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Verizon FiOS Router (Model 9100EM)

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12.2 Network Connections

Your Router supports various local area network (LAN) and wide area network (WAN, on Internet) connections via Ethernet or coaxial cables. The Network Connections screen is used to configure the various parameters of the Router's network and Internet connections, and to create new connections.

To edit your connection settings, from the top navigation menu, select **My Network**. Next, select **Network Connections** in the left submenu. The following screen appears.

Determine which screen you are viewing by looking at the buttons on the bottom of the page. If the third button from the left displays **Advanced**, as shown below, this means you are viewing the basic Network Connections screen. Conversely, if the third button from the left displays **Basic**, this means you are viewing the advanced Network Connections screen. To go to the basic screen, click the **Basic** button.

For example, to go to the advanced Network Connections screen, click the **Advanced** button.





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The advanced Network Connections screen displays additional links that allow you to access various connection settings in your Router. The following sections describe the different network connections available in the Router, as well as the connection types that can be created.

Name	Status	Action
Network (Home/Office)	Connected	[Pencil] [X]
Coax	Down	[Pencil] [X]
Ethernet Switch	1 Ports Connected	[Pencil] [X]
Wireless 802.11g Access Point	Connected	[Pencil] [X]
Broadband Connection (Ethernet)	Connected	[Pencil] [X]
Broadband Connection (Coax)	Down	[Pencil] [X]
WAN PPPoE	Connected	[Pencil] [X]
New Connection		[+]



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12.2.1 Network (Home/Office) Properties

In the **Network Connections** screen, click the **Network (Home/Office)** link to access the Router's local network properties. The Network (Home/Office) connection is a bridge that is used to combine several network devices under one single "virtual network." For example, a home/office network can be created that includes your Ethernet Switch as well as your Wireless computers. Network (Home/Office) is the Router's default setting.

At this screen, do any of the following:

- Click the **Ethernet Switch** link to edit the Router's Ethernet Switch properties.
- Click the **Coax** link to edit the Router's Coax properties.
- Click the **Wireless 802.11g Access Point** link to edit the Router's Wireless 802.11g Access Point properties.
- Click the **IP Address Distribution** link to access the Router's IP Address Distribution settings.

The screenshot displays the Verizon FiOS Router web interface. At the top, the Verizon logo is visible. Below it is a navigation bar with icons for Main, Wireless, My Network, Firewall Settings, Parental Control, Advanced, and System Monitoring. The main content area is titled "Network (Home/Office) Properties". On the left, there is a sidebar menu with options: Main, Connection Properties (highlighted), Configure Connection, Routing, Bridging, Advanced, and Logout. The main content area shows the following information:

Name:	Network (Home/Office)
Status:	Connected
Network:	Network (Home/Office)
Underlying Device:	Ethernet Switch
Connection Type:	Coax
MAC Address:	Wireless 802.11g Access Point
IP Address:	Bridge
Subnet Mask:	00:18:3a:a3:0c:5a
IP Address Distribution:	192.168.1.1
Received Packets:	255.255.255.0
Sent Packets:	DHCP Server
Time Span:	15065
	81932
	22:56:45

At the bottom of the main content area, there are three buttons: "Disable", "OK", "Apply", and "Cancel".



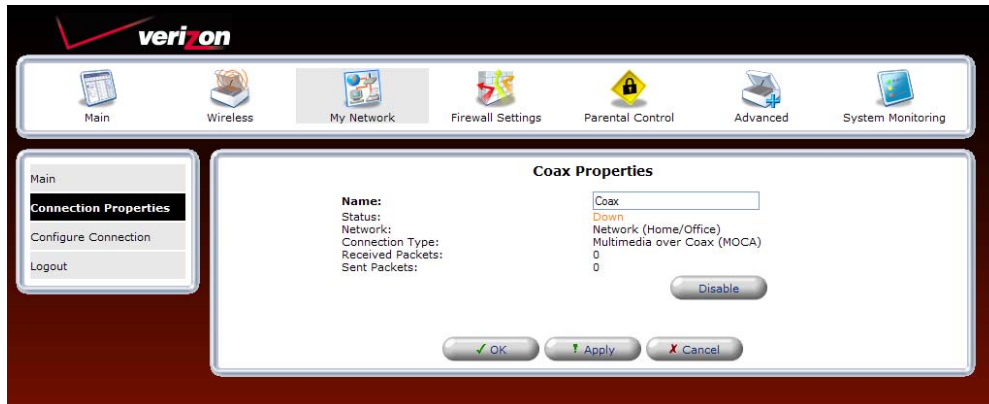
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12.2.1.1 COAX

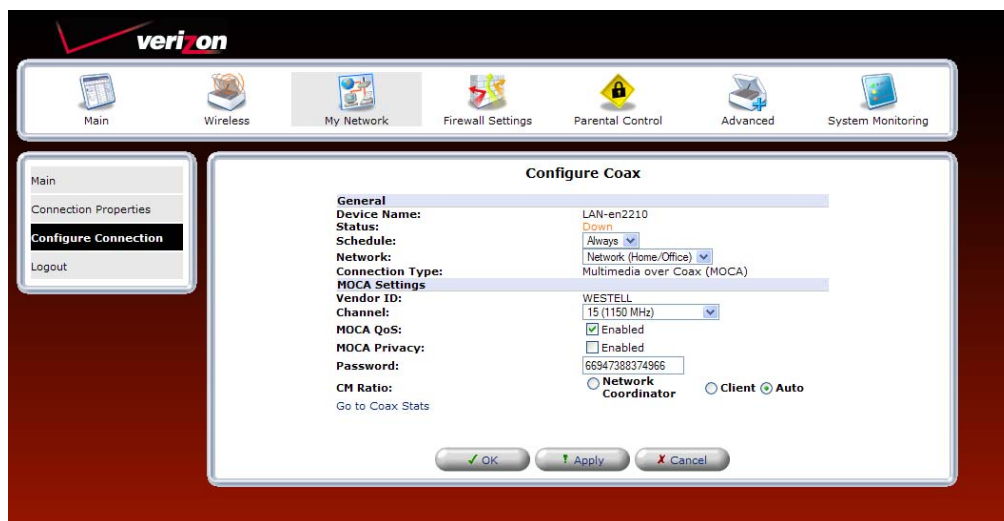
If you click the **Coax** link in the **Network (Home/Office) Properties** screen, the following screen appears. View the coax properties in this screen. If you change the connection name, click **Apply** to save the changes. Then, click **OK** to return to the **Network Connections** screen.



Configure Connection (Coax)

If you select **Configure Connection** from the left submenu, the following screen appears. In this screen, you can do any of the following:

- Enter the desired properties for the coax connection, and then click **Apply** to save the settings.
- Click the **View Coax Node Detailed Stats** link to view the Coax statistics page
- Click the **Go to Coax Stat** link to view the coax statistics





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Go to Coax Stats

If you clicked the **Go to Coax Stats** link in the **Configure Coax** screen, the following screen appears. This screen displays the Tx/Rx rate between the Router and other devices or nodes in a MoCA network. View the information in this screen, and then click **Close** to return to the **Configure Coax** screen.

Coax Stats

Coax Settings

Channel: 1150 MHz
MoCA Privacy: Disabled
Password: 66947388374966

Connection Speed	Router	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6	Device 7
MAC Address	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IP Address	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Router	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Close Refresh

12.2.1.2 Ethernet Switch Properties

For example, if you click the **Ethernet Switch** link in the **Network (Home/Office) Properties** screen, the following screen appears. View the properties in this screen. If you change the connection name, click **Apply** to save the changes. Then, click **OK** to return to the **Network Connections** screen.

