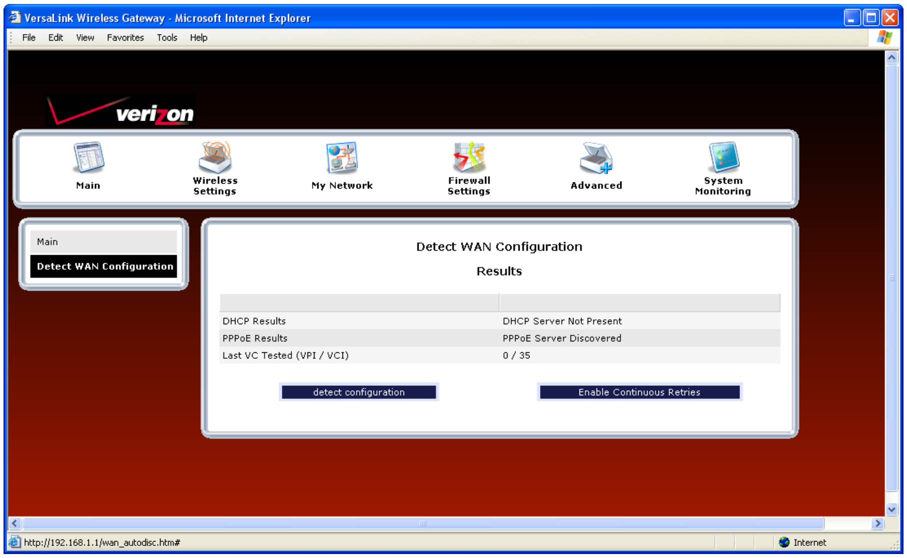
The modem is resetting in order for
the requested changes to take effect.
Your page will be reloaded shortly.

15.8 Detect WAN Configuration

In the **Advanced** screen, click **Detect WAN Configuration**. This screen displays the details of your WAN connection.

NOTE: If you have not established and DSL connection with Verizon's equipment and have not established an Internet connection with Verizon, the Router will report **Detection Disabled**. Confirm that you have Internet connection with Verizon. If problems persist, contact Verizon.

To check your WAN connection, click **detect configuration.** The Router will be reset.

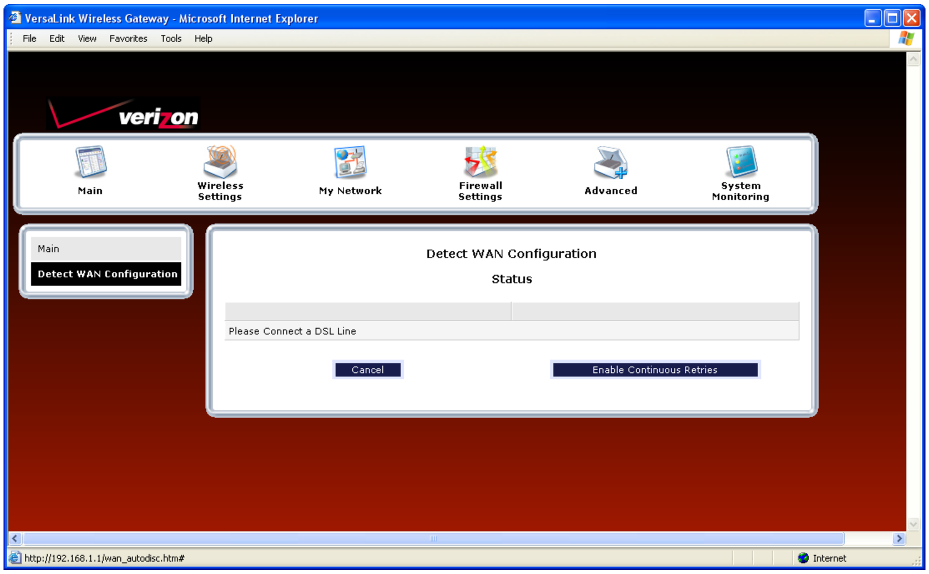

VersaLink Wireless Gateway - Microsoft Internet Explorer
File Edit View Favorites Tools Help
verizon
Main
Wireless Settings
My Network
Firewall Settings
Advanced
System Monitoring
Main
Detect WAN Configuration
detect configuration
Enable Continuous Retries
http://192.168.1.1/wan_autodisc.htm#
Internet

Detect WAN Configuration

Results

DHCP Results	DHCP Server Not Present
PPPoE Results	PPPoE Server Discovered
Last VC Tested (VPI / VCI)	0 / 35

If no connection is detected, the following screen will appear. Click **Enable Continuous Retries**. The Router will automatically continue to check the WAN connection. After a WAN connection is detected, the Router will report the results.

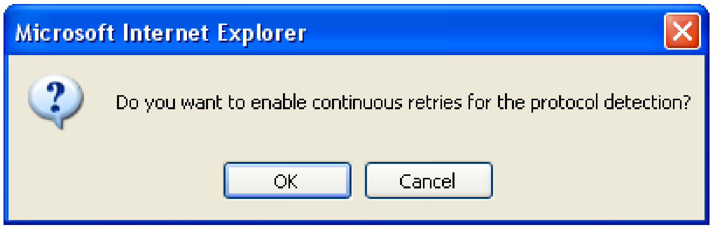

VersaLink Wireless Gateway - Microsoft Internet Explorer
File Edit View Favorites Tools Help
verizon
Main
Wireless Settings
My Network
Firewall Settings
Advanced
System Monitoring
Main
Detect WAN Configuration
Cancel
Enable Continuous Retries
http://192.168.1.1/wan_autodisc.htm#
Internet

Detect WAN Configuration

Status

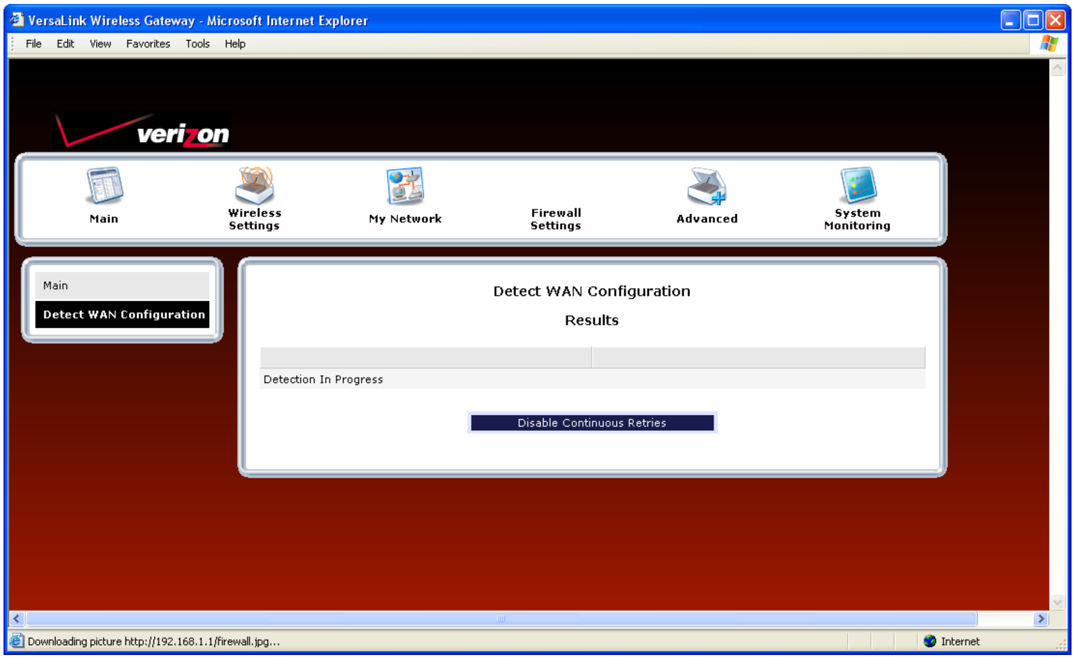
Please Connect a DSL Line

If you clicked **Enable Continuous Retries**, the following pop-up screen will appear. Click **OK** to continue.



Do you want to enable continuous retries for the protocol detection?

If you clicked **OK**, the following screen will appear. If want to disable continuous retries, click **Disable Continuous Retries.**



Detect WAN Configuration

Results

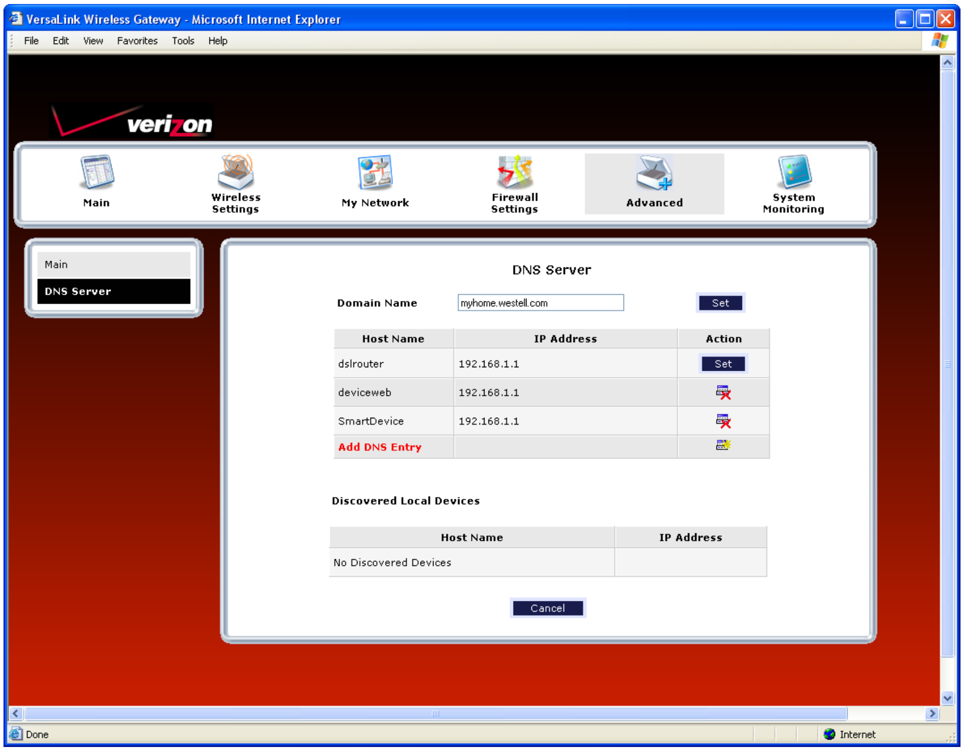
Detection In Progress

15.9 DNS Server

In the **Advanced** screen, click **DNS Server**. The following screen will appear. Your Router contains a built-in DNS server. When an IP address is assigned, the Router will interrogate the new device for a machine name using several well-known networking protocols. Any names learned will dynamically be added to the DNS server's table of local hosts.

Do any of the following:

- To rename the Domain Name, type a domain in the **Domain Name** field and then click **Set**.
- To add a host name, click **Add DNS Entry**



DNS Server

Domain Name: myhome.westell.com Set

Host Name	IP Address	Action
dslrouter	192.168.1.1	Set
deviceweb	192.168.1.1	
SmartDevice	192.168.1.1	
Add DNS Entry		

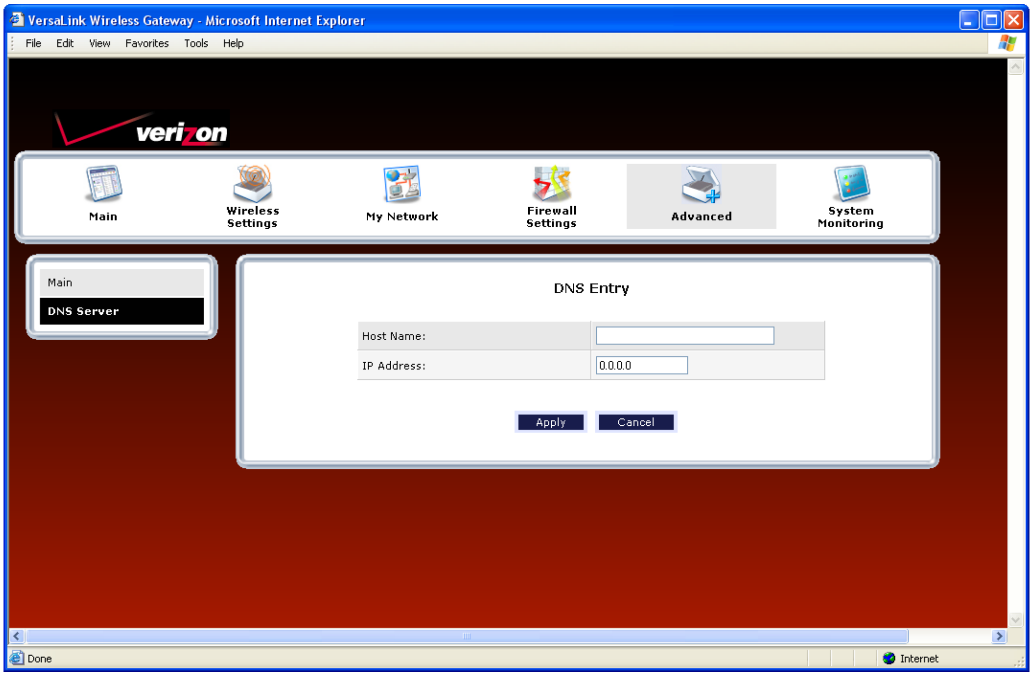
Discovered Local Devices

Host Name	IP Address
No Discovered Devices	

Cancel

Domain Name NOTE: Some ISP's may require the name for identification purposes.	This field allows you to enter a Domain Name for your Router To add a Domain Name, in the field under User Assigned DNS, type in your new domain name and click **Set.**
Host Name	This field allows you to enter a HOST name for Router. To add a new Host name, in the field under Static Host Assignment, type in the Host Name and the IP address and click **Set.**
IP Address	Displays the IP address that is assigned to the Host Name.
Discover Local Devices	
This field displays a list of the computers on the LAN that were assigned a DHCP Address. The DNS name and IP address entry of each discovered device is displayed. (The values in this field will be displayed barring any propagation delays. If 'No Discovered Devices' is displayed, manually refresh the screen.)	

If you clicked **ADD DNS Entry**, the following screen will appear. Type the **Host Name** and **IP Address** in the fields provided. Then, click **Apply** to continue.

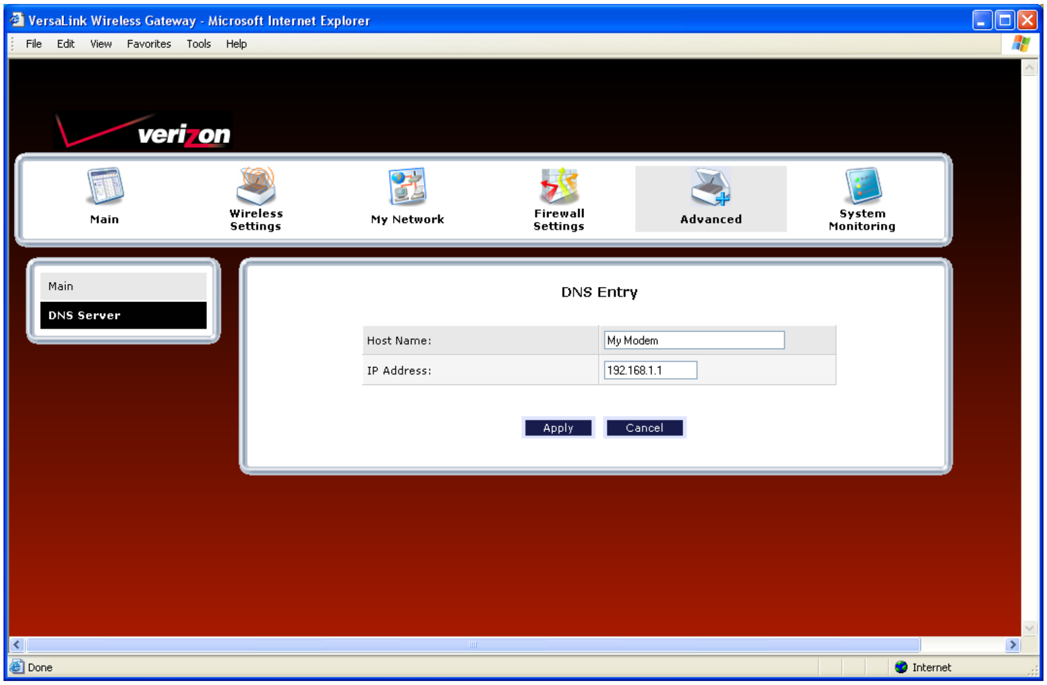


DNS Entry

Host Name:

IP Address: 0.0.0.0

For example, the following screen shows appropriate DNS values in the fields. Click **Apply**.

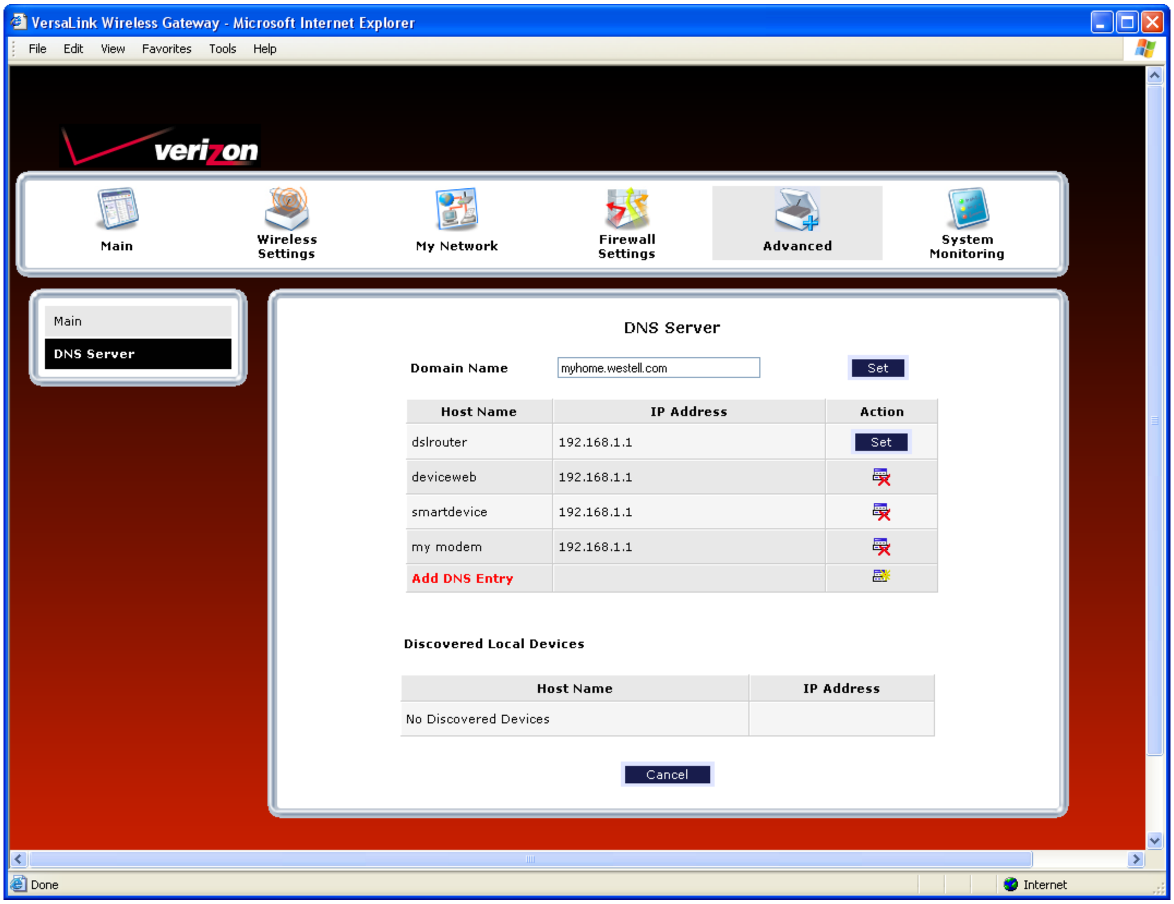


DNS Entry

Host Name: My Modem

IP Address: 192.168.1.1

If you clicked **Apply**, the following screen will be displayed. This screen shows that the **Host Name** and **IP Address** have been added to the DNS server. If you want to delete a DNS entry, click the delete icon ☒ next to the Host Name and IP address that you want to delete.



DNS Server

Domain Name: myhome.westell.com [Set]

Host Name	IP Address	Action
dslrouter	192.168.1.1	Set
deviceweb	192.168.1.1	☒
smartdevice	192.168.1.1	☒
my modem	192.168.1.1	☒
Add DNS Entry		✚

Discovered Local Devices

Host Name	IP Address
No Discovered Devices	

[Cancel]

15.10 Configuration File

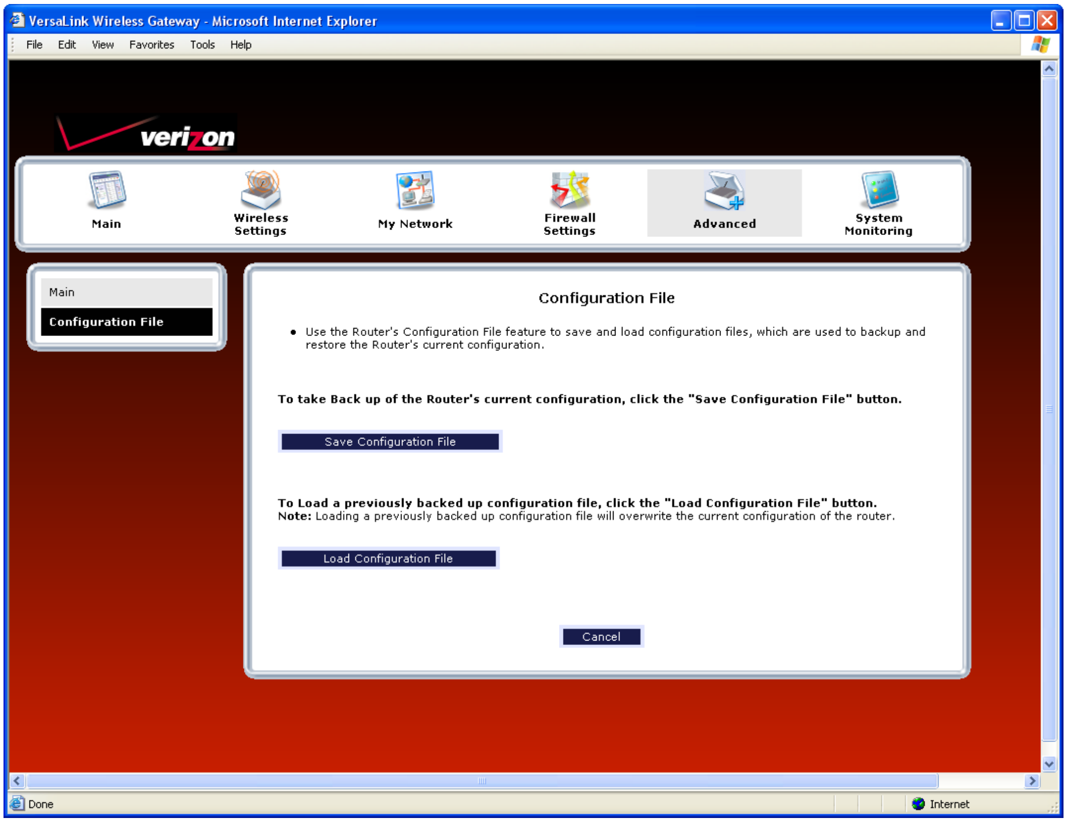
In the **Advanced** screen, click **Configuration File.** This screen allows you to save and load configuration files, which are used to back up and restore the Router's current configuration.

NOTE: Backup settings are stored in a separate area of flash, not to an external backup source.

Do one of the following:

- Click **Save Configuration File** to back up the Router's current configuration.
- Click **Load Configuration File** to load a previously backed up configuration file.

IMPORTANT: Loading a previously backed up configuration file will overwrite the Router's current configuration, and any data the Router has reported will be lost.



Configuration File

- Use the Router's Configuration File feature to save and load configuration files, which are used to backup and restore the Router's current configuration.

To take Back up of the Router's current configuration, click the "Save Configuration File" button.

To Load a previously backed up configuration file, click the "Load Configuration File" button.
Note: Loading a previously backed up configuration file will overwrite the current configuration of the router.

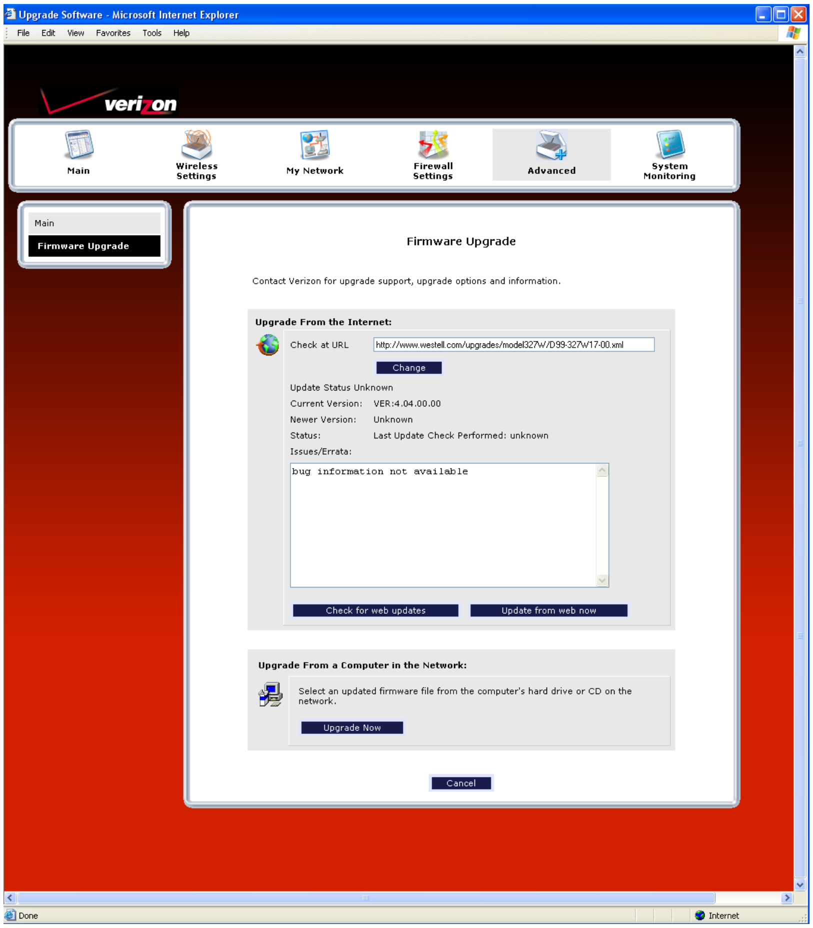
15.11 Firmware Upgrade

In the **Advanced** screen, click **Firmware Upgrade.** This screen is used to update the firmware that controls the operation of your Router. The updated firmware may be loaded from a CD-ROM, from a file stored on a local hard drive within your network, or from an update file stored on an Internet server.

IMPORTANT: The configurable settings of your Router may be erased during the upgrade process.

Do any of the following:

- Click **change** to edit the path of the firmware update file. The path will appear in the **Check at URL** field.
- Click **check for web updates** to retrieve the firmware update file and display any available update information. You must be connected to the Internet to use this option. **NOTE:** If you click **check for web updates** and the page returns “bug information not available,” this indicates that the firmware update file is not available.
- Click **update from web now** to download the firmware update file and to automatically update the Router firmware if an update is available and applicable. You must be connected to the Internet to use this option.
- Click **upgrade now** to retrieve the firmware update file from a local hard drive or CD-ROM on your Network. Internet connection is not required for this option.



Firmware Upgrade

Contact Verizon for upgrade support, upgrade options and information.

Upgrade From the Internet:

Check at URL: http://www.westell.com/upgrades/model327W/D99-327W17-00.xml

Update Status Unknown

Current Version: VER:4.04.00.00

Newer Version: Unknown

Status: Last Update Check Performed: unknown

Issues/Errata:

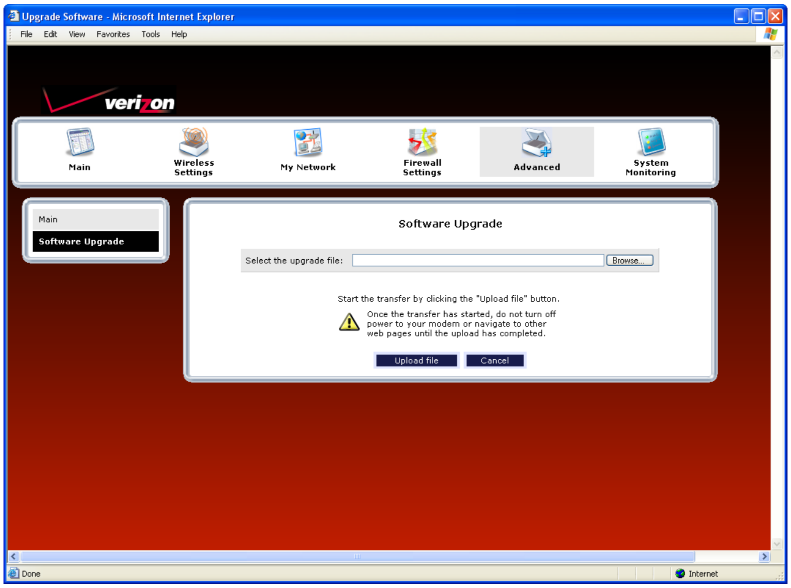
```
bug information not available
```

Upgrade From a Computer in the Network:

Select an updated firmware file from the computer's hard drive or CD on the network.

If you clicked **Upgrade Now,** the following screen will appear.

IMPORTANT: Once the transfer has started, do not turn off your Router's power, and do not navigate to other Web pages until the upload has completed.



Software Upgrade

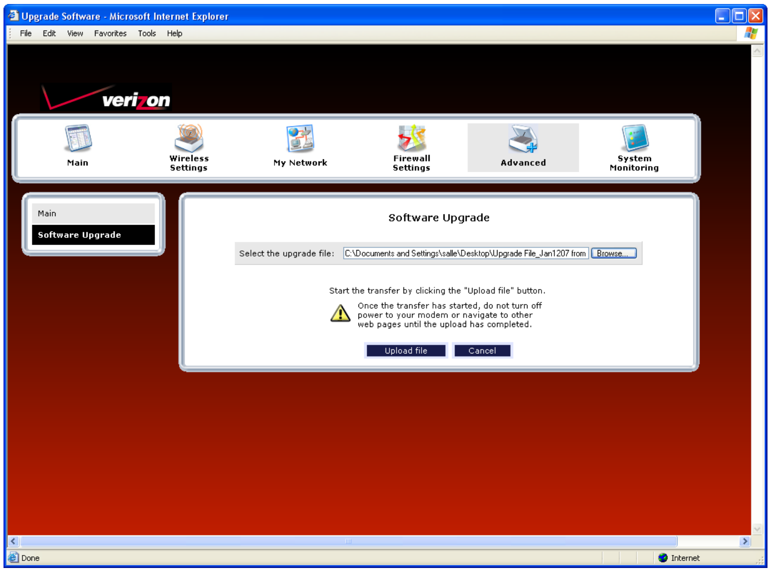
Select the upgrade file:

Start the transfer by clicking the "Upload file" button.

Once the transfer has started, do not turn off power to your modem or navigate to other web pages until the upload has completed.

Click **Browse** and then navigate to the location of the upgrade file; the path will appear in the window. Next, click **Upload file** to begin the upload to your Router.

IMPORTANT: Once the transfer has started, do not turn off your Router's power, and do not navigate to other Web pages until the upload has completed.



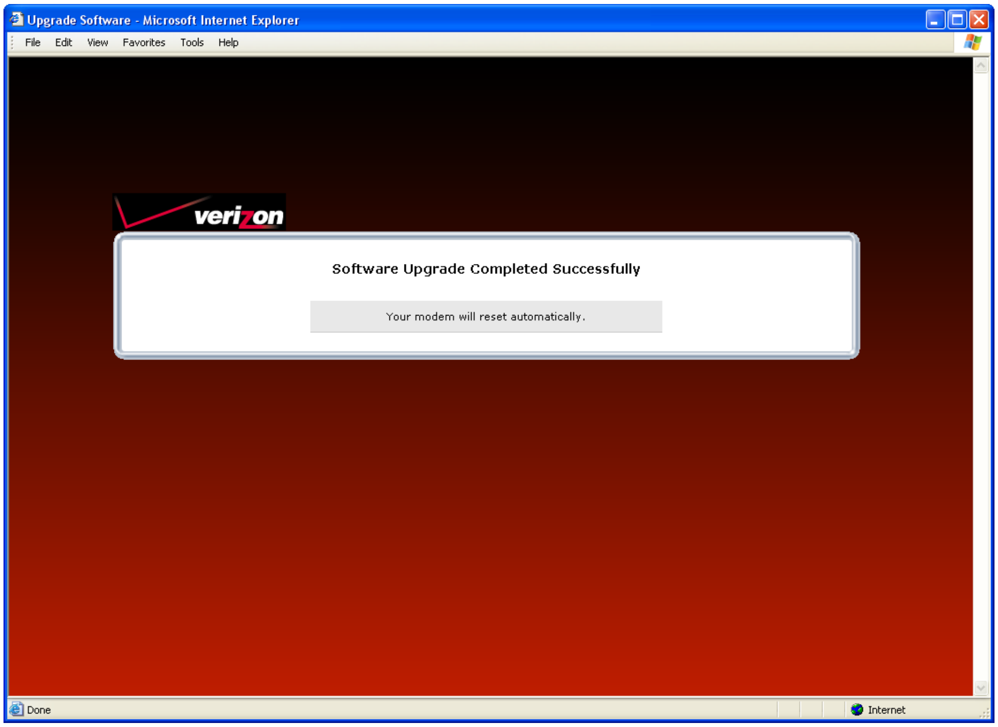
Software Upgrade

Select the upgrade file: C:\Documents and Settings\salle\Desktop\Upgrade File_Jan1207 from

Start the transfer by clicking the "Upload file" button.

Once the transfer has started, do not turn off power to your modem or navigate to other web pages until the upload has completed.

After the upload has completed, the following screen will appear. Please wait a brief moment while your Router is being reset.



Software Upgrade Completed Successfully

Your modem will reset automatically.

After the Router has been reset, the home page will appear. Confirm that you have a DSL link and that the PPP Status displays **UP.** (If necessary, click **Connect** to establish your PPP session.)