Ethernet Switch Properties

Name: Ethernet Switch
Status: 1 Ports Connected
Network: Network (Home/Office)
Connection Type: Hardware Ethernet Switch
MAC Address: 00:18:3a:a3:0c:5a
IP Address Distribution: Disabled
Received Packets: 17131
Sent Packets: 63895
Time Span: 22:58:01

Disable

OK Apply Cancel

12.2.1.3 Wireless 802.11g Access Point

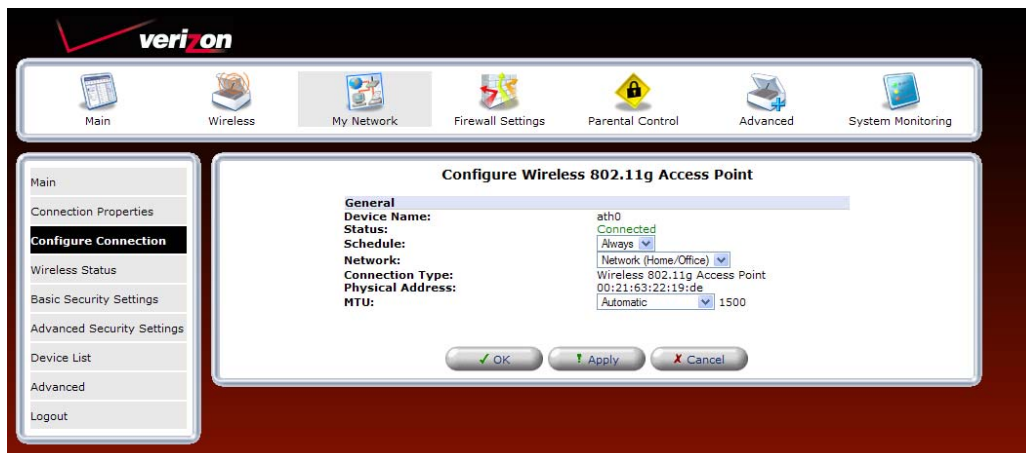
To view the wireless access properties, in the **Network (Home/Office) Properties** screen, click the **Wireless 802.11g Access Point** link. The following screen appears. View the wireless properties in this screen. If you change the connection name, click **Apply** to save the changes. Click **OK** to return to the **Network Connections** screen.



Configure Connection—Wireless 802.11g Access Point

If you select **Configure Connection** from the left submenu, the following screen appears. Configure your wireless access point properties, and then click **Apply** to save the settings. Refer to section 11, “Wireless,” for details on the following wireless features listed in the left submenu of this screen.

- Wireless Status
- Basic Security Settings
- Advanced Security Settings
- Device List
- Advanced





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12.2.1.4 IP Address Distribution

If you click the **IP Address Distribution** link in the **Network (Home/Office) Properties** screen, the following screen appears. This screen allows you to access your Router's DHCP settings. See section 15.27 for details on DHCP settings.





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12.2.2 Broadband Connection (Ethernet)

The Router's Broadband Connection types describe the interface used to connect your Router to your broadband network. Broadband Connection (Ethernet) means that Ethernet is the hardware used to connect the Router to the Internet. By factory default, Broadband Connection (Ethernet) is Disabled in the Router. However, you can Enable this connection type. To Enable Broadband Connection (Ethernet) you must (1) connect your Router to your existing network device using an Ethernet cable, as described in section 5.1, and (2) configure your Router's network connection settings for the physical connection type.

NOTE: After you have installed the Router to your network and turned on the Router, it will automatically detect which connection protocol type is being used.

In this example, the Router is connected to the broadband network using the Router's WAN port. Remember, when you use the Router's WAN port, you must also configure the Router's network connection settings.

To configure the Router's network connection settings, click the **My Network** icon in the top navigation menu, and then click **Network Connections** in the left submenu. In the **Network Connections** screen, click the **Broadband Connection (Ethernet)** link.

Name	Status	Action
Network (Home/Office)	Connected	[Edit] [Delete]
Coax	Down	[Edit] [Delete]
Ethernet Switch	1 Ports Connected	[Edit] [Delete]
Wireless 802.11g Access Point	Connected	[Edit] [Delete]
Broadband Connection (Ethernet)	Connected	[Edit] [Delete]
Broadband Connection (Coax)	Down	[Edit] [Delete]
WAN PPPoE	Connected	[Edit] [Delete]
New Connection		[Add]

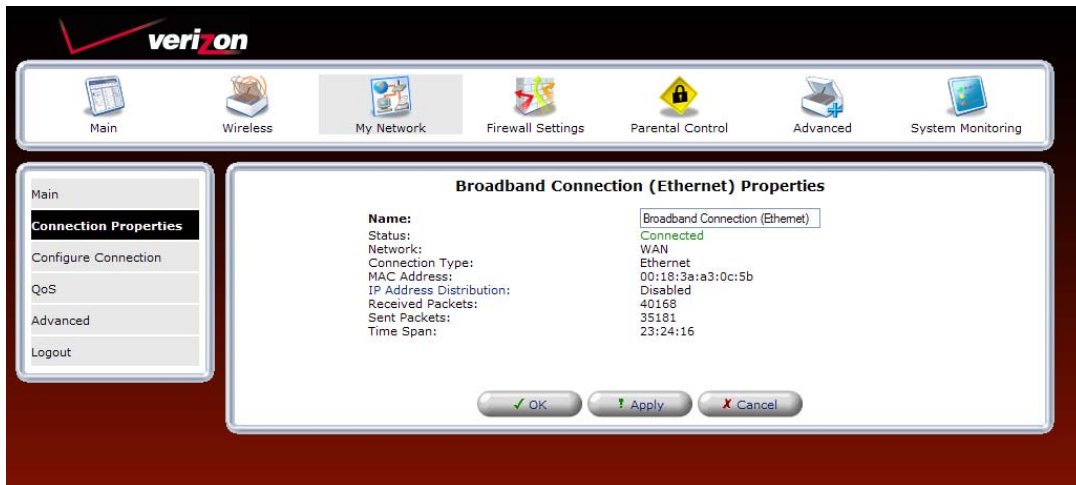


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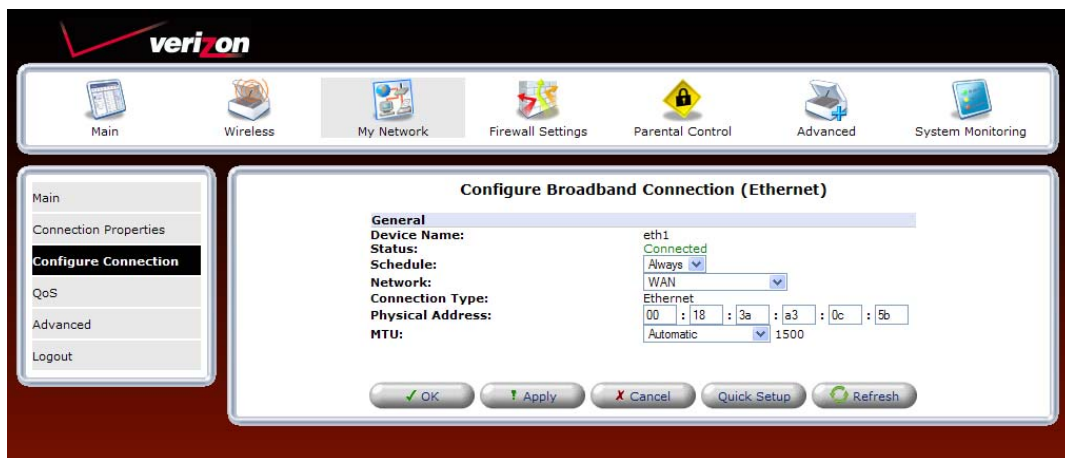
User Guide

The following screen appears. View the connection setting properties in this screen. If you change the connection name, click **Apply** to save the changes.



12.2.2.1 Configure Connection—Broadband Connection Ethernet

In the **Broadband Connection (Ethernet) Properties** screen, select **Configure Connection** in the left submenu. The following screen appears. Next, click the **Quick Setup** button.





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The following screen appears. Select **Ethernet** from the **WAN Interface** drop-down list. Selecting **Ethernet** Enables the **WAN** port on the rear of your Router. When the WAN port is Enabled, this means you are connecting from the **WAN** port on the Router to another device on your network, for Internet access. Click **Apply** to save the settings.