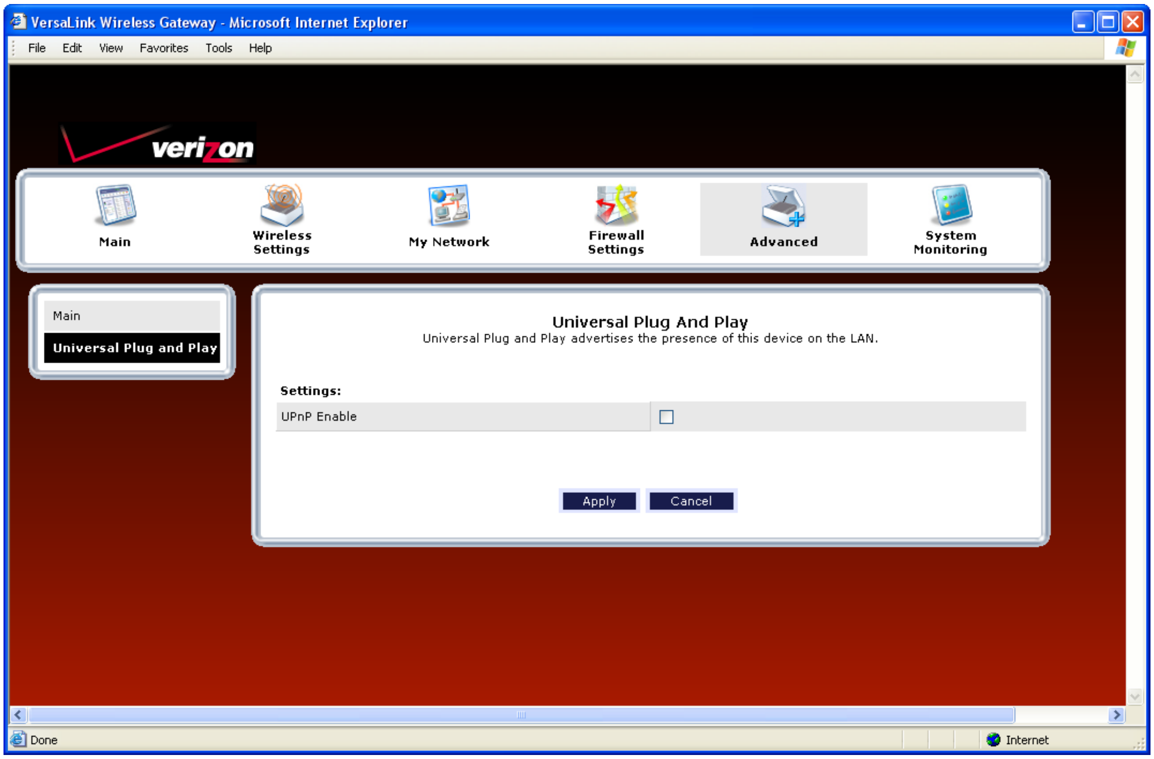
15.12 Universal Plug and Play

In the **Advanced** screen, click **Universal Plug and Play.** This feature advertises the presence of your Router on the LAN.

To enable UPnP in your Router, do the following:

1. Click the **UPnP Enable** box (a check mark will appear in the box).
2. Click **Apply** to allow the change to take effect.
3. Click **OK** in the pop-up screen to reset the Router.

NOTE: By factory default UPnP is disabled. If you have previously enabled UPnP and now want to disable it, click the **UPnP Enable** box to remove the check mark, and then click **Apply**.



Universal Plug And Play

Universal Plug and Play advertises the presence of this device on the LAN.

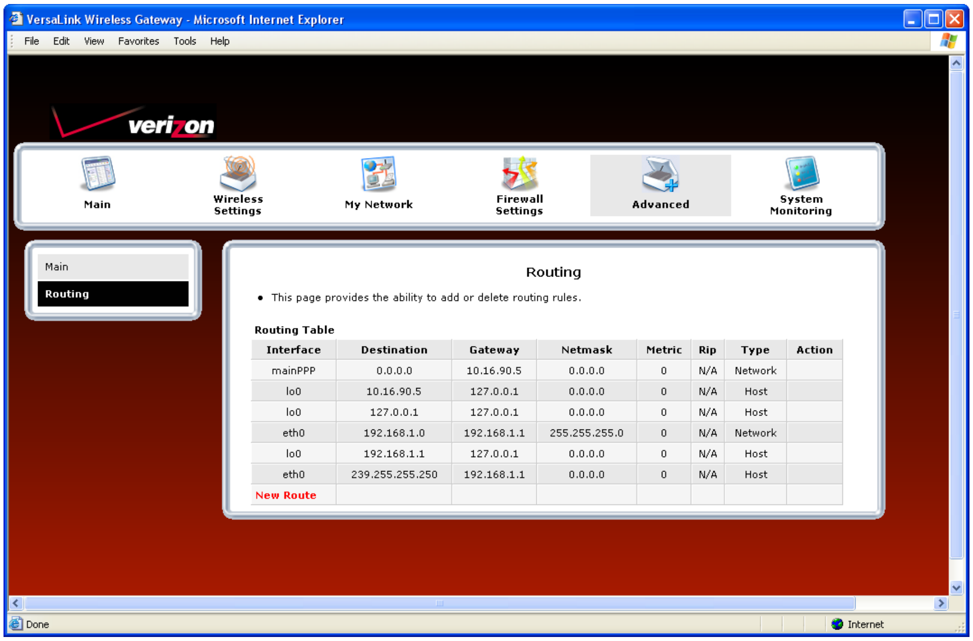
Settings:

UPnP Enable □

15.13 Routing

In the **Advanced** screen, click **Routing**. The Routing table maintains the routes or paths of where specific types of data shall be routed across a network.

To add a new static route in the Router, click **New Route.**



Routing

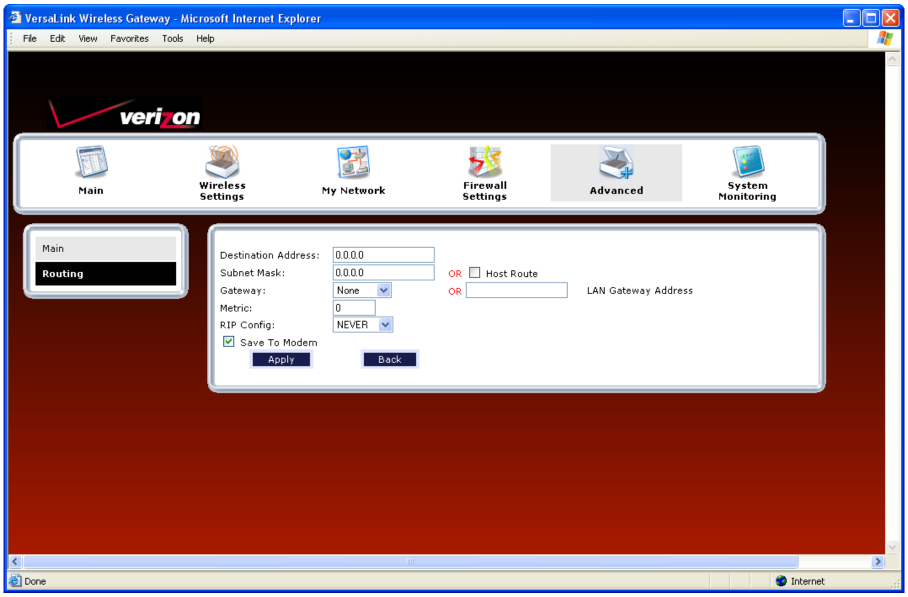
- This page provides the ability to add or delete routing rules.

Routing Table

Interface	Destination	Gateway	Netmask	Metric	Rip	Type	Action
mainPPP	0.0.0.0	10.16.90.5	0.0.0.0	0	N/A	Network	
lo0	10.16.90.5	127.0.0.1	0.0.0.0	0	N/A	Host	
lo0	127.0.0.1	127.0.0.1	0.0.0.0	0	N/A	Host	
eth0	192.168.1.0	192.168.1.1	255.255.255.0	0	N/A	Network	
lo0	192.168.1.1	127.0.0.1	0.0.0.0	0	N/A	Host	
eth0	239.255.255.250	192.168.1.1	0.0.0.0	0	N/A	Host	
New Route							

Routing	
IP Interfaces	The list of active interfaces on the Router and their IP and Subnet mask address. eth0 is the local LAN interface. lo0 is the loopback interface. mainPPP is the WAN interface
Destination	The IP address or subnet of the Route.
Gateway	Indicates were to send the packet if it matches this route.
Netmask	If the Route is a Network route, Subnet Mask is used to specify the subnet address. If the Route is a Host route, then the Host Route check box should be selected.
Metric	The RIP metric to be assigned to this route if and when it is advertised using RIP.
RIP	Indicates whether a static route should be advertised via RIP.
Type	Indicates the type of route: Network route or Host route.

If you clicked **New Route,** the following screen will appear. Enter the appropriate values in the fields, and then click **Apply**.



Destination Address: 0.0.0.0

Subnet Mask: 0.0.0.0 OR □ Host Route

Gateway: None OR LAN Gateway Address

Metric: 0

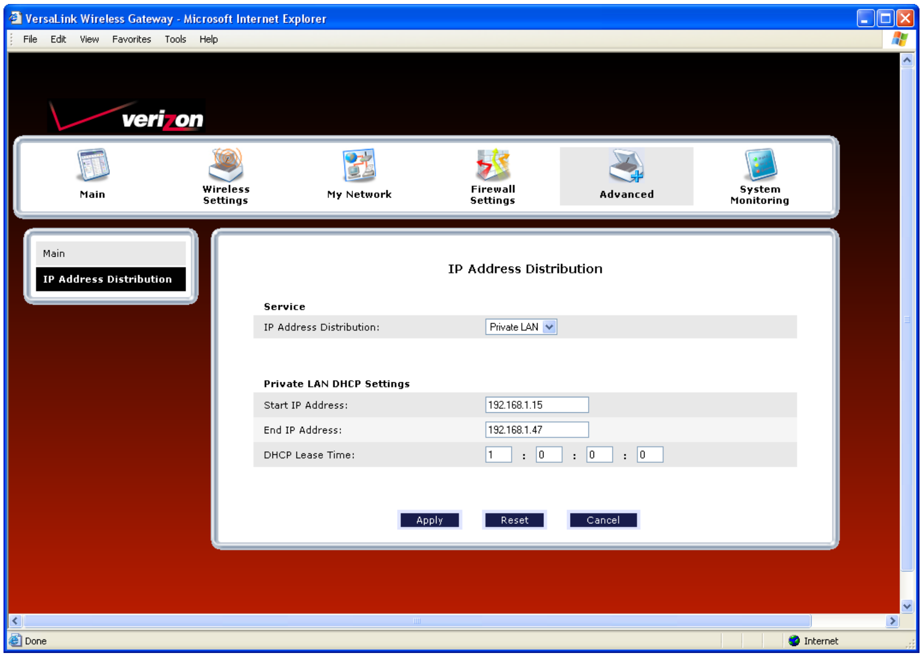
RIP Config: NEVER

☑ Save To Modem

Apply Back

15.14 IP Address Distribution

In the **Advanced** screen, click **IP Address Distribution.** The following screen will appear. IP Address Distribution allows you to configure the Router's DHCP server to automatically assign IP address to local devices connected to your LAN.



IP Address Distribution

Service

IP Address Distribution: Private LAN

Private LAN DHCP Settings

Start IP Address: 192.168.1.15

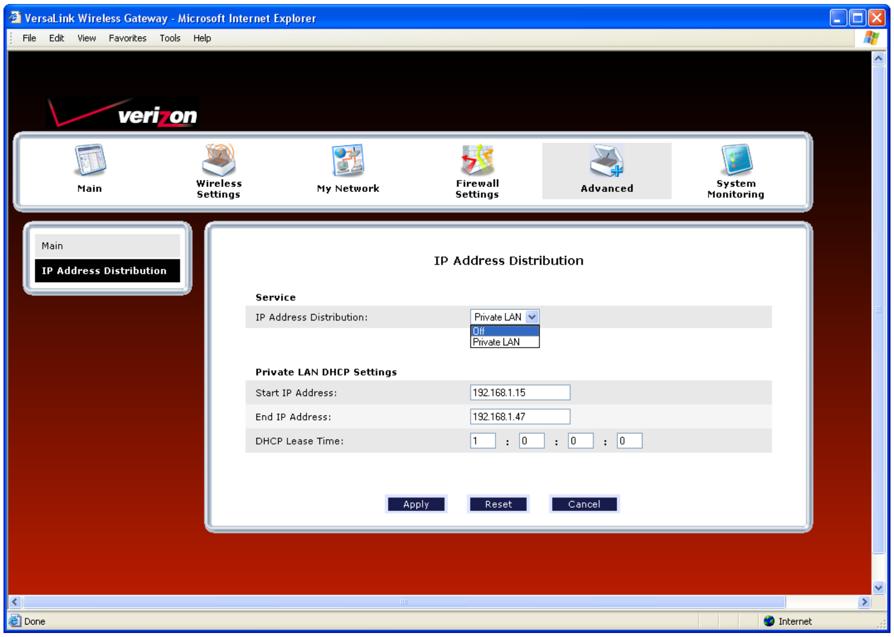
End IP Address: 192.168.1.47

DHCP Lease Time: 1 : 0 : 0 : 0

Apply Reset Cancel

IP Address Distribution	
IP Address Distribution	Factory Default = Private LAN This setting allows VersaLink to automatically assign IP addresses to local devices connected to the LAN. Off = DHCP Server is disabled Private LAN = DHCP addresses will be issued from the Private LAN DHCP server.
Start IP Address	Factory Default = 192.168.1.15 This field displays the first IP address that the DHCP server will provide. The DHCP Start Address must be within the IP address and lower than the DHCP End Address. You can use any number from 0 to 254 in this address.
End IP Address	Factory Default = 192.168.1.47 This field displays the last IP address that the DHCP server will provide. The DHCP End Address must be within the IP address and higher than the DHCP Start Address. You can use any number from 0 to 254 in this address.
DHCP Lease Time	Factory Default = 01:00:00:00 Displays the amount of time the provided addresses will be valid, after which the DHCP client will usually resubmit a request. Note: This value must be greater than 10 seconds. Seconds must be between 0 and 59, minutes must be between 0 and 59, and hours must be between 0 and 23.

By default Private LAN is already enabled. To disable the Private LAN DHCP server, select **Off** from the **IP Address Distribution** drop-down menu.



IP Address Distribution

Service

IP Address Distribution: Private LAN

Private LAN DHCP Settings

Start IP Address: 192.168.1.15

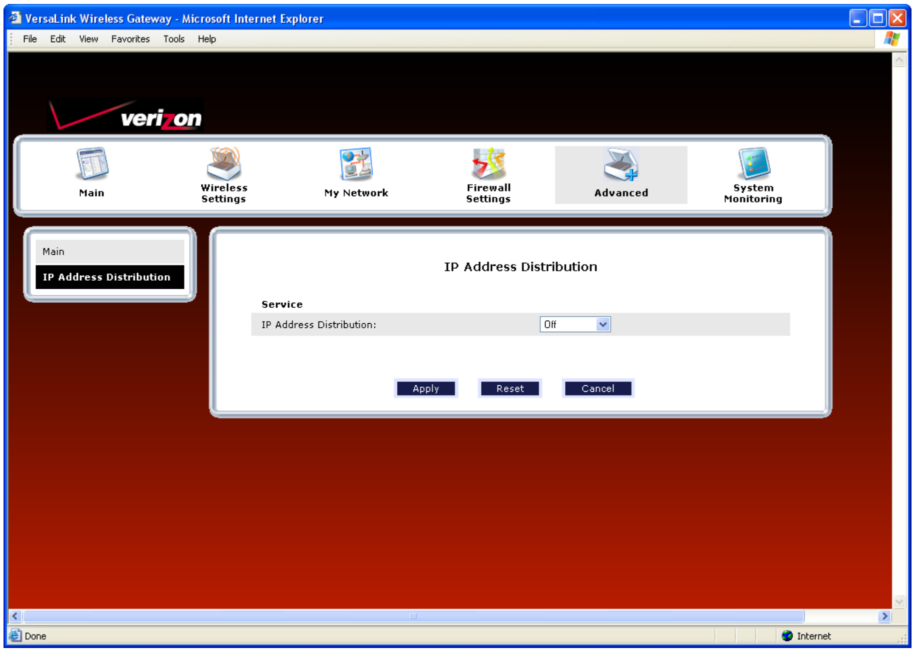
End IP Address: 192.168.1.47

DHCP Lease Time: 1 : 0 : 0 : 0

If you selected **Off**, the following screen will appear. Click **Apply** to save the settings. If you click **Reset**, the screen will refresh, and the previously saved settings will remain active.

IMPORTANT:

1. Whenever you change the settings in a screen, the screen will display the changes; however, you must click **Apply** to allow the changes to take effect in the Router. (**Private LAN** is the default for **DHCP Server.**)
2. After you disable the Private LAN DHCP server, reboot your computer to allow the changes to take effect.



IP Address Distribution

Service

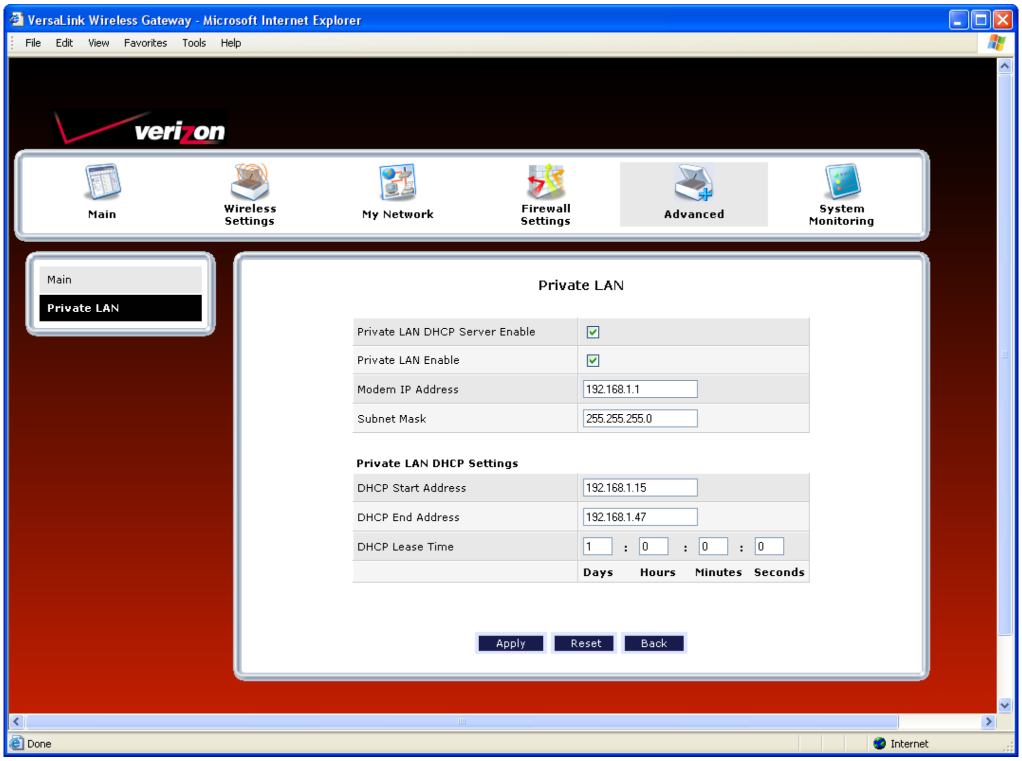
IP Address Distribution: Off

15.15 Private LAN—Configuring NAT

In the **Advanced** screen**,** click **Private LAN**. The following screen will appear. Private LAN allows you to set up a network behind your Router.

If you change the settings in this screen, click **Apply.** If you click **Reset**, the screen will refresh and the previously saved settings will remain active.

IMPORTANT: Whenever you change the settings in a screen, the screen will display the changes; however, you must click **Apply** to allow the changes to take effect in the Router. (**Private LAN** is the default setting for VersaLink.)



Private LAN

Private LAN DHCP Server Enable	☑
Private LAN Enable	☑
Modem IP Address	192.168.1.1
Subnet Mask	255.255.255.0

Private LAN DHCP Settings

DHCP Start Address	192.168.1.15
DHCP End Address	192.168.1.47
DHCP Lease Time	1 : 0 : 0 : 0 Days Hours Minutes Seconds

Private LAN	
Private LAN DHCP Server Enable	Default = Enabled If this box contains a check mark, this enables DHCP addresses to be served from the Private LAN pool.
Private LAN Enable	Default = Enabled If this box contains a check mark, this enables the addresses from the Private LAN to use the NAT interface.
Modem IP Address	Displays the Router's IP address.
Subnet Mask	Displays the Subnet Mask, which determines what portion of an IP address is controlled by the network and which portion is controlled by the host.
DHCP Start Address	Displays the first IP address that the DHCP server will provide.
DHCP End Address	Displays the last IP address that the DHCP server will provide.
DHCP Lease Time	Displays the amount of time the provided addresses will be valid, after which the DHCP client will usually resubmit a request.

Note: The DHCP Lease Time value must be greater than 10 seconds. The default = 01:00:00:00. Seconds must be between 0 and 59, minutes must be between 0 and 59, and hours must be between 0 and 23.

If the settings you have entered in the **Private LAN Configuration** screen are incorrect, the following warning messages may be displayed in pop-up screens. If this occurs, check the settings in the **Private LAN Configuration** screen.

Warning Message	Check Private LAN DHCP Settings
Start Address is not part of the Subnet	Check the value in the DHCP Start Address field
End Address is not part of the Subnet	Check the value in the DHCP End Address field
End Address is below the Start Address	Check the value in the DHCP End Address field
Lease time must be greater than 10 seconds	Check the values in the DHCP Lease Time fields
Seconds must be between 0 and 59	Check the **Seconds** value in the DHCP Lease Time field
Minutes must be between 0 and 59	Check the **Minutes** value in the DHCP Lease Time field
Hours must be between 0 and 23	Check the **Hours** value in the DHCP Lease Time field

15.16 Public LAN—Multiple IP Address Passthrough

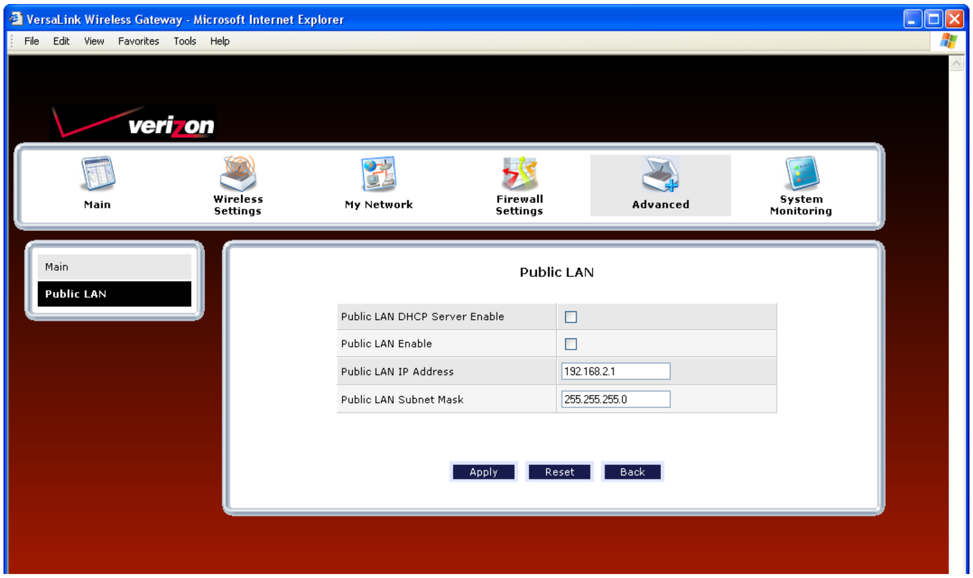
In the **Advanced** screen, click **Private LAN**. The following screen will appear. The Public LAN feature allows VersaLink to use LAN IP addresses that are accessible from the WAN. Public LAN allows your computer to have global address ability.

NOTE: To utilize the Public LAN feature in your VersaLink, Verizon must support Public LAN and Static IP. If you have questions about the feature, contact Verizon for details.

If you change the settings in this screen, click **Apply.** If you click **Reset**, the screen will refresh and the previously saved settings will remain active.

IMPORTANT: Whenever you change the Private LAN settings, the screen will display the changes; however, you must click **Apply** to allow the changes to take effect in the Router. (**Private LAN** is the default setting for VersaLink.)

To enable Public LAN, click the **Public LAN DHCP Server Enable** box (a check mark will appear in the box).



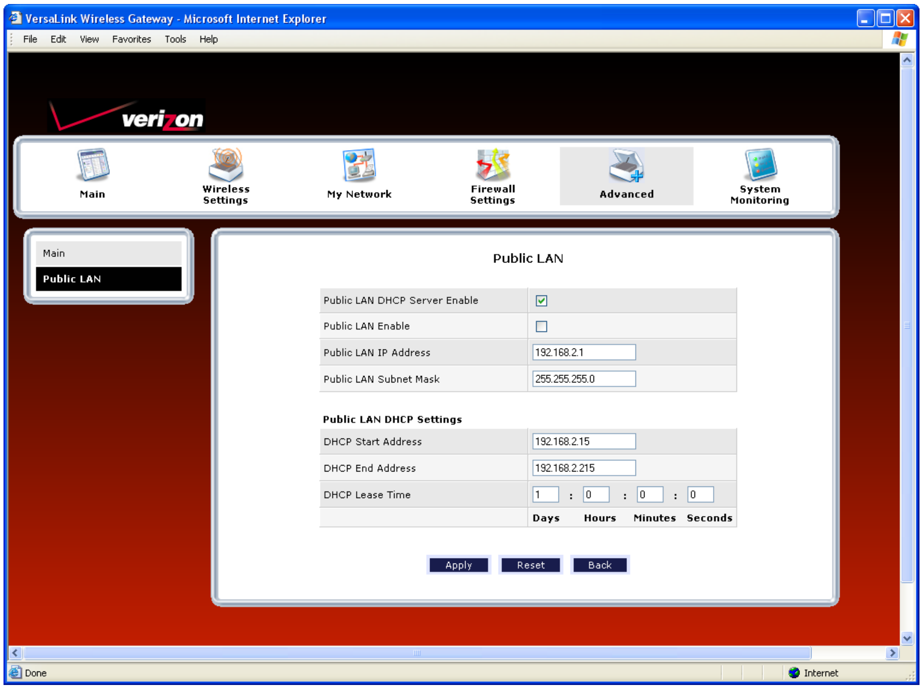
Public LAN

Public LAN DHCP Server Enable	□
Public LAN Enable	□
Public LAN IP Address	192.168.2.1
Public LAN Subnet Mask	255.255.255.0

Public LAN	
Public LAN DHCP Server Enable	Default = Disabled (deselected) If this box contains a check mark, this enables DHCP addresses to be served from the Public LAN pool.
Public LAN Enable	Default = Disabled (deselected) If this box contains a check mark, this enables the addresses from the Public LAN to bypass the NAT interface.
Public LAN IP Address	Provides a Public IP Address if the service provider does not automatically provide one.
Public LAN Subnet Mask	Provides a Public Subnet Mask if the service provider does not automatically provide one.

If you clicked the **Public LAN DHCP Server Enable** box, the following screen will appear. Click the **Public LAN Enable** box (a check mark will appear in the box).

NOTE: By enabling the Public LAN DHCP Server, you automatically disable the Router's Private LAN DHCP Server. (**Private LAN DHCP** is the default setting for VersaLink.)



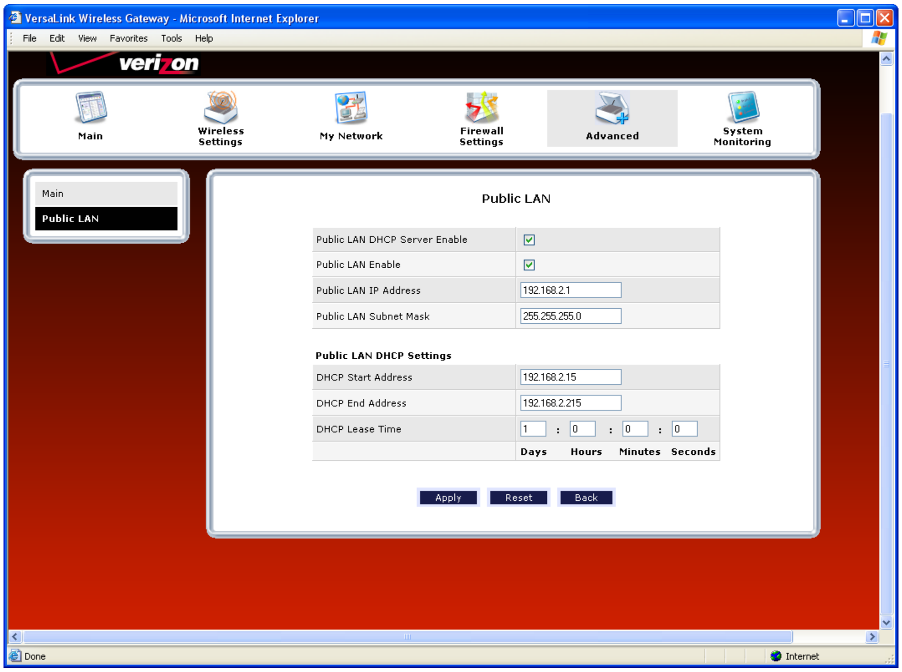
Public LAN

Public LAN DHCP Server Enable	☑
Public LAN Enable	□
Public LAN IP Address	192.168.2.1
Public LAN Subnet Mask	255.255.255.0

Public LAN DHCP Settings

DHCP Start Address	192.168.2.15			
DHCP End Address	192.168.2.215			
DHCP Lease Time	1 :	0 :	0 :	0
	Days	Hours	Minutes	Seconds

If you clicked the **Public LAN Enable** box, the following screen will appear. After you have made changes to this screen, click **Apply** to allow the settings to take effect.



Public LAN

Public LAN DHCP Server Enable	☑
Public LAN Enable	☑
Public LAN IP Address	192.168.2.1
Public LAN Subnet Mask	255.255.255.0

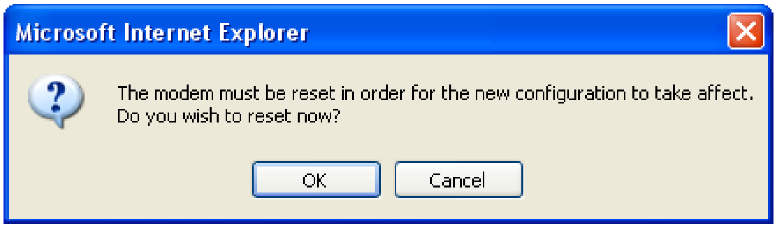
Public LAN DHCP Settings

DHCP Start Address	192.168.2.15			
DHCP End Address	192.168.2.215			
DHCP Lease Time	1 :	0 :	0 :	0
	Days	Hours	Minutes	Seconds

If the settings you have entered in the **Public LAN Configuration** screen are incorrect, the following warning messages may be appear in pop-up screens. If this occurs, check the **Public LAN Configuration** settings.

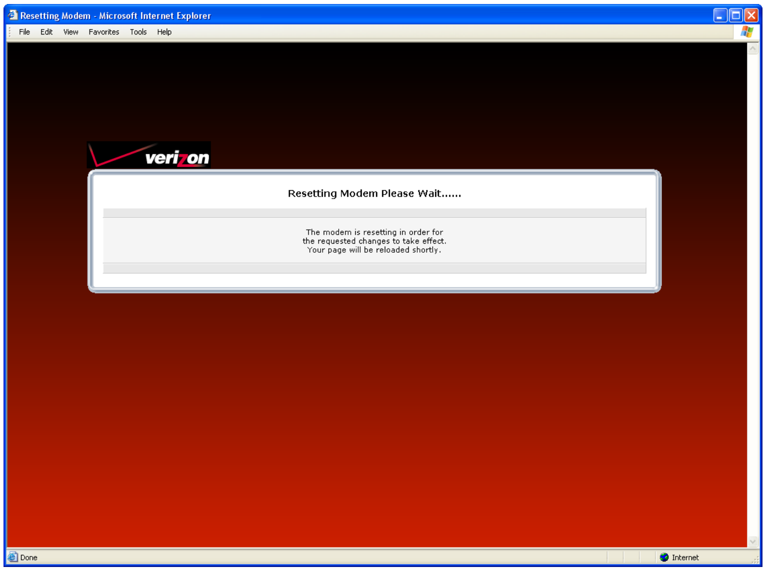
Warning Message	Check Public LAN DHCP Settings
Start Address is not part of the Subnet	Check the value in the DHCP Start Address field
End Address is not part of the Subnet	Check the value in the DHCP End Address field
End Address is below the Start Address	Check the value in the DHCP End Address field
Lease time must be greater than 10 seconds	Check the values in the DHCP Lease Time fields
Seconds must be between 0 and 59	Check the **Seconds** field at DHCP Lease Time
Minutes must be between 0 and 59	Check the **Minutes** field at DHCP Lease Time
Hours must be between 0 and 23	Check the **Hours** field at DHCP Lease Time
Note: The DHCP Lease Time value must be greater than 10 seconds. The default = 01:00:00:00. Seconds must be between 0 and 59, minutes must be between 0 and 59, and hours must be between 0 and 23.	

If you clicked **Apply** in the preceding screen, the following pop-up screen will appear. The Router must be reset to allow the new configuration to take effect. Click **OK** to continue.



The modem must be reset in order for the new configuration to take affect.
Do you wish to reset now?

If you clicked **OK**, the following screen will appear. After a brief delay, the home page will appear. Confirm that you have a DSL link and that your PPP Status displays **UP.**

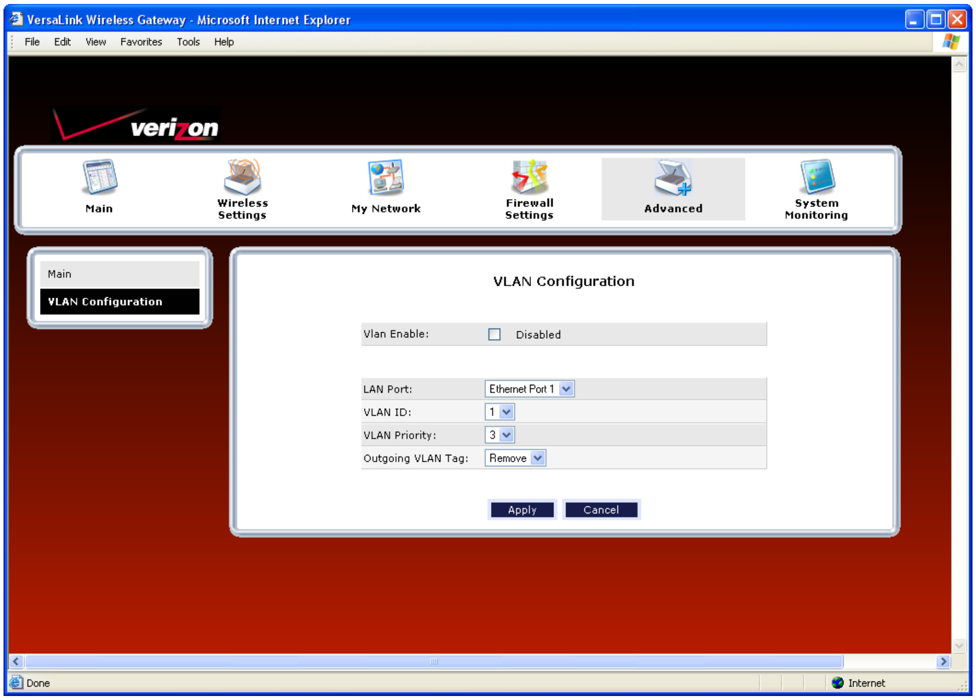

Resetting Modem - Microsoft Internet Explorer
File Edit View Favorites Tools Help
verizon
Done
Internet

Resetting Modem Please Wait......

The modem is resetting in order for the requested changes to take effect. Your page will be reloaded shortly.

15.17 VLAN Configuration

In the **Advanced** screen, click **VLAN Configuration**. The following screen will appear. When VLAN is enabled, the Router will assign VLAN tags to individual data ports on the Router. Enter the desired values, and then click **Apply** to allow the settings to take effect.