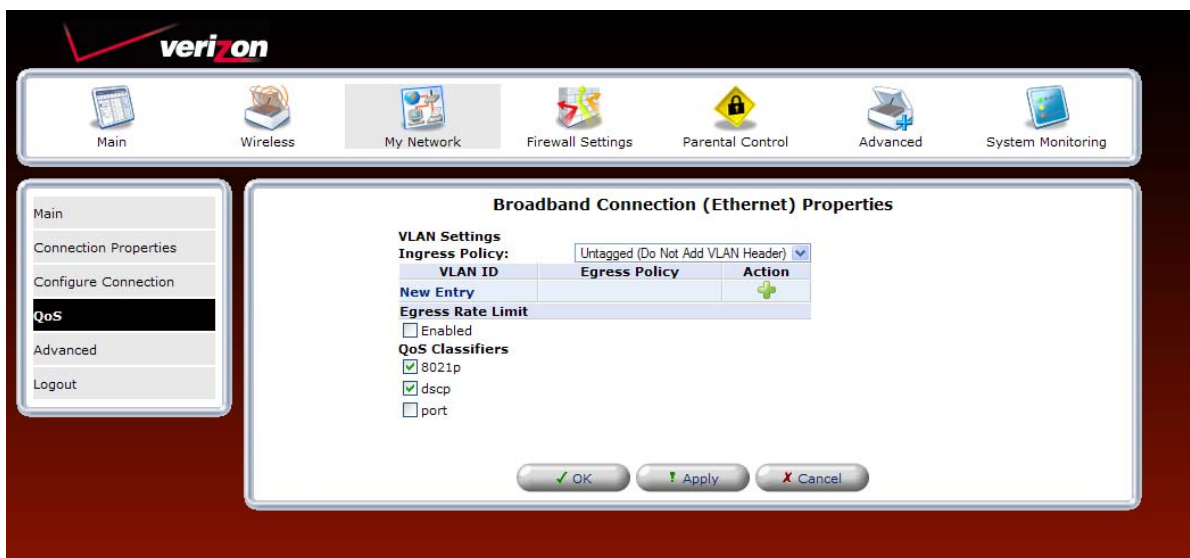
NOTE: Verizon provides the protocol mode for your connection to the Internet. Depending on your connection type, a login user name and password may be required. These values are provided by Verizon.



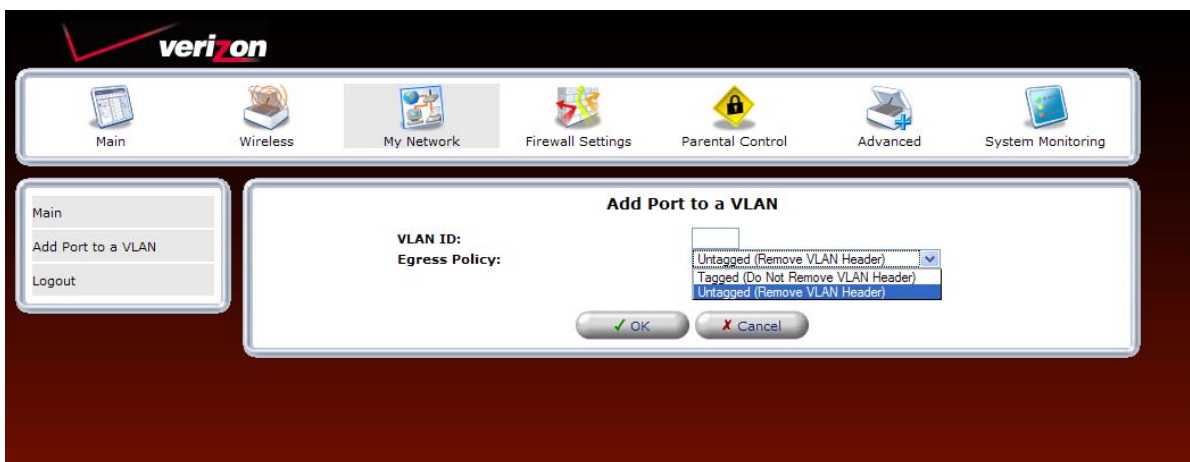
12.2.2.2 QoS—Broadband Connection Ethernet

NOTE: This section is only intended to be modified by a Verizon technician. Any changes to this section may result in a disruption of service.

If you select **QoS** in the left submenu of the **Broadband Connection (Ethernet) Properties** screen, the following screen appears.



You may use this section to remove VLAN tags to your incoming (Ingress) packets, or to allow specific tagged packets to enter. To add a new entry, click the **New Entry** link. The following screen appears. Enter the desired port in the **VLAN ID** in the field, and then select an Egress Policy from the drop-down list. Click **OK** to continue.