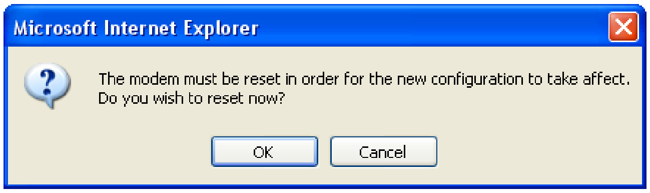


VLAN Configuration

Vlan Enable:	☐ Disabled
LAN Port:	Ethernet Port 1
VLAN ID:	1
VLAN Priority:	3
Outgoing VLAN Tag:	Remove

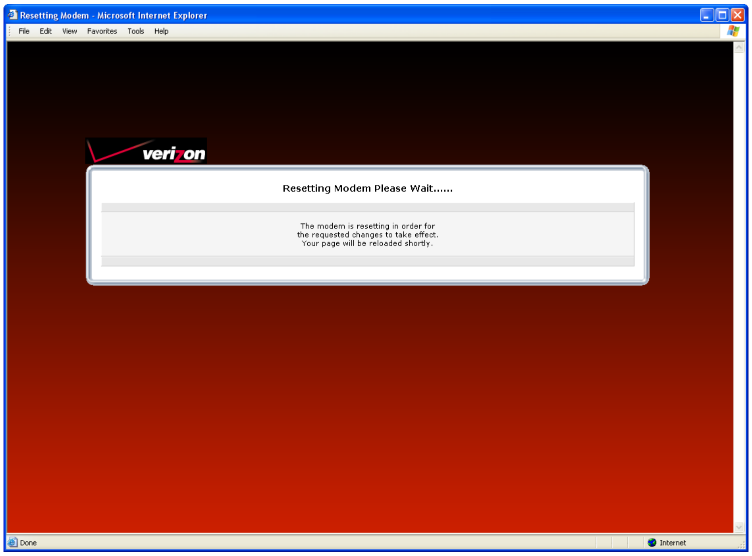
VLAN Configuration	
VLAN Enable	Factory Default = Disabled If this box is checked, VLAN will be Enabled (activated). This will allow VLAN tagging to occur according to the data port's configuration.
LAN Port	This allows you to select the LAN port that you wish to configure. Possible Responses: Ethernet Port 1 Ethernet Port 2 Ethernet Port 3 Ethernet Port 4 USB Port WLAN Port
VLAN ID	This allows you to assign a VLAN ID to the port. Possible Responses: 1 through 8
VLAN Priority	This allows you to set the VLAN priority for the port. Possible Responses: 0 through 7
Outgoing VLAN Tag	This allows you to keep or remove the VLAN tag on the port when data is outgoing.

If you clicked **Apply** in the preceding screen, the following pop-up screen will appear. The Router must be reset to allow the new configuration to take effect. Click **OK** to continue.



The modem must be reset in order for the new configuration to take affect.
Do you wish to reset now?

If you clicked **OK**, the following screen will appear. After a brief delay, the home page will be displayed. Confirm that you have a DSL link and that your PPP Status displays **UP.**



Resetting Modem Please Wait......

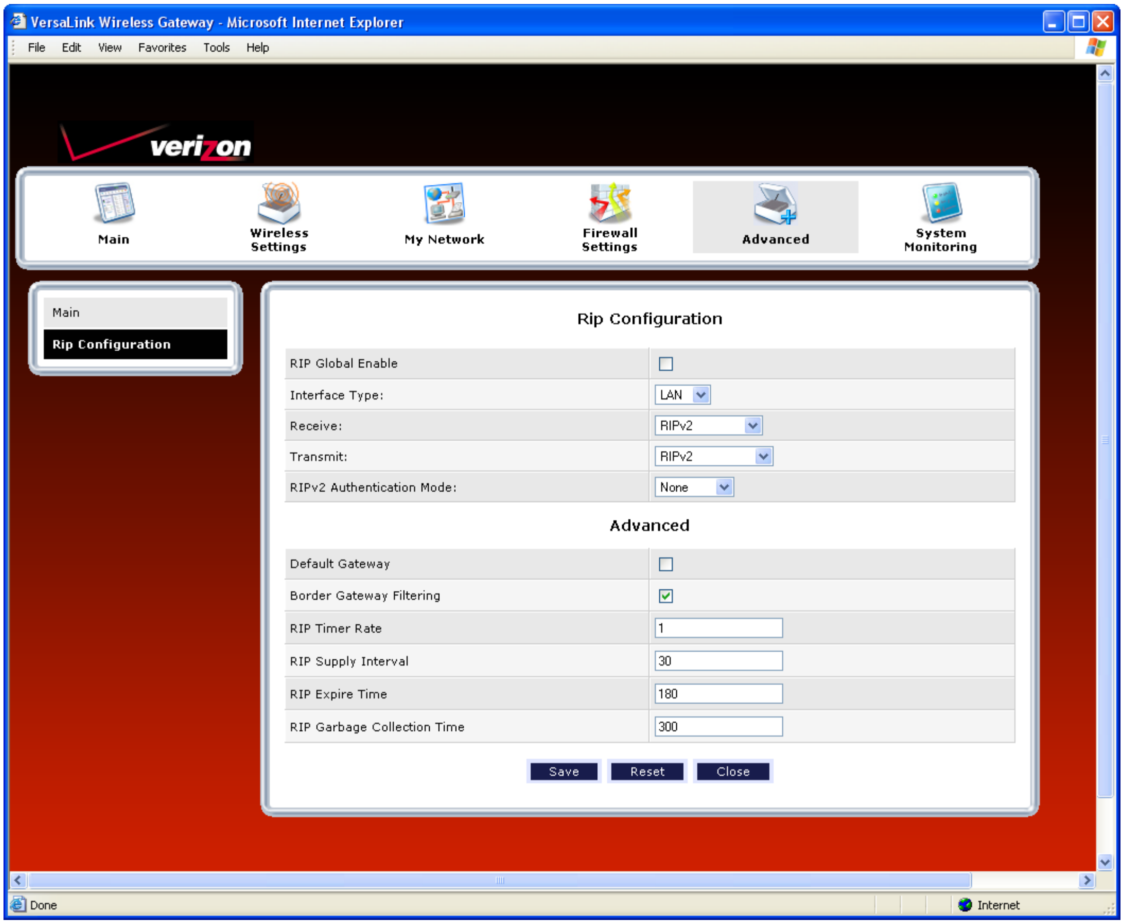
The modem is resetting in order for
the requested changes to take effect.
Your page will be reloaded shortly.

15.18 RIP Configuration

In the **Advanced** screen, click **RIP Configuration**. The following screen will appear.

RIP (Routing Interface Protocol) is a dynamic inter-network routing protocol primarily used in interior routing environments. A dynamic routing protocol, as opposed to a static routing protocol, automatically discovers routes and builds routing tables.

If you change any settings in this screen, click **Save** to save the settings. If you click **Reset,** this screen will refresh and display the previously saved RIP settings.



Rip Configuration

RIP Global Enable	□
Interface Type:	LAN
Receive:	RIPv2
Transmit:	RIPv2
RIPv2 Authentication Mode:	None

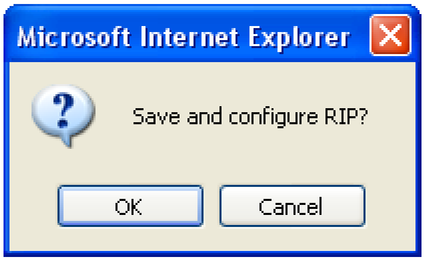
Advanced

Default Gateway	□
Border Gateway Filtering	☑
RIP Timer Rate	1
RIP Supply Interval	30
RIP Expire Time	180
RIP Garbage Collection Time	300

RIP Configuration	
RIP Global Enable	Factory Default = Disabled If this box is checked, RIP will be Enabled (activated).
Interface Type	LAN: Select this if you are configuring RIP for the LAN side. WAN: Select this if you are configuring RIP for the WAN side. (WAN side is receive only.)
Receive	The version of RIP to be accepted. Possible Responses: None RIPv1

	RIPv2 RIPv1 or RIPv2
Transmit	The version of RIP to be transmitted. (WAN side RIP never transmits) Possible Responses: None RIPv1 RIPv1 Compatible RIPv2
RIPv2 Authentication Mode	If using RIP V2, you must select the type of authentication to use. Possible Responses: None Clear Text MD5 (If MD5 authentication, the password)
Advanced	
Default Gateway	Factory Default = Disabled If this box is check (Enabled), this feature will determine whether the modem advertises itself as the default Gateway (i.e., the default route)
Border Gateway Filtering	Factory Default = Enabled If this box is cleared (Disabled), the modem will not summarize subnets into a single route before advertising.
RIP Timer Rate	Indicates how often to update the local routing table.
RIP Supply Interval	Indicates how often to advertise routes to neighbors.
RIP Expire Time	Indicates how long routes received from neighbors become invalid, if no refresh of the route is received.
RIP Garbage Collection Time	Indicates how long to advertise invalid routes after they have expired.

After you have enabled RIP and clicked **Save**, the following pop-up screen will be displayed. Click **OK** to save and configure RIP.



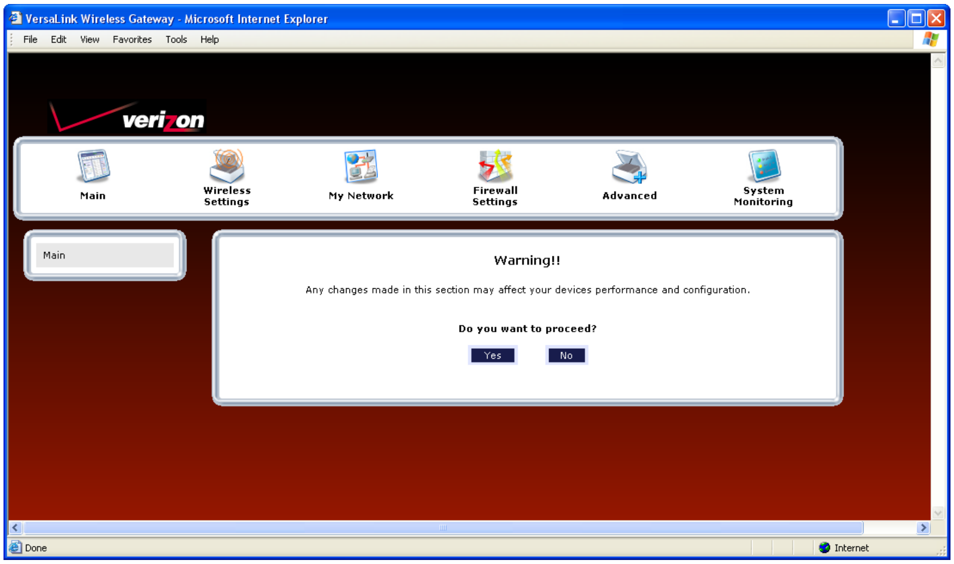
Save and configure RIP?

16. SYSTEM MONITORING

If you click **System Monitoring** in the top navigational menu, a warning screen will display the following message:

> **Any changes made in this section may affect your device's performance and configuration. Do you want to proceed?**

Click **Yes** to proceed.



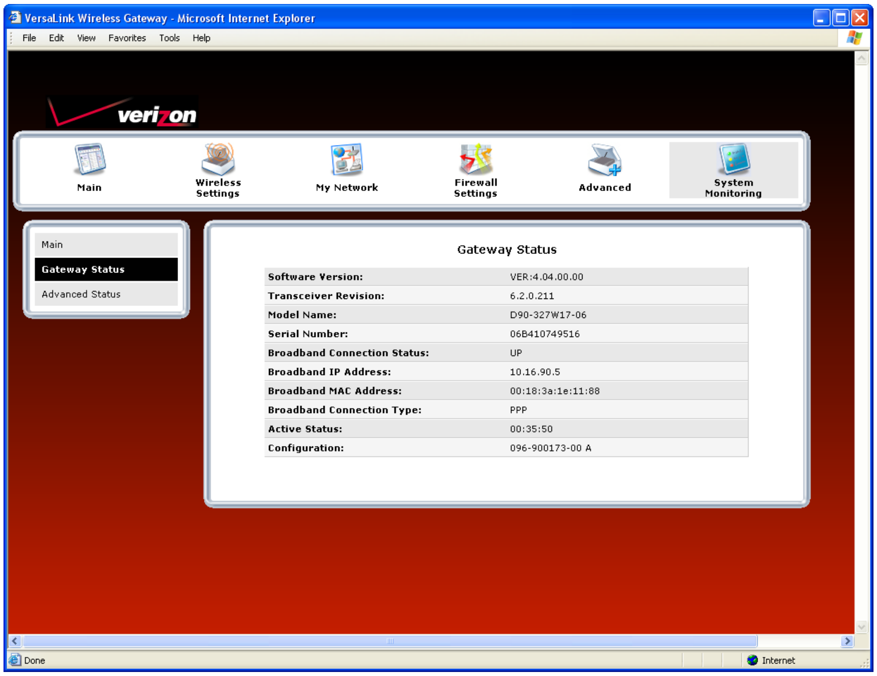
Warning!!

Any changes made in this section may affect your devices performance and configuration.

Do you want to proceed?

16.1 Gateway Status

If you clicked **Yes** in the warning screen, the following **Gateway Status** screen will appear. This screen allows you to view details about your Router.



Gateway Status

Software Version:	VER:4.04.00.00
Transceiver Revision:	6.2.0.211
Model Name:	D90-327W17-06
Serial Number:	06B410749516
Broadband Connection Status:	UP
Broadband IP Address:	10.16.90.5
Broadband MAC Address:	00:18:3a:1e:11:88
Broadband Connection Type:	PPP
Active Status:	00:35:50
Configuration:	096-900173-00 A

Gateway Status	
Software Version	VersaLink’s software version.
Transceiver Revision	VersaLink’s transceiver version.
Model Name	VersaLink manufacturer’s model name.
Serial Number	VersaLink’s serial number.

Broadband Connection Status	The status of your Internet connection.
	Up = Internet connection established
	Down = No Internet connection established

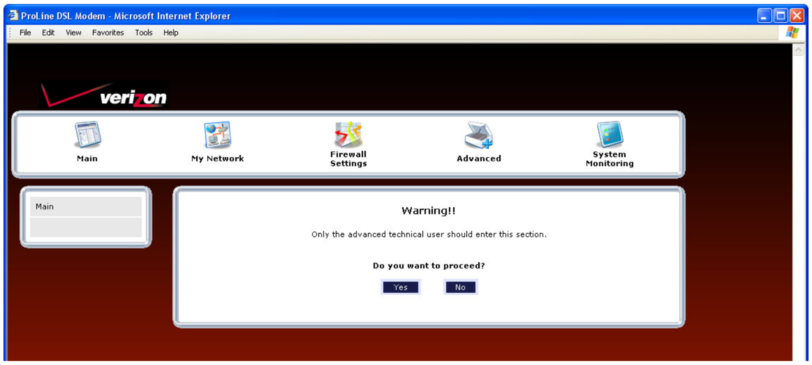
Broadband IP Address	VersaLink’s WAN IP Address, assigned or provided by Verizon.
Broadband MAC Address	Media Access Controller (MAC) i.e., hardware address of this device, assigned by the manufacturer.
Broadband Connection Type	The protocol used to establish an Internet connection with Verizon.
Active Status	The duration that VersaLink has been in use (measured in hours: minutes: seconds).
Configuration	Proprietary configuration number for VersaLink.

16.2 Advanced Status

If you select **System Monitoring** in the top navigational menu, and then click **Advanced Status** in the menu options at the left of the screen, a warning screen will display the following message:

> **Any changes made in this section may affect your device's performance and configuration. Do you want to proceed?**

Click **Yes** to proceed.


ProLine DSL Modem - Microsoft Internet Explorer
File Edit View Favorites Tools Help
verizon
Main
My Network
Firewall Settings
Advanced
System Monitoring
Main
Yes
No

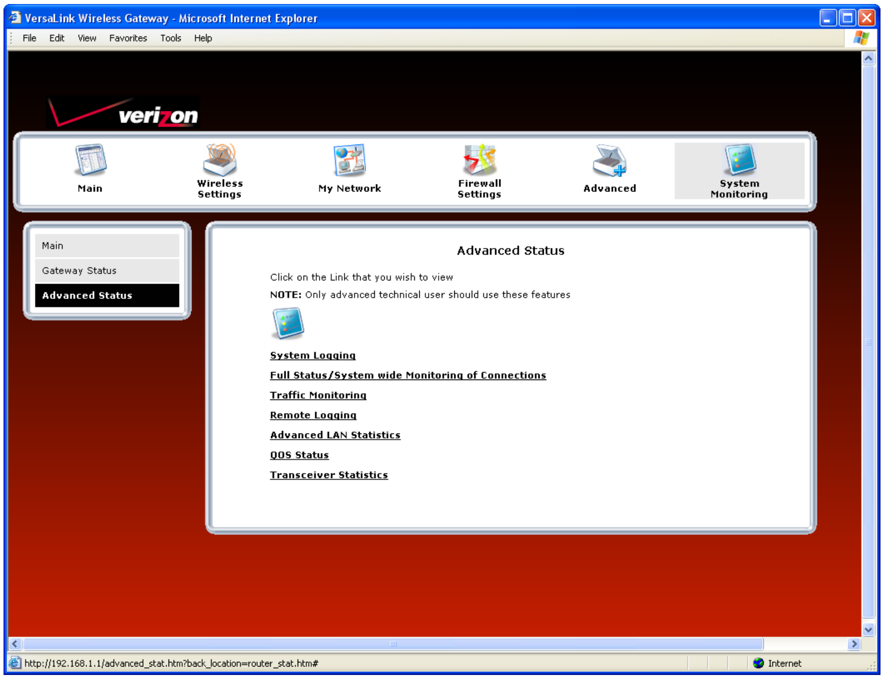
Warning!!

Only the advanced technical user should enter this section.

Do you want to proceed?

If you clicked **Yes**, in the **Warning** screen, the following screen will appear. From this screen, you can access various logging and monitoring information recorded by your Router. Click the desired link to go to that screen.

NOTE: Only advanced users should use these features. If you need to reset the Router to factory default settings, press the reset button on the rear of the Router. Or follow the instructions in section 15.2, "Restore Defaults," to restore the Router to factory default settings.