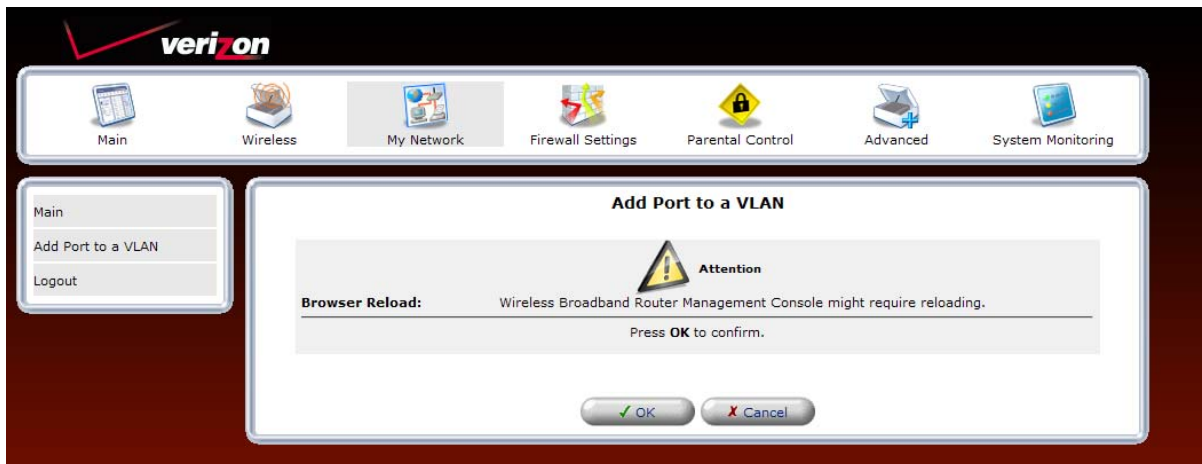


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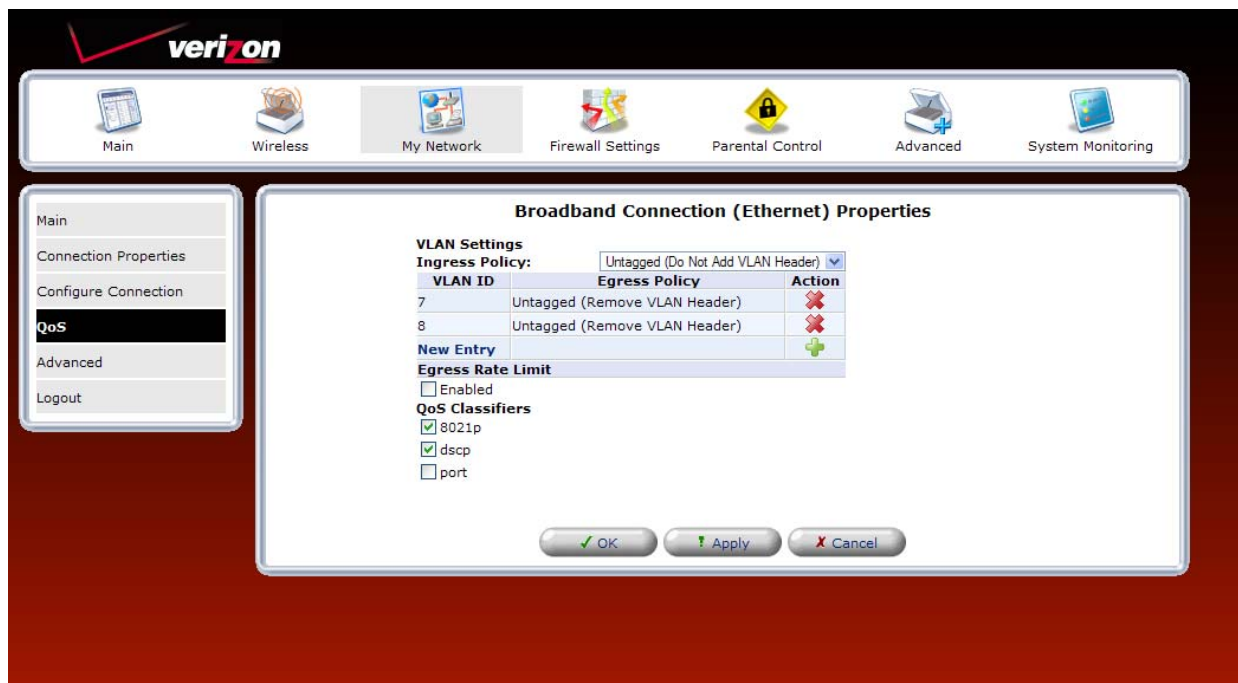
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After you click **OK**, the following screen appears, indicating that your management console might require reloading. Click **OK** to continue, and then please wait a brief moment while the page reloads.



The following screen appears. The VLAN ID displays the port that you added and the policy assigned to the port. Click **Apply** to save the settings.



For outgoing (Egress) packets you may enable a **Rate Limit** by checking the rate limit check box, and you may also enable the pass through of standard QoS classifiers. These are 802.1p, DSCP, and port tags. **Note that any changes to your egress setting will likely result in a disruption of your FiOS service.**



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12.2.2.3 Advanced—Broadband Connection Ethernet

If you select **Advanced** in the left submenu of the **Broadband Connection (Ethernet) Properties** screen, the following screen appears. To add a new IP address, click the **New IP Address** link.



The following screen appears. Enter the desired IP Address and Subnet Mask in the fields provided. Then, click **Apply** to allow the settings to take effect.



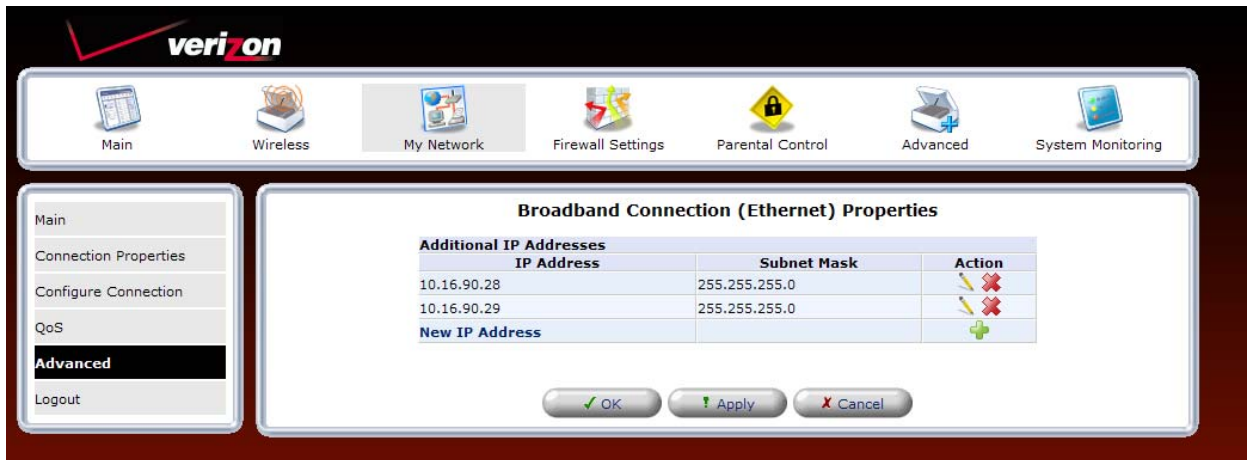


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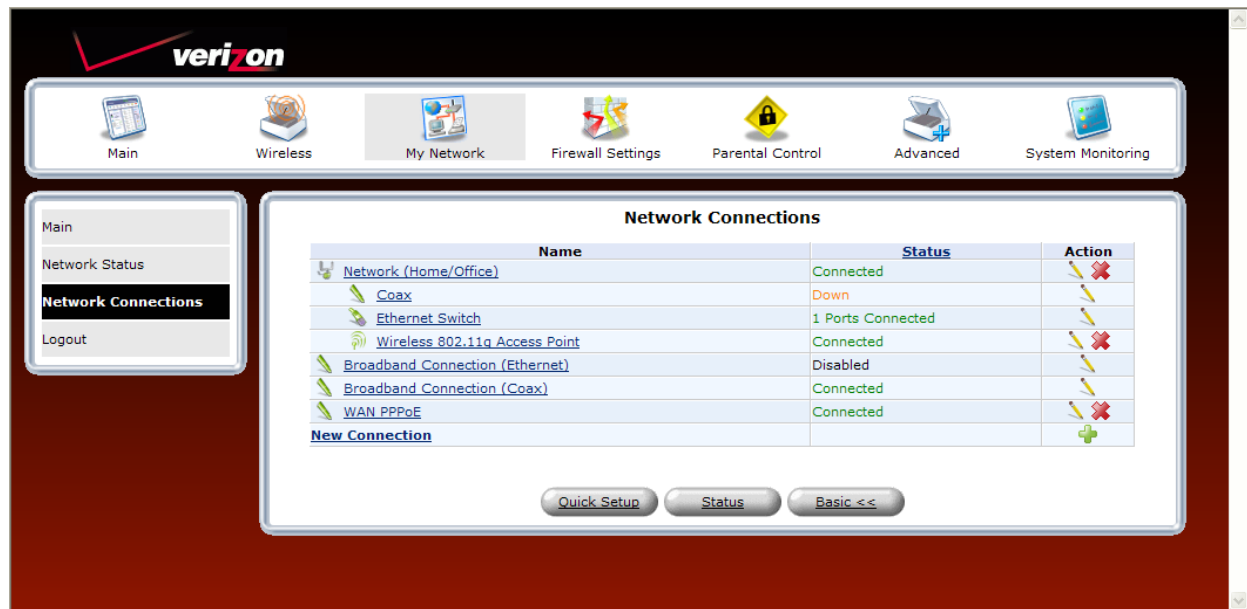
User Guide

The entry will be added to the list of broadband connection IP addresses.



12.2.3 Broadband Connection (Coax)

To access the Router's broadband configurations (Coax), click the **My Network** icon in the top navigation menu. Then, click **Network Connections** in the left submenu. The following screen appears. This screen displays the interfaces that can be used to connect the Router to your broadband network. In this setup, Coax is Connected and Ethernet is Disabled. This means that Coax is the hardware used to connect the Router to the Internet. To access the settings for broadband connection (Coax), click the **Broadband Connection (Coax)** link.