Advanced Status

Click on the Link that you wish to view

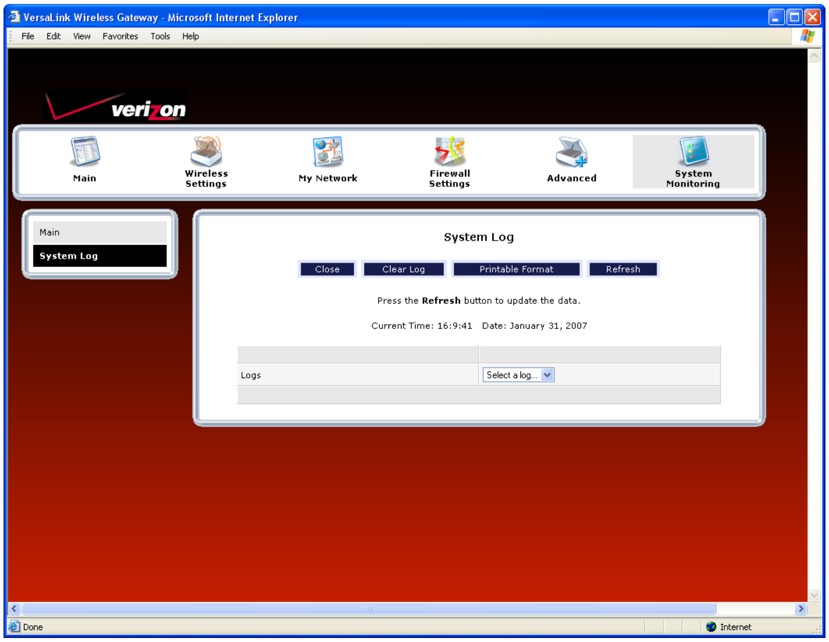
NOTE: Only advanced technical user should use these features

System Logging
Full Status/System wide Monitoring of Connections
Traffic Monitoring
Remote Logging
Advanced LAN Statistics
QOS Status
Transceiver Statistics

http://192.168.1.1/advanced_stat.htm?back_location=router_stat.htm#

16.2.1 System Logging

In the **Advanced Status** screen, click **System Logging**. The following screen will be displayed.



System Log

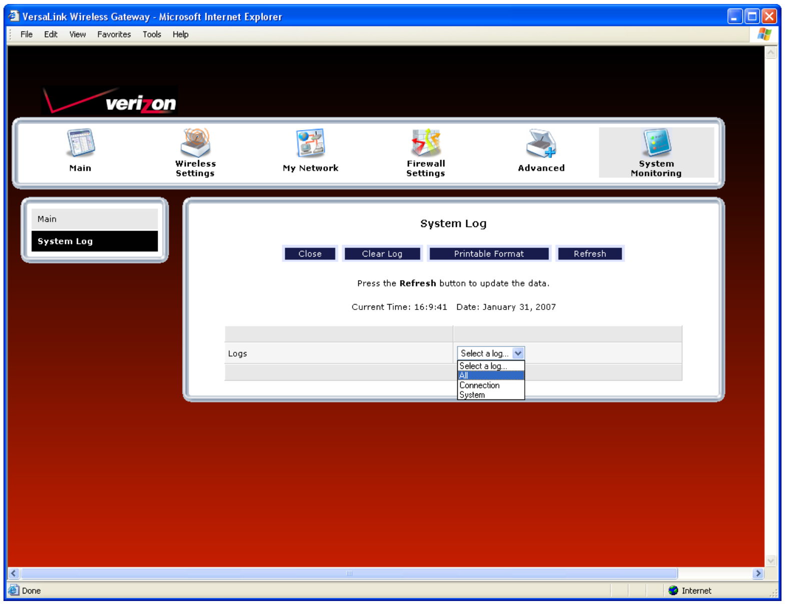
Press the **Refresh** button to update the data.

Current Time: 16:9:41 Date: January 31, 2007

Logs	Select a log...

At the **Logs** drop-down menu, do any of the following:

- Select **All** to list both Connection and System logs.
- Select **Connection** to list all events related to connection activity (any traffic on the USB, Ethernet, or DSL ports).
- Select **System** to list all events related to system activity (Time, Errors, Boot Information, etc.)



System Log

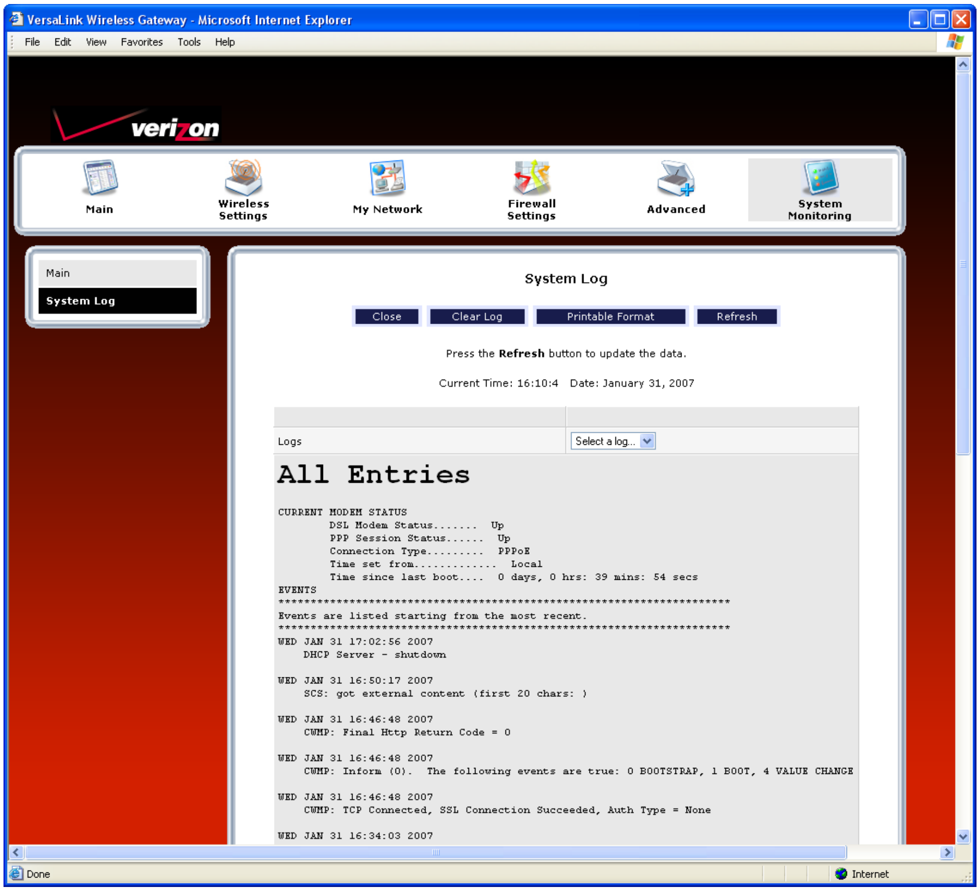
Press the **Refresh** button to update the data.

Current Time: 16:9:41 Date: January 31, 2007

Logs	Select a log...

If you selected **All** from the **Logs** drop-down menu, the following screen will appear. You may need to scroll down to the bottom of the logs screen to view all the logged events. After you have viewed the logs, do any of the following:

- Click **Close** to close the logs page and to return to the Advanced Status screen.
- Click **Clear Log** to clear the logs screen.
- Click **Printable Format** to save a copy of the logs to a location on your computer.
- Click **Refresh** to update the logs screen so that it displays the most current information.



System Log

Press the **Refresh** button to update the data.

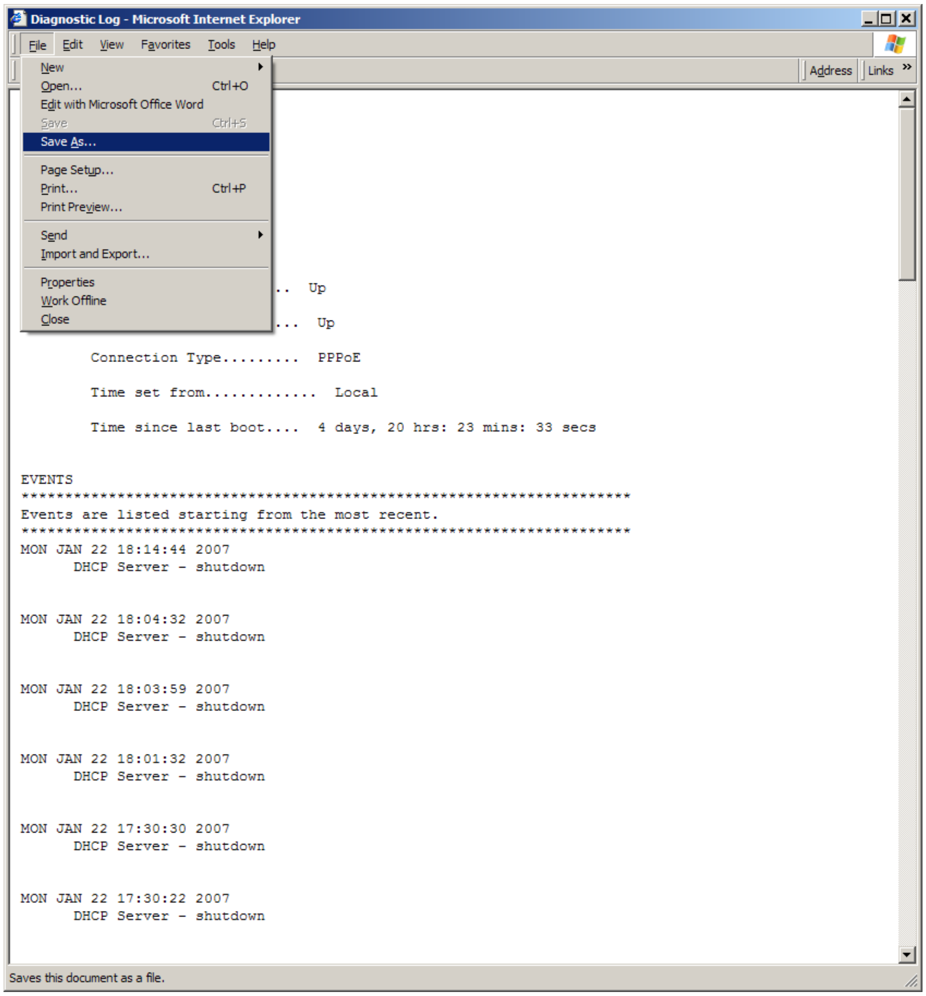
Current Time: 16:10:4 Date: January 31, 2007

Logs

All Entries

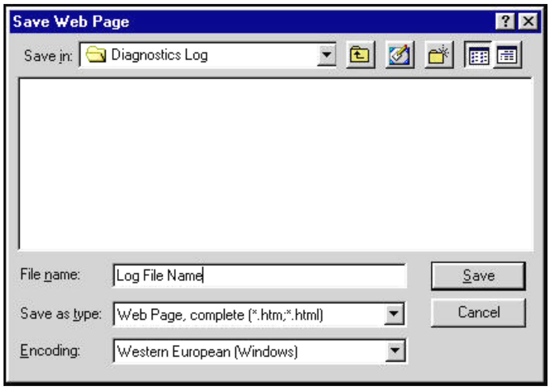
```
CURRENT MODEM STATUS
        DSL Modem Status.......  Up
        PPP Session Status......  Up
        Connection Type.........  PPPoE
        Time set from............  Local
        Time since last boot....  0 days, 0 hrs: 39 mins: 54 secs
EVENTS
**********************************************************************
Events are listed starting from the most recent.
**********************************************************************
WED JAN 31 17:02:56 2007
    DHCP Server - shutdown

WED JAN 31 16:50:17 2007
    SCS: got external content (first 20 chars: )

WED JAN 31 16:46:48 2007
    CWMP: Final Http Return Code = 0

WED JAN 31 16:46:48 2007
    CWMP: Inform (0).  The following events are true: 0 BOOTSTRAP, 1 BOOT, 4 VALUE CHANGE

WED JAN 31 16:46:48 2007
    CWMP: TCP Connected, SSL Connection Succeeded, Auth Type = None

WED JAN 31 16:34:03 2007
```

To save a copy of the logs to a location on your computer, in the **System Log** page, click **Printable Format.** The following screen will appear. Click **File > Save As** from the menu options, and then save the file to the desired location.



```
                                        ..  Up

                                        ...  Up

        Connection Type.........  PPPoE

        Time set from............  Local

        Time since last boot....  4 days, 20 hrs: 23 mins: 33 secs


EVENTS
**********************************************************************
Events are listed starting from the most recent.
**********************************************************************
MON JAN 22 18:14:44 2007
      DHCP Server - shutdown


MON JAN 22 18:04:32 2007
      DHCP Server - shutdown


MON JAN 22 18:03:59 2007
      DHCP Server - shutdown


MON JAN 22 18:01:32 2007
      DHCP Server - shutdown


MON JAN 22 17:30:30 2007
      DHCP Server - shutdown


MON JAN 22 17:30:22 2007
      DHCP Server - shutdown
```

At the **Save Web Page** dialog box, select a destination for your log file from the **Save in** drop-down menu. Next, enter a name for your log file in the field labeled **File name,** and then click **Save** to save the log file.



Save in: Diagnostics Log

File name: Log File Name

Save as type: Web Page, complete (*.htm;*.html)

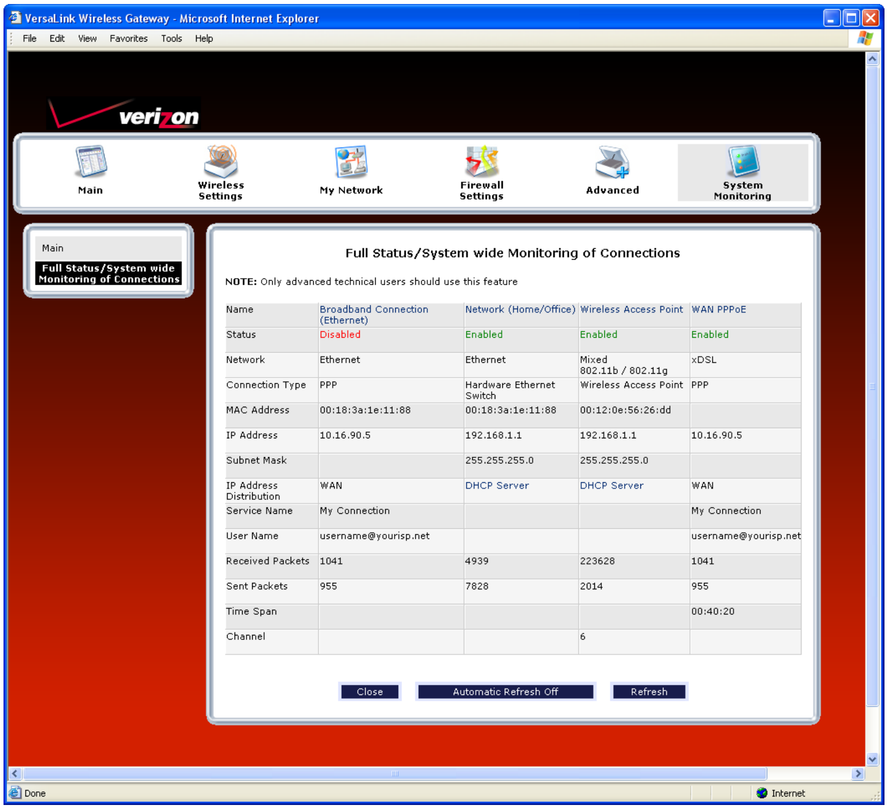
Encoding: Western European (Windows)

16.2.2 Full Status/System-wide Monitoring of Connections

In the **Advanced Status** screen, click **Full Status/System-wide Monitoring of Connection.** The following screen will be displayed. After viewing the details of your Router's connection, you can do any of the following:

- Click the **Broadband Connection** link to go to the VersaPort page and edit your broadband settings. Refer to section 13.2.3 for additional details on this feature.
- Click the **Network (Home/Office)** link to go to the Private LAN DHCP page and edit your Private LAN DHCP settings. Refer to section 15.15 for additional details on this feature.
- Click **Wireless Access Point** link to go to the Basic Security Settings page and edit your wireless settings. Refer to section 12.1 for additional details on this feature.
- Click the **WAN PPPoE** link to go to the Advanced DSL Configuration page and edit your connection settings. Refer to section 13.2.2 for additional details on this feature.
- Click the **DHCP Server** link to go to the Private LAN page and edit your Private LAN DHCP Server settings. Refer to section 15.14 for additional details on this feature.
- Click the **Close** button to return to the **Advanced Status** screen.
- Click the **Automatic Refresh Off/On** button to turn on or turn off the screen's automatic refresh feature.
- Click the **Refresh** button to manually refresh the screen.

NOTE: When the Automatic Refresh button displays **Automatic Refresh Off,** this means that the auto-refresh feature is turned Off. Click the Automatic Refresh button to turn on automatic refresh. When the button displays **Automatic Refresh On**, the page will refresh automatically.