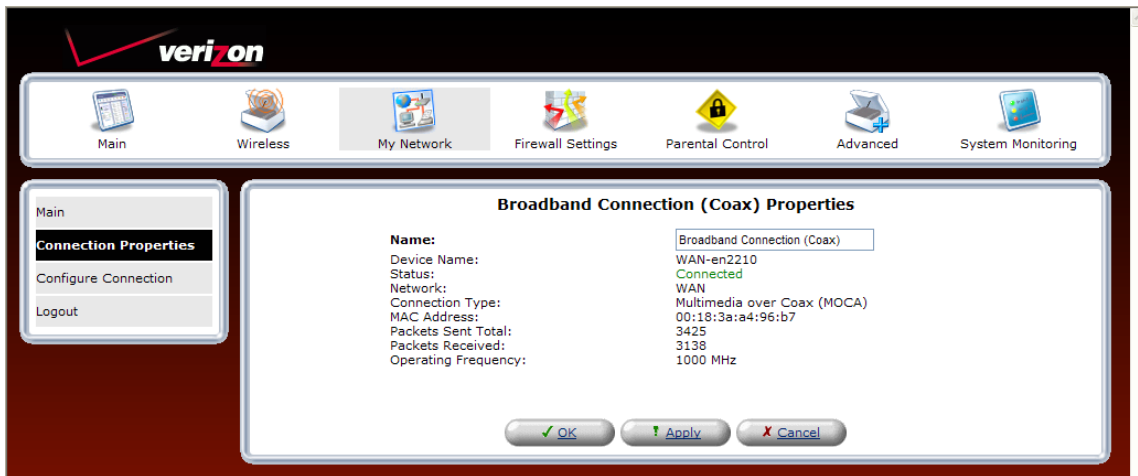


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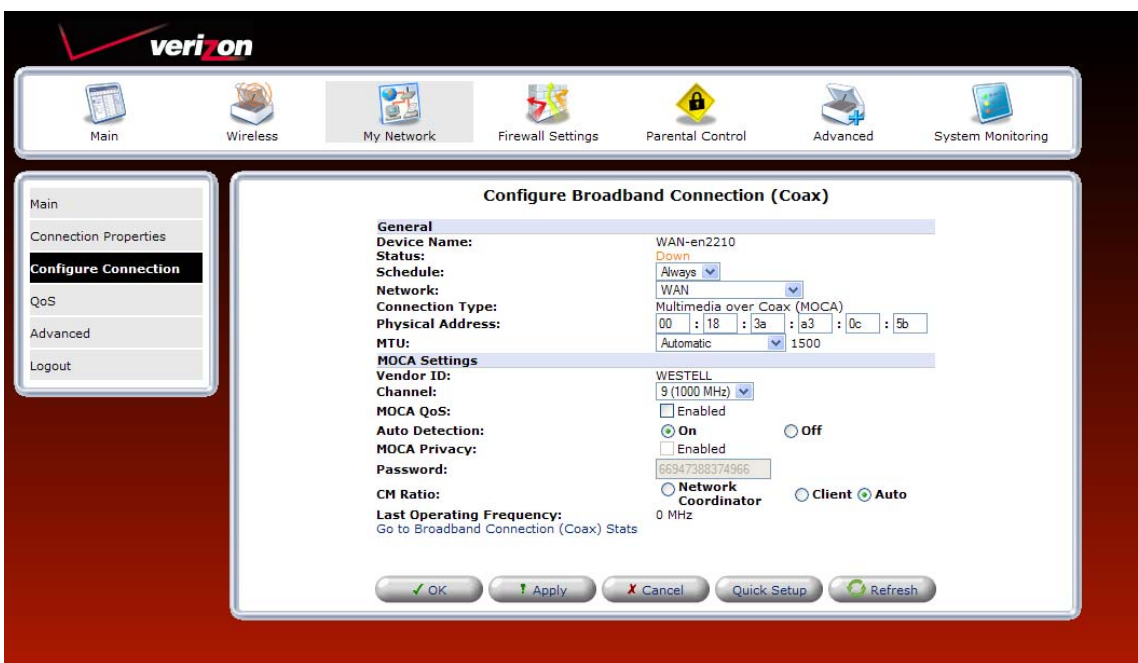
User Guide

The following screen appears. This screen displays the properties for broadband connection coax. If desired you can change the connection name. To change the name, type your desired name in the **Name** field. Click **Apply** to save the change.



12.2.3.1 Configure Connection —Broadband Connection Coax

To configure the Router's Broadband Connection (Coax) settings, click **Configure Connection** in the left submenu. The following screen appears. Enter the desired settings for your broadband (coax) connection, and then click **Apply** to save the settings.





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Go to Broadband Connection (Coax) Stats

If you click the **Go to Broadband Connection (Coax) Stats** link in the preceding **Configure Broadband Connection (Coax)** screen, the following screen appears. To display the most current values, click **Refresh**. To return to the **Configure Broadband Connection (Coax)** screen, click **Close**.

Broadband Connection (Coax) Stats

Coax Settings

Channel: 1000 MHz
HCCA Privacy: Enabled
Password: Auto Detecting

Coax Stats

Connection Speed	Router	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6	Device 7
MAC Address	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IP Address	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Router	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Device 7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Buttons: Close, Refresh

12.2.3.2 QoS—Broadband Connection Coax

NOTE: This section is only intended to be modified by a Verizon technician. Any changes to this section may result in a disruption of service.

If you select **QoS** in the left submenu of the **Broadband Connection (Coax) Properties** screen, the following screen appears. You may use this section to remove VLAN tags to your incoming (Ingress) packets, or allow specific tagged packets to enter. To add a new entry, click the **New Entry** link.

Broadband Connection (Coax) Properties

VLAN Settings

Ingress Policy: Untagged (Do Not Add VLAN Header)

VLAN ID	Egress Policy	Action
7	Untagged (Remove VLAN Header)	✗
8	Untagged (Remove VLAN Header)	✗
New Entry		
Egress Rate Limit		
<input type="checkbox"/> Enabled		
QoS Classifiers		
<input checked="" type="checkbox"/> 8021p		
<input checked="" type="checkbox"/> dscp		
<input type="checkbox"/> port		

Buttons: OK, Apply, Cancel

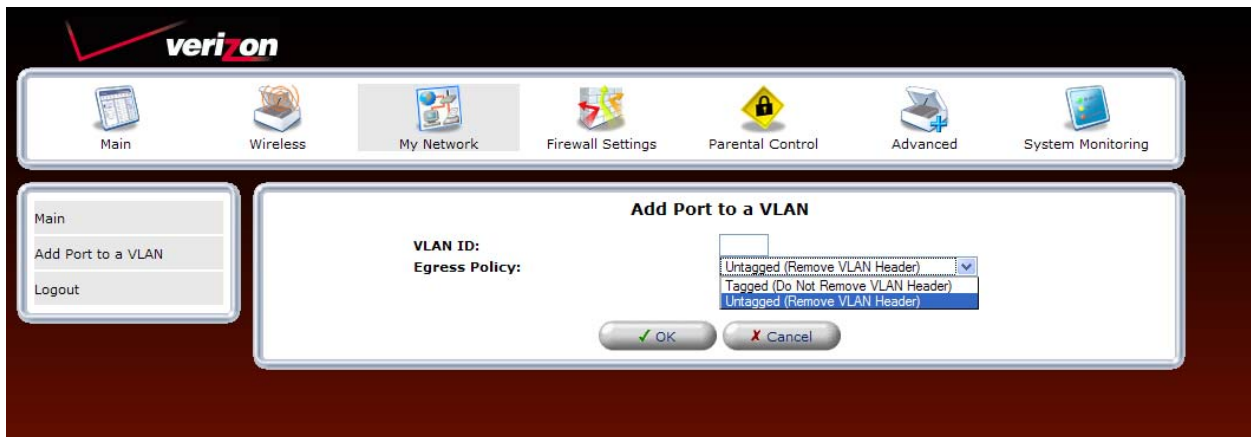


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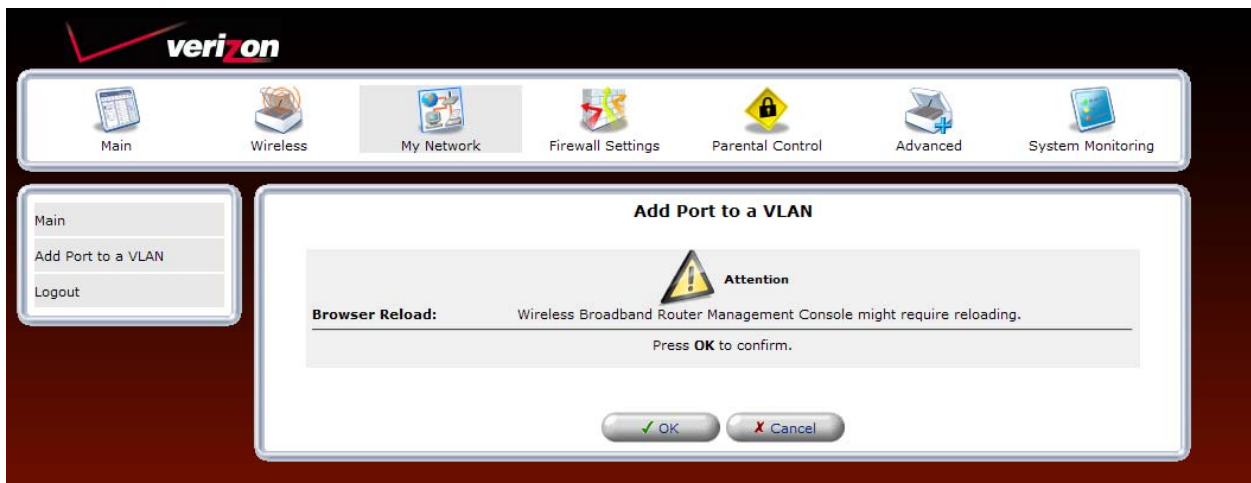
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The following screen appears. Enter the desired port in the **VLAN ID** field, and then select an Egress Policy from the drop-down list. Click **OK** to continue.



After you click **OK**, the following screen appears, indicating that your management console might require reloading. Click **OK** to continue, and then please wait a brief moment while the page reloads.



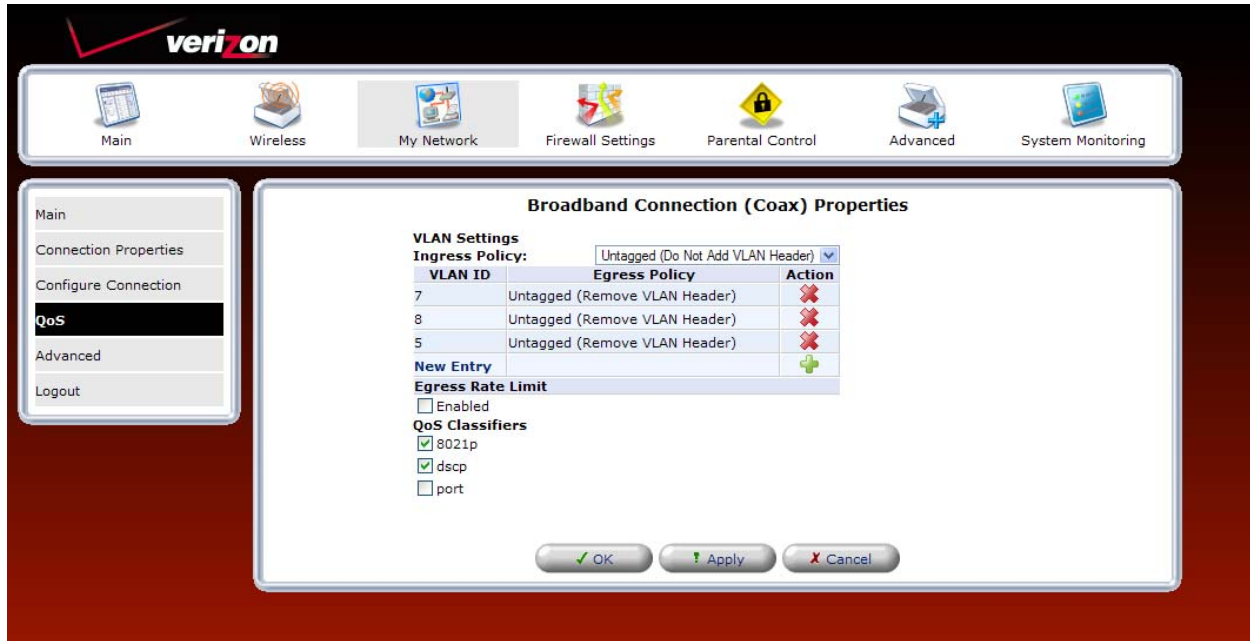


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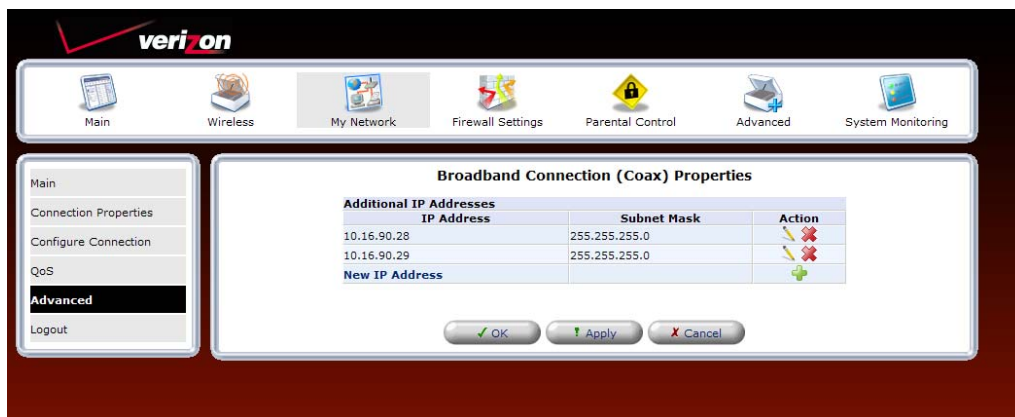
The VLAN ID table will display the port that you added. Click **Apply** to save the settings.



For outgoing (Egress) packets you may enable a **Rate Limit** by checking the rate limit check box, and you may also enable the pass through of standard QoS classifiers. These are 802.1p, DSCP, and port tags. **Note that any changes to your Egress setting will likely result in a disruption of your FiOS service.**

12.2.3.3 Advanced—Broadband Connection Coax

If you select **Advanced** in the left submenu of the **Broadband Connection (Coax) Properties** screen, the following screen appears. To add a new IP address, click the **New IP Address** link.





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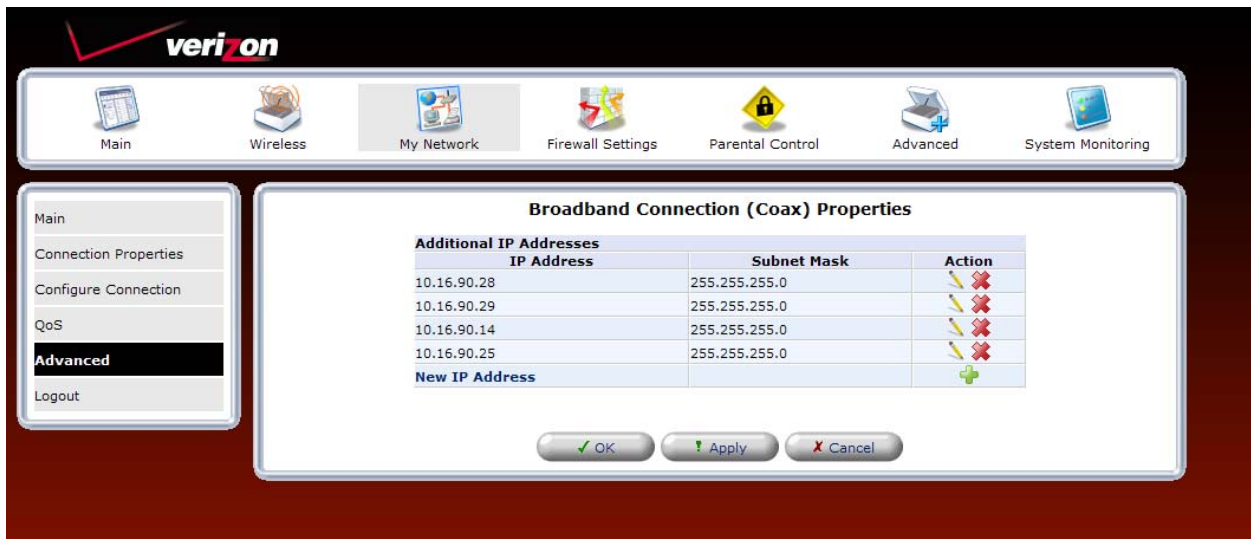
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The following screen appears. Enter the desired IP Address and Subnet Mask in the fields provided. Then, click **Apply** to allow the settings to take effect.