VersaLink Wireless Gateway - Microsoft Internet Explorer
File Edit View Favorites Tools Help
verizon
Main
Wireless Settings
My Network
Firewall Settings
Advanced
System Monitoring
Main
Full Status/System wide Monitoring of Connections
Close
Automatic Refresh Off
Refresh
Done
Internet

Full Status/System wide Monitoring of Connections

NOTE: Only advanced technical users should use this feature

Name	Broadband Connection (Ethernet)	Network (Home/Office)	Wireless Access Point	WAN PPPoE
Status	Disabled	Enabled	Enabled	Enabled
Network	Ethernet	Ethernet	Mixed 802.11b / 802.11g	xDSL
Connection Type	PPP	Hardware Ethernet Switch	Wireless Access Point	PPP
MAC Address	00:18:3a:1e:11:88	00:18:3a:1e:11:88	00:12:0e:56:26:dd	
IP Address	10.16.90.5	192.168.1.1	192.168.1.1	10.16.90.5
Subnet Mask		255.255.255.0	255.255.255.0	
IP Address Distribution	WAN	DHCP Server	DHCP Server	WAN
Service Name	My Connection			My Connection
User Name	username@yourisp.net			username@yourisp.net
Received Packets	1041	4939	223628	1041
Sent Packets	955	7828	2014	955
Time Span				00:40:20
Channel			6	

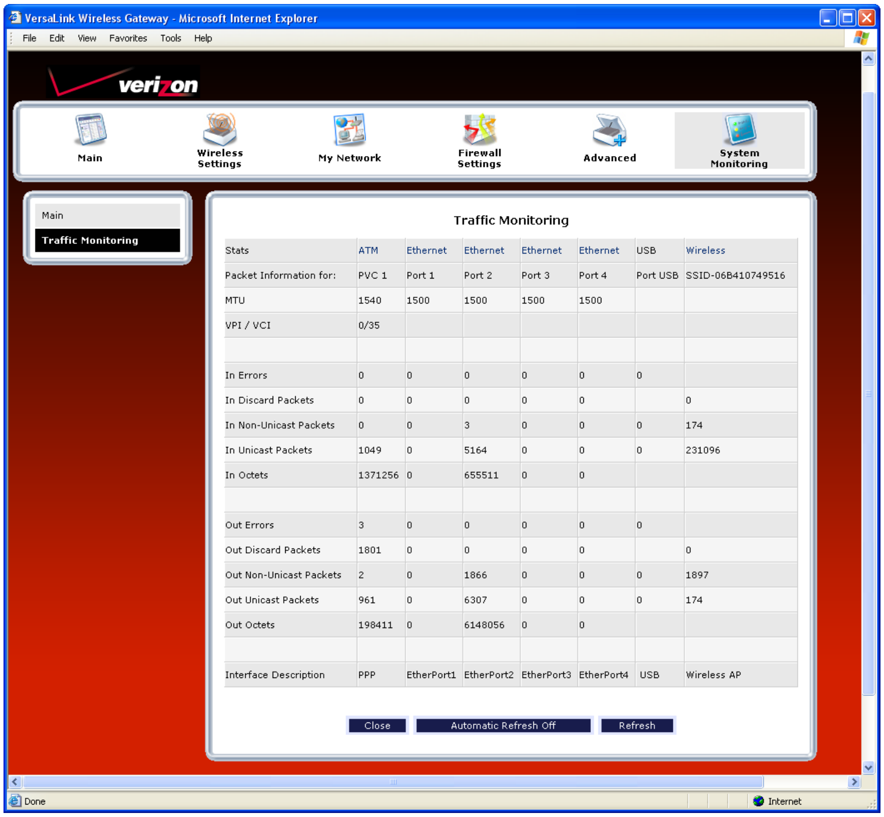
Full Status/System-wide Monitoring of Connections	
Name	A descriptor used to identify the Router's connection type Network (Home/Office)-Displays information about the Routers LAN connection WAN PPPoE-Displays information about the Router's WAN/Braodband connection
Status	The status of the connection (Enabled/Disabled)
Network	Ethernet- The the interface used to connect the Router to your LAN xDSL - The interface used to connect to the Router to the WAN
Connection Type	Hardware Ethernet Port- The physical connection type; the hardware used for the LAN connection PPP the virtual connection type; the protocol use for WAN/Braodband connection
MAC Address	The Media Access Controller; the hardware address assigned to the deviced by the manufacturer
IP Address	The Router's LAN and WAN/Braodband IP Addresses
Subnet Mask	Displays the Router's Subnet Mask, which determines what portion of an IP address is controlled by the network and which portion is controlled by the host
IP Address Distribution	The method by which IP address are allocated to devices on your LAN
Service Name	The connection profile name to used to establish your Internet connection
User Name	The user name (Account ID) used to identify you to Verizon and to establish your Internet connection, provided by Verizon
Received Packets	The number of packets received in to the Router's LAN and WAN interfaces
Sent Packets	The number of packets sent out from the Router's LAN and WAN interfaces
Time Span	The duration your PPP session has been connected (measured in hours: minutes: seconds)

16.2.3 Traffic Monitoring

In the **Advanced Status** screen, click **Traffic Monitoring.** The following screen will be displayed. After viewing your Router's traffic details, you can do any of the following:

- Click the **ATM** link to go to the Advanced DSL Configuration page and edit your connection settings. Refer to section 13.2.2 for additional details on this feature.
- Click the **Ethernet** link to go to the Private LAN DHCP page and edit your Private LAN DHCP settings. Refer to section 15.15 for additional details on this feature.
- Click the Wireless link to go to the Basic Security Settings page and edit your wireless settings. Refer to section 12.1 for additional details on this feature.
- Click the **Close** button to return to the **Advanced Status** screen.
- Click the **Automatic Refresh Off/On** button to turn on or turn off the screen's automatic refresh feature.
- Click the **Refresh** button to manually refresh the screen.

NOTE: When the Automatic Refresh button displays **Automatic Refresh Off,** this means that the auto-refresh feature is turned off. Click the Automatic Refresh button to turn on automatic refresh. When the button displays **Automatic Refresh On**, the page will refresh automatically.



Traffic Monitoring

Stats	ATM	Ethernet	Ethernet	Ethernet	Ethernet	USB	Wireless
Packet Information for:	PVC 1	Port 1	Port 2	Port 3	Port 4	Port USB	SSID-06B410749516
MTU	1540	1500	1500	1500	1500		
VPI / VCI	0/35						
In Errors	0	0	0	0	0	0	
In Discard Packets	0	0	0	0	0		0
In Non-Unicast Packets	0	0	3	0	0	0	174
In Unicast Packets	1049	0	5164	0	0	0	231096
In Octets	1371256	0	655511	0	0		
Out Errors	3	0	0	0	0	0	
Out Discard Packets	1801	0	0	0	0		0
Out Non-Unicast Packets	2	0	1866	0	0	0	1897
Out Unicast Packets	961	0	6307	0	0	0	174
Out Octets	198411	0	6148056	0	0		
Interface Description	PPP	EtherPort1	EtherPort2	EtherPort3	EtherPort4	USB	Wireless AP

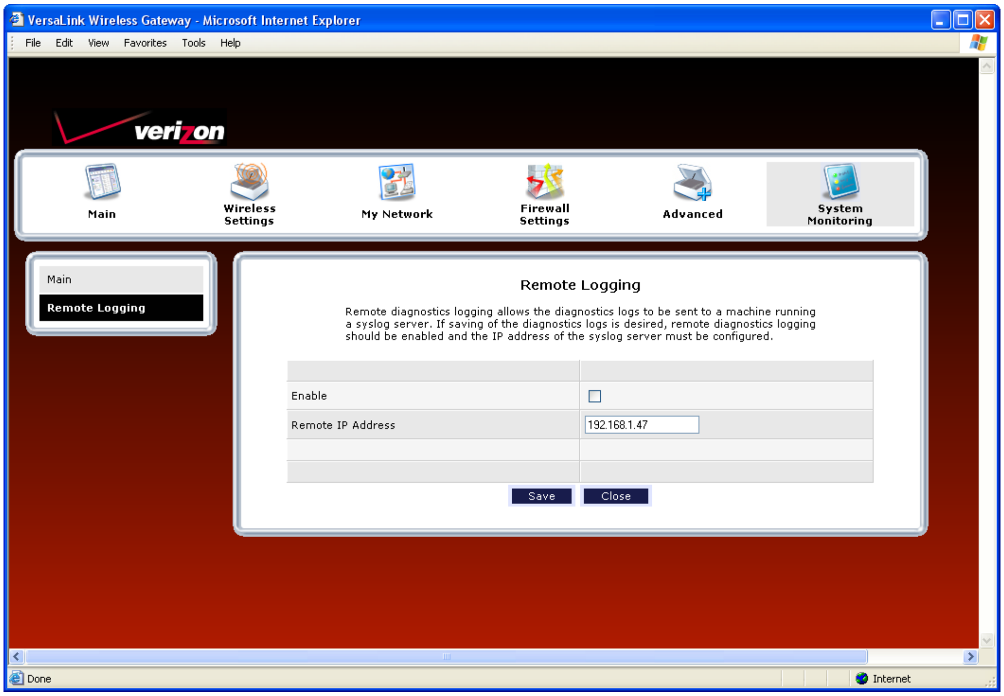
Traffic Monitoring	
Stats	Represents the statistics for each interface type: ATM, Ethernet, or USB
Packet Information for	The packet information for the interface.

VPI/VCI	The VPI/VCI values obtained from Verizon.
In Errors	The number of error packets received on the interface.
In Discard Packets	The number of discarded packets received on the interface.
In Non Unicast Packets	The number of non-Unicast packets received on the interface.
In Unicast Packets	The number of Unicast packets received on the interface.
In Octets	The number of bytes received on the interface.
Out Errors	The number of outbound packets that could not be transmitted due to errors.
Out Discard Packets	The number of outbound packets discarded.
Out Non Unicast Packets	The number of non-Unicast packets transmitted on the interface.
Out Unicast Packets	The number of Unicast packets transmitted on the interface.
Out Octets	The number of bytes transmitted on the interface.
Interface Description	A description field that refers to the interface type.

16.2.4 Remote Logging

In the **Advanced Status** screen, click **Remote Logging.** The following screen will be displayed. Remote diagnostics logging allows the diagnostics logs to be sent to a machine running a syslog server.

To save the diagnostics logs, click the **Enable** box (a check mark will appear in the box). Next, type the IP address of the syslog server in the **Remote IP Address** field. Click **Save** to save the settings.



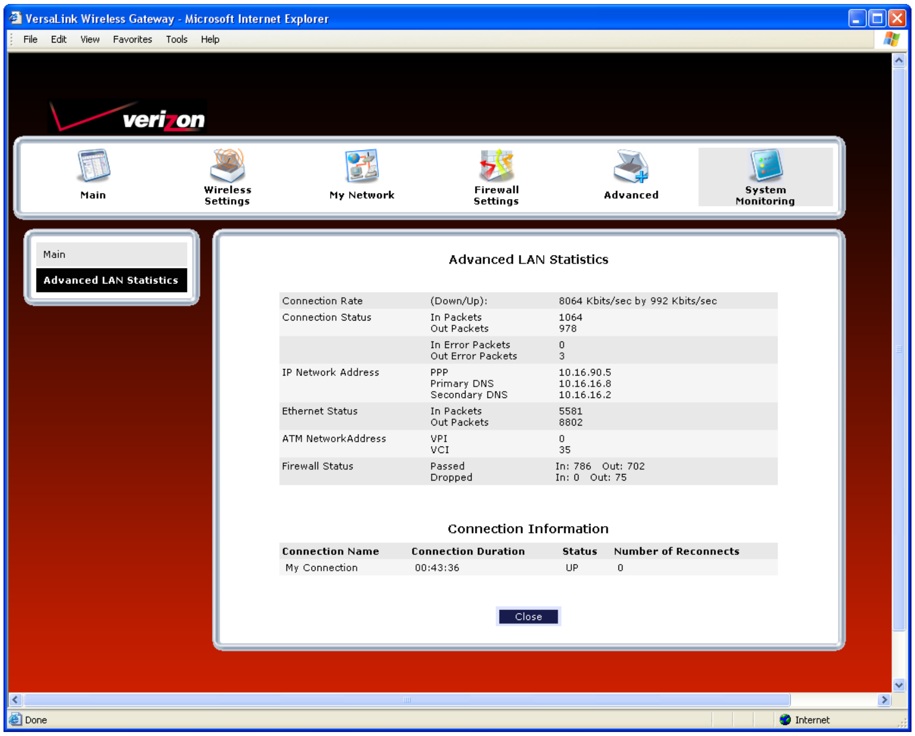
Remote Logging

Remote diagnostics logging allows the diagnostics logs to be sent to a machine running a syslog server. If saving of the diagnostics logs is desired, remote diagnostics logging should be enabled and the IP address of the syslog server must be configured.

Enable	□
Remote IP Address	192.168.1.47

16.2.5 Advanced LAN Statistics

In the **Advanced Status** screen, click **Advanced LAN Statistics.** The following screen will be displayed. After you have viewed the details in this page, click **Close** to return to the **Advanced Status** screen.



Advanced LAN Statistics

Connection Rate	(Down/Up):	8064 Kbits/sec by 992 Kbits/sec
Connection Status	In Packets Out Packets	1064 978
	In Error Packets Out Error Packets	0 3
IP Network Address	PPP Primary DNS Secondary DNS	10.16.90.5 10.16.16.8 10.16.16.2
Ethernet Status	In Packets Out Packets	5581 8802
ATM NetworkAddress	VPI VCI	0 35
Firewall Status	Passed Dropped	In: 786 Out: 702 In: 0 Out: 75

Connection Information

Connection Name	Connection Duration	Status	Number of Reconnects
My Connection	00:43:36	UP	0

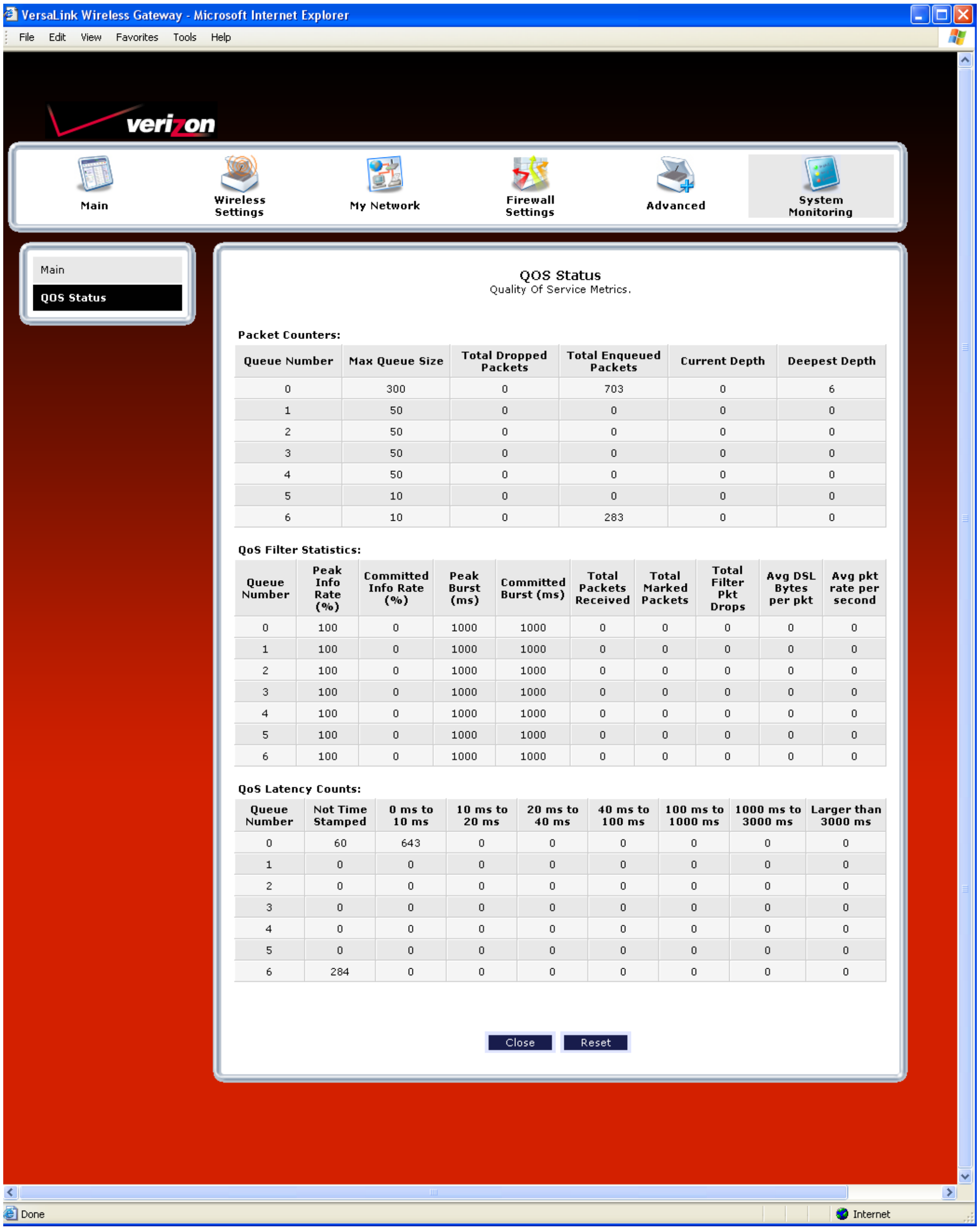
DSL Connection Information	
Connection Rate	This field will let you know if you have a DSL signal and the DSL rate at which you are connected.
Connection Status	This field will show how much information was received (IN) or sent (OUT) in packets.
IP Network Address	PPP = An IP address identifies your device on the Internet Primary DNS = Provided by your Service Provider Secondary DNS = Provided by your Service Provider
Ethernet Status	This field will display your Ethernet information that was received (IN) or sent (OUT) in packets on your Ethernet port.
ATM Network Address	This field will display your VPI and VCI values, which are provided by your ISP.
Firewall Status	This field will display your firewall traffic in packets. Passed: Monitors information traffic that was successfully received (IN) or transmitted (OUT) in packets. Dropped: Monitors information traffic that was not successfully received (IN) or transmitted (OUT) due to your firewall settings.
PPP Connection Information	
Connection Name	This is from the connection profile that you established in section 8.
Connection Duration	This field will display how long your PPP session has been connected.

Status	This field will display the status of your PPP session.
	UP=Connected
	DOWN=Disconnected

Number of Reconnects	This field will display the number of attempts that were made to establish a PPP session.

16.2.6 QOS Status

In the **Advanced Status** screen, click **QOS Status**. The following screen will be displayed. Click the **Clear** button to clear all counts and statistics (not just latency counts). Clicking **Clear** does not affect the Router's configuration. (QOS must be enabled on the Router for this table to be populated.) After you have viewed the details in this page, click **Close** to return to the **Advanced Status** screen.



QOS Status
Quality Of Service Metrics.