The entry will be added to the list of broadband connection IP addresses.





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12.2.4 WAN PPPoE

WAN Point-to-Point Protocol over Ethernet (PPPoE) is a protocol used to connect the Router to the Internet. PPPoE enables Ethernet-networked computers to exchange information with computers on the Internet.

NOTE: The protocol used for your Internet connection is determined by Verizon. The Router is capable of automatically detecting the protocol used for your Internet connection.

If you are configuring your Router's protocol setting for WAN PPPoE, in the **Network Connections** screen, select the **WAN PPPoE** link.



The following screen appears. View the details in this screen. If desired, you can change the connection name. To change the name, type your desired name in the **Name** field. Then, click **Apply** to save the changes. Select an option in the left submenu to access that configuration page:

- Select **Configure Connection** to access the **WAN PPPoE Properties** screen.
- Select **Routing** to configure the Routing properties for your WAN PPPoE. Refer to section 15.23 for details on Routing.
- Select **PPP** to configure the Router's PPP settings.

The following sections describe these options.





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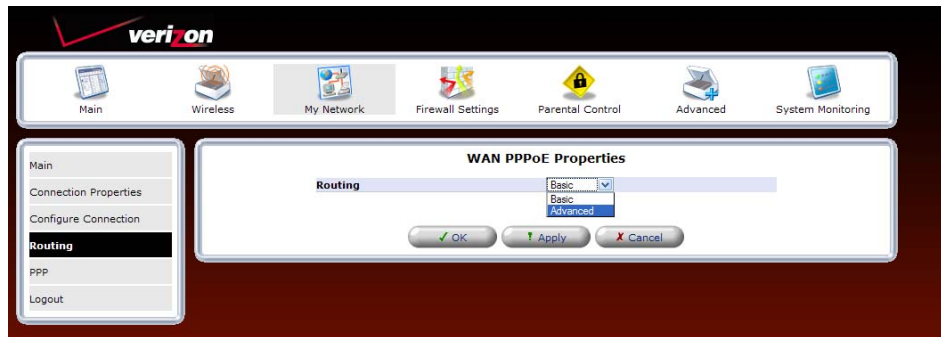
Configure Connection—WAN PPPoE

To configure the WAN PPPoE properties, click **Configure Connection** in the left submenu of the **WAN PPPoE Properties** screen. The following screen appears. Enter the desired settings and click **Apply** to save the settings.



Routing—WAN PPPoE

To configure the Router's Routing properties, click **Routing** in the left submenu screen. The following screen appears. If you change the settings in this screen, click **Apply** to save the settings. To configure the advanced Routing properties, select **Advanced** from the **Routing** drop-down list.



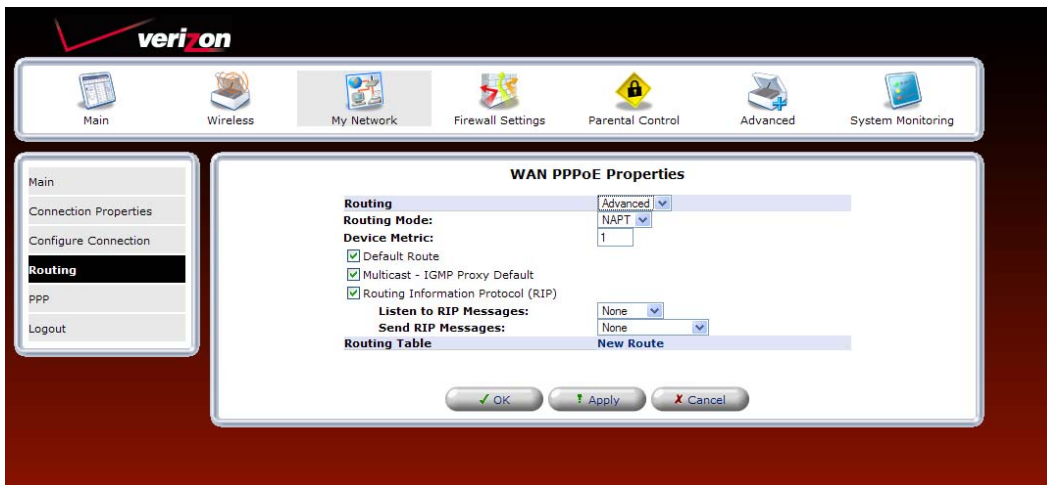


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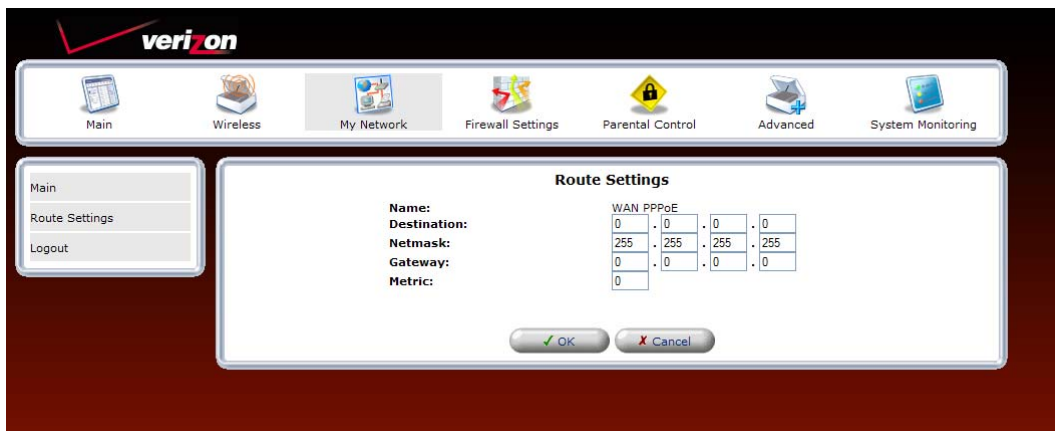
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If you selected **Advanced** in the preceding screen, the following screen appears. Enter the desired values and click **Apply**. To add a new route, click the **New Route** link.



If you clicked **New Route** in the preceding screen, the following screen appears. Enter the desired routing values and click **OK** to save the settings.



PPP—WAN PPPoE

NOTE: The settings in the screen are provided by Verizon. Do not change the settings unless instructed by Verizon.

To configure the Router’s PPP properties, click **PPP** in the left submenu screen. The following screen appears. If you change the settings in this screen, click **Apply** to save the settings. The new Route will be added to the Routing table.



12.2.5 Status

To view the status of the Router’s connections, in the **Network Connections** screen, click the **Status** button at the bottom of the page.





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The following screen appears. This screen displays connection information for devices connected to your Router. At this screen, do any the following:

- Click the **Automatic Refresh On/Off** button to turn on/off Automatic Refresh. When Automatic Refresh is **On**, the screen will be updated automatically to display the most current statistics.
- Click the **Refresh** to manually refresh this screen.
- Click the links in this screen to access the Router's connection settings.
- Click **Close** to return to the **Network Connections** screen.