Packet Counters:

Queue Number	Max Queue Size	Total Dropped Packets	Total Enqueued Packets	Current Depth	Deepest Depth
0	300	0	703	0	6
1	50	0	0	0	0
2	50	0	0	0	0
3	50	0	0	0	0
4	50	0	0	0	0
5	10	0	0	0	0
6	10	0	283	0	0

QoS Filter Statistics:

Queue Number	Peak Info Rate (%)	Committed Info Rate (%)	Peak Burst (ms)	Committed Burst (ms)	Total Packets Received	Total Marked Packets	Total Filter Pkt Drops	Avg DSL Bytes per pkt	Avg pkt rate per second
0	100	0	1000	1000	0	0	0	0	0
1	100	0	1000	1000	0	0	0	0	0
2	100	0	1000	1000	0	0	0	0	0
3	100	0	1000	1000	0	0	0	0	0
4	100	0	1000	1000	0	0	0	0	0
5	100	0	1000	1000	0	0	0	0	0
6	100	0	1000	1000	0	0	0	0	0

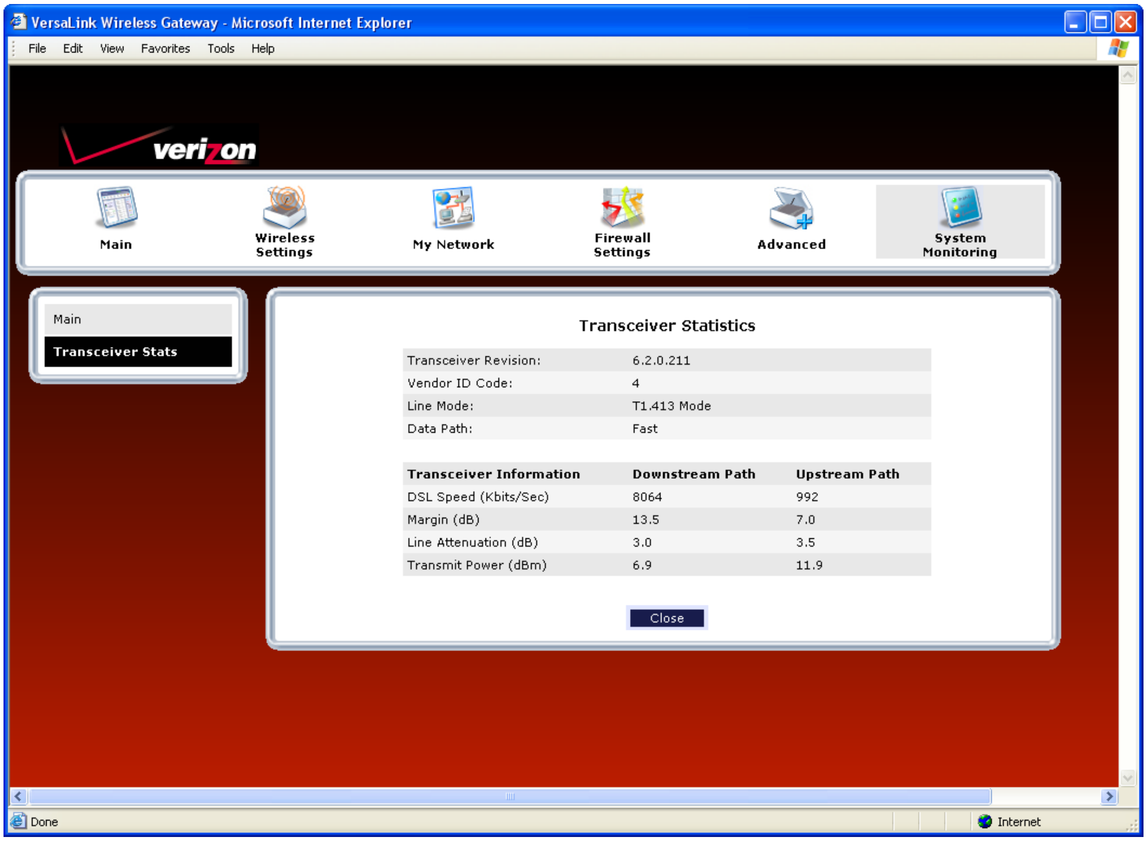
QoS Latency Counts:

Queue Number	Not Time Stamped	0 ms to 10 ms	10 ms to 20 ms	20 ms to 40 ms	40 ms to 100 ms	100 ms to 1000 ms	1000 ms to 3000 ms	Larger than 3000 ms
0	60	643	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
6	284	0	0	0	0	0	0	0

QOS Status	
Queue Number	Indicates the DiffServ Queue. Possible Responses: 0 = Best Effort (BE) 1 = Assured Forwarding 1 (AF1) 2 = Assured Forwarding 2 (AF2) 3 = Assured Forwarding 2 (AF3) 4 = Assured Forwarding 2 (AF4) 5 = Expedited Forwarding (EF) 6 = Routing Protocols (DiffServ priorities 6 and 7)
Max Queue Size	The maximum number of packets that can be queued for this priority.
Total Dropped Packets	Indicates how many packets of this priority have been dropped by QOS due to lack of buffer space or filtering rules.
Total Enqueued Packets	Displays the number of packets, destined for the WAN, that have been received.
Current Depth	Displays the current number of packets of this priority that are queued.
Deepest Depth	Displays the most number of packets that have been queued at once for this priority.
QOS Filter Statistics	
Queue Number	The DiffServ Queue. (See Queue Number description above.)
Peak Info. Rate (%)	The maximum allowed rate for this priority, expressed as a percentage of the DSL rate.
Committed Info Rate (%)	The committed rate for this priority, expressed as a percentage of the DSL rate
Peak Burst (ms)	Displays the interval in milliseconds for averaging the peak offered rate.
Committed Burst (ms)	Displays the interval in milliseconds for averaging the committed offered rate.
Total Packets Received	Displays the total number of packets of this priority that are destined for the LAN.
Total Marked Packets	Displays the number of packets of this priority that exceeded the committed rate, but not the peak rate, and were marked with a higher drop priority
Total Filter Packet Drops	Displays the number of packets of this priority that exceeded the peak rate and that were, therefore, dropped.
Avg. DSL Bytes Per Packet	Displays the average size of packets for this priority, including all overhead.
Avg. Packet Rate Per second	Displays the average rate (in packets per seconds) for this priority.
QOS Latency Counts	
Queue Number	The DiffServ Queue. (See Queue Number description above.)
Not Time Stamped	The packets with no incoming time stamp. (Often these are generated internal to the modem.)
A ms to B ms	The number of packets of this priority whose time in the modem fell between A and B milliseconds. (Time is measured from the point the packet arrives at the modem's processor until is passed to the ATM hardware for transmission.) Possible ranges are (A ms to B ms): 0 ms to 10 ms 10 ms to 20 ms 20 ms to 40 ms 40 ms to 100 ms 100 ms to 1000 ms 1000 ms to 3000 ms Larger than 3000 ms

16.2.7 Transceiver Statistics

In the **Advanced Status** screen, click **Transceiver Statistics.** The following screen will be displayed. After you have viewed the details in this page, click **Close** to return to the **Advanced Status** screen.



Transceiver Statistics

Transceiver Revision:	6.2.0.211
Vendor ID Code:	4
Line Mode:	T1.413 Mode
Data Path:	Fast

Transceiver Information	Downstream Path	Upstream Path
DSL Speed (Kbits/Sec)	8064	992
Margin (dB)	13.5	7.0
Line Attenuation (dB)	3.0	3.5
Transmit Power (dBm)	6.9	11.9

Transceiver Statistics	
Transceiver Revision	The transceiver software version number.
Vendor ID Code	The CPE Vendor's ID code for their chipset.
Line Mode	The operational mode. Modes supported are No Mode, Multi Mode, T1.413 Mode, G.DMT Mode, and G.LITE Mode.
Data Path	The data path used (either Fast or Interleaved).
Transceiver Information-Down Stream/Up Stream Path	
DSL Speed (Kbits/Sec)	The transmission rate that is provided by your service provider.
SNR Margin (dB)	The Signal-to-Noise Ratio (S/N) where 0 db = 1x10^{-7}, which inhibits your DSL speed.
Line Attenuation (dB)	The DSL line loss.
Transmit Power (dBm)	The transmitted signal strength.

17. PORT FORWARDING SERVICES

For your convenience, VersaLink supports protocols for Applications, Games, and VPN-specific programs. The following chart provides port/protocol information for the supported services.

NOTE: To configure the Router for a service or application, follow the steps in section 14.3.3, "Configuring Port Forwarding Services," of this User Guide.

Applications/Games/VPN Support

Application/Game	Port/Protocol
Aliens vs. Predator	80 UDP, 2300 UDP, 8000-8999 UDP
Age of Empires II: The Conquerors	6073 UDP, 47624 TCP, 2300-2400 TCP/UDP This service will open up ports for both traffic directions.
Americas Army	TCP – 20045 UDP – 1716 to 1718, 8777, 27900
America Online	5190 TCP/UDP
Anarchy Online	TCP/UDP – 7012,7013, 7500 -7505
AOL Instant Messenger	4099 TCP, 5190 TCP
Asheron's Call	9000-9013 UDP, 28800-29000 TCP
Battlecom	2300-2400 TCP/UDP, 47624 TCP/UDP
Battlefield 1942	UDP - 14567, 22000, 23000 to 23009, 27900, 28900
Black and White	2611-2612 TCP, 6667 TCP, 6500 UDP, 27900 UDP
Blizzard Battle.net (Diablo II)	4000 TCP, 6112 TCP/UDP
Buddy Phone	700, 701 UDP
Bungie.net, Myth, Myth II Server	3453 TCP
Calista IP Phone	3000 UDP, 5190 TCP
Citrix Metaframe	1494 TCP
Client POP/IMAP	110 TCP
Client SMTP	25 TCP
Counter Strike	27015 TCP/UDP, 27016 TCP/UDP
Dark Reign 2	26214 TCP/UDP
Delta Force (Client and Server)	3568 UDP, 3100-3999 TCP/UDP
Delta Force 2	3568-3569 UDP
DeltaForce: Land Warrior	UDP 53 TCP 21 TCP 7430 TCP 80 UDP 1029 UDP 1144 UDP 65436 UDP 17478
DNS	53 UDP
Elite Force	2600 UDP, 27500 UDP, 27910 UDP, 27960 UDP
Everquest	1024-7000 TCP/UDP
F-16, Mig 29	3863 UDP
F-22 Lightning 3	4660-4670 TCP/UDP, 3875 UDP, 4533-4534 UDP, 4660-4670 UDP
F-22 Raptor	3874-3875 UDP
Fighter Ace II	50000-50100 TCP/UDP
Fighter Ace II for DX play	50000-50100 TCP/UDP, 47624 TCP, 2300-2400 TCP/UDP
FTP	20 TCP, 21 TCP

GameSpy Online	UDP 3783 UDP 6515 TCP 6667 UDP 12203 TCP/UDP 13139 UDP 27900 UDP 28900 UDP 29900 UDP 29901
Ghost Recon	TCP 80 UDP 1038 UDP 1032 UDP 53 UDP 2347 UDP 2346
GNUtella	6346 TCP/UDP, 1214 TCP
Half Life Server	27005 UDP(client only) 27015 UDP
Heretic II Server	28910 TCP
Hexen II	26900 (+1) each player needs their own port. Increment by one for each person.
Hotline Server	5500, 5503 TCP 5499 UDP
HTTPS	443 TCP/UDP
ICMP Echo	4 ICMP
ICQ OLD	4000 UDP, 20000-20019 TCP
ICQ 2001b	4099 TCP, 5190 TCP
ICUII Client	2000-2038 TCP, 2050-2051 TCP, 2069 TCP, 2085 TCP, 3010-3030 TCP
ICUII Client Version 4.xx	1024-5000 TCP, 2050-2051 TCP, 2069 TCP, 2085 TCP, 3010-3030 TCP, 2000-2038 TCP6700-6702 TCP, 6880 TCP, 1200-16090 TCP
IMAP	119 TCP/UDP
IMAP v.3	220 TCP/UDP
Internet Phone	22555 UDP
IPSEC ALG	IPSEC ALG
IPSEC ESP	PROTOCOL 50
IPSEC IKE	500 UDP
Ivisit	9943 UDP, 56768 UDP
JKII:JO (Jedi Knight II: Jedi Outcast)	UDP - 28070 (default) UDP- 27000 to 29000
KALI, Doom & Doom II	2213 UDP, 6666 UDP (EACH PC USING KALI MUST USE A DIFFERENT PORT NUMBER STARTING WITH 2213 + 1)
KaZaA	1214 TCP/UDP
Limewire	6346 TCP/UDP, 1214 TCP
Medal Of Honor: Allied Assault	TCP 80 UDP 53 UDP 2093 UDP 12201 TCP 12300 UDP 2135 UDP 2139 TCP/UDP 28900
mIRC Chat	6660-6669 TCP
Motorhead Server	16000 TCP/UDP, 16010-16030 TCP/UDP

MSN Game Zone	6667 TCP, 28800-29000 TCP
MSN Game Zone (DX 7 & 8 play)	6667 TCP, 6073 TCP, 28800-29000 TCP, 47624 TCP, 2300-2400 TCP/UDP This service will open up ports for both traffic directions.
MSN Messenger	6891-6900 TCP, 1863 TCP/UDP, 5190 UDP, 6901 TCP/UDP
Napster	6699 TCP
Need for Speed 3, Hot Pursuit	1030 TCP
Need for Speed, Porsche	9442 UDP
Net2Phone	6801 UDP
NNTP	119 TCP/UDP
Operation FlashPoint	47624 UDP, 6073 UDP, 2300-2400 TCP/UDP, 2234 TCP
Outlaws	5310 TCP/UDP
Pal Talk	2090-2091 TCP/UDP, 2095 TCP, 5001 TCP, 8200-8700 TCP/UDP, 1025-2500 UDP
pcAnywhere host	5631 TCP, 5632 UDP, 22 UDP
Phone Free	1034-1035 TCP/UDP, 9900-9901 UDP, 2644 TCP, 8000 TCP
Quake 2	27910 UDP
Quake 3	27660 UDP Each computer playing QuakeIII must use a different port number, starting at 27660 and incrementing by 1. You'll also need to do the following: 1. Right click on the QIII icon 2. Choose "Properties" 3. In the Target field you'll see a line like "C:\Program Files\Quake III Arena\quake3.exe" 4. Add the Quake III net_port command to specify a unique communication port for each system. The complete field should look like this: "C:\Program Files\Quake III Arena\quake3.exe" +set net_port 27660 5. Click OK. 6. Repeat for each system behind the NAT, adding one to the net_port selected (27660,27661,27662)
Quicktime 4/Real Audio	6970-32000 UDP, 554 TCP/UDP
Rainbow Six & Rogue Spear	2346 TCP
RealOne Player	TCP - 554, 7070 to 7071 UDP - 6970 to 7170
Real Audio	6970-7170 UDP
Return To Castle Wolfenstein	Default -27960 TCP/UDP UDP - 27950 to 27980
Roger Wilco	TCP/UDP 3782 UDP 3783 (BaseStation)
SIP ALG	SIP ALG
ShoutCast Server	8000-8005 TCP
Spinner Radio/Netscape Music	TCP - 554
SSH Secure Shell	22 TCP/UDP
Starcraft	2346 TCP
Starfleet Command	2300-2400 TCP/UDP, 47624 TCP/UDP
SOF/SOFII (Soldier of Fortune / Soldier of Fortune II)	UDP - 28910 to 28915
Telnet	23 TCP
Tiberian Sun & Dune 2000	1140-1234, 4000 TCP/UDP
Tribes2	TCP - 15104, 15204, 15206, 6660 to 6699 UDP - 27999 to 28002
Ultima Online	5001-5010 TCP, 7775-7777 TCP, 8800-8900 TCP, 9999 UDP, 7875

	UDP
Unreal Tournament server	7777 (default gameplay port) 7778 (server query port) 7779,7779+ are allocated dynamically for each helper UdpLink objects, including UdpServerUplin objects. Try starting with 7779-7781 and add ports if needed. 27900 server query, if master server uplink is enabled. Home master servers use other ports like 27500. Port 8080 is for UT Server Admin. In the [UWeb.WebServer] section of the server.ini file, set the ListenPort to 8080 and ServerName to the IP assigned to the Gateway from Verizon.
USENET News Service	143 TCP
VNC, Virtual Network Computing	5500 TCP, 5800 TCP, 5900 TCP
Westwood Online, C&C	4000 TCP/UDP, 1140-1234 TCP/UDP
World Wide Web (HTTP)	80 TCP 443 TCP (SSL) 8008 or 8080 TCP (PROXY)
Xbox Live	88 TCP/UDP, 3074 TCP/UDP
Yahoo Messenger Chat	5000-5001 TCP
Yahoo Messenger Phone	5055 UDP
NAT/VPN Support	
IPSec Encryption	IPSec using AH can not be supported through NAT. IPSec using ESP and L2TP can be supported via an ALG
L2TP	IPSec using ESP and L2TP can be supported via an ALG.
PPTP	Works through NAT.

18. TECHNICAL SUPPORT INFORMATION

Contact your Internet service provider for technical support.

19. PRODUCT SPECIFICATIONS

System Requirements for 10/100 Base-T/Ethernet

- Pentium® or equivalent class machines or higher
- Microsoft® Windows® (Vista™, XP, 2000, ME, NT 4.0, 98 SE) Macintosh® OS X, or Linux installed
- 64 MB RAM (128 MB recommended)
- 10 MB of free hard drive space
- 10/100 Base-T Network Interface Card (NIC)
- Internet Explorer 5.5 or higher or Netscape Navigator 7.x or higher
- Computer Operating System CD-ROM

System Requirements for Wireless

- Pentium® or equivalent class machines or higher
- Microsoft® Windows® (Vista™, XP, 2000, ME, 98 SE) installed
- 64 MB RAM (128 MB recommended)
- 10 MB of free hard drive space
- USB Version 1.1 or higher compliant bus
- Internet Explorer 5.5 or higher or Netscape Navigator 7.x or higher
- Computer operating system CD-ROM
- IEEE 802.11b/g PC adapter

LEDs

- Power
- E1, E2, E3, E4
- Wireless
- USB
- DSL
- Internet

Connectors

- DSL: 6-pin RJ-11 modular jack-DSL
- Ethernet: 8-pin RJ-45 modular jack
- Power: Barrel connector

Power

- Power Supply: External 120 VAC (10%) to 12 VDC wall-mount power supply
- Power Consumption: Less than 8 watts typical, from 120 VAC

Dimensions

- Height: 1.0 in. (2.54 cm)
- Width: 8.25 in (20.9 cm)
- Depth: 6.25 in. (15.8 cm)

Weight

- Approx. 1 lb (0.45 kg)

Environmental

- Ambient Operating Temperature: +32 to +104°F (0 to +40°C)
- Relative Humidity: 5 to 95%, non-condensing

EMC/Safety/Regulatory Certifications

- FCC Part 15, Class B
- ANSI/UL Standard 60950-1
- CAN/CSA Standard C22.2 No. 60950-01 First Edition dated
- UL, CSA, ACTA 968-A-3
- Industry Canada CS03

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