Name	Network (Home/Office)	Ethernet Switch	Broadband Connection (Ethernet)	Coax	Broadband Connection (Coax)	Wireless 802.11g Access Point	WAN PPPoE
Status	Connected	1 Ports Connected	Connected	Down	Down	Connected	Connected
Network	Network (Home/Office)	Network (Home/Office)	WAN	Network (Home/Office)	WAN	Network (Home/Office)	WAN
Underlying Device	Ethernet Switch Coax Wireless 802.11g Access Point						Broadband Connection (Ethernet)
Connection Type	Bridge	Hardware Ethernet Switch	Ethernet	Multimedia over Coax (MOCA)	Multimedia over Coax (MOCA)	Wireless 802.11g Access Point	PPPoE
MAC Address	00:18:3a:a3:0c:5a	00:18:3a:a3:0c:5a	00:18:3a:a3:0c:5b		00:18:3a:a3:0c:5b	00:21:63:22:19:de	
IP Address	192.168.1.1						10.16.90.12
Subnet Mask	255.255.255.0					verizonfios	
Default Gateway							10.16.90.1
DNS Server							10.16.16.8 10.16.16.2
IP Address Distribution	DHCP Server	Disabled	Disabled			Disabled	
Service Name							username@yourisp.net
User Name							
Received Packets	17302	18964	44681	0	0	2237	0
Sent Packets	94558	71920	40409	0	0	14802	0
Time Span	24:53:44	24:53:44	0:32:25			21:39:57	0:15:28

Buttons: Close, Automatic Refresh On, Refresh



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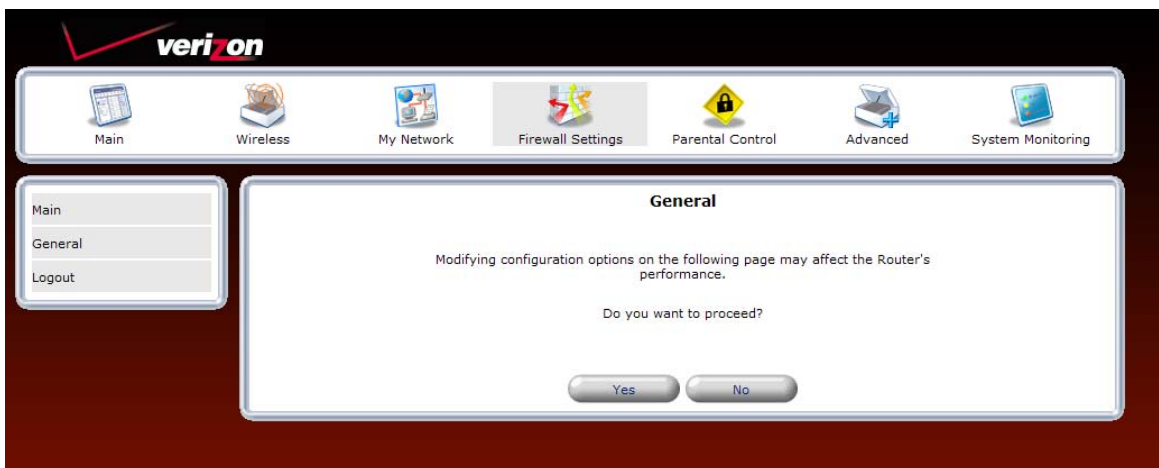
Verizon FiOS Router (Model 9100EM)

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13. FIREWALL SETTINGS

The **Firewall Settings** section provide access to all your Router's security functions. Click **Firewall Settings** in the top navigation menu to enter the settings menu.

CAUTION: Only Advanced Users should access the firewall settings.





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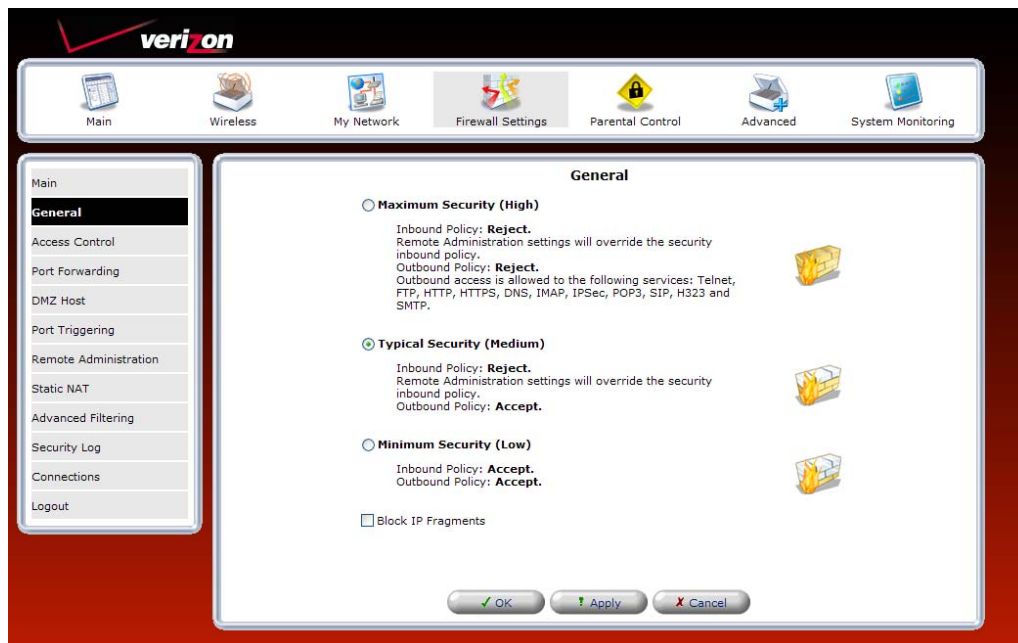
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13.1 General Firewall Security Settings

This section explains how to configure your Router's firewall security features. The Router's firewall security settings allow you to 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 navigation 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 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.



General Firewall Settings	
Maximum Security (High)	High security level only allows basic Internet functionality. Only Mail, News, Web, FTP, VoIP/SIP and IPSEC traffic is 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 of Network Address Translation (NAT) so you can enable certain types of traffic. This is the factory default security level.
Minimum Security (Low)	Low security setting will allow all traffic except for known malicious attacks. With Low security, your Router is visible to other computers on the Internet.
Block IP Fragments	This option can prevent hackers from using fragmented data packets to possibly sabotage your network. Note: Some VPN and UDP services use IP fragments, and this feature may need to be disabled. If you have questions about this feature, check with Verizon technical support. It is disabled (box is unchecked) by default.



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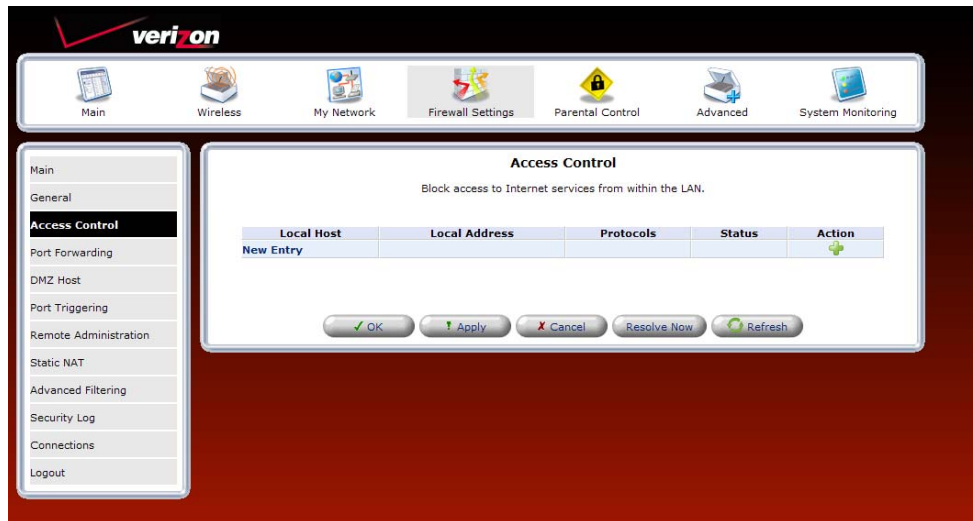
User Guide

13.2 Access Control

If you select **Firewall Settings** in the top navigation menu and then select **Access Control** in the left submenu, the following screen appears.

Access Control is used to block specific computers within the local network (or even your entire network) from accessing certain services on the Internet. For example, one computer can be prohibited from surfing the Internet, another computer from transferring files using FTP, and the whole network from receiving incoming E-mail. Access control defines restrictions on the types of requests that can pass from the local network out to the Internet, and thus may block traffic flowing in both directions.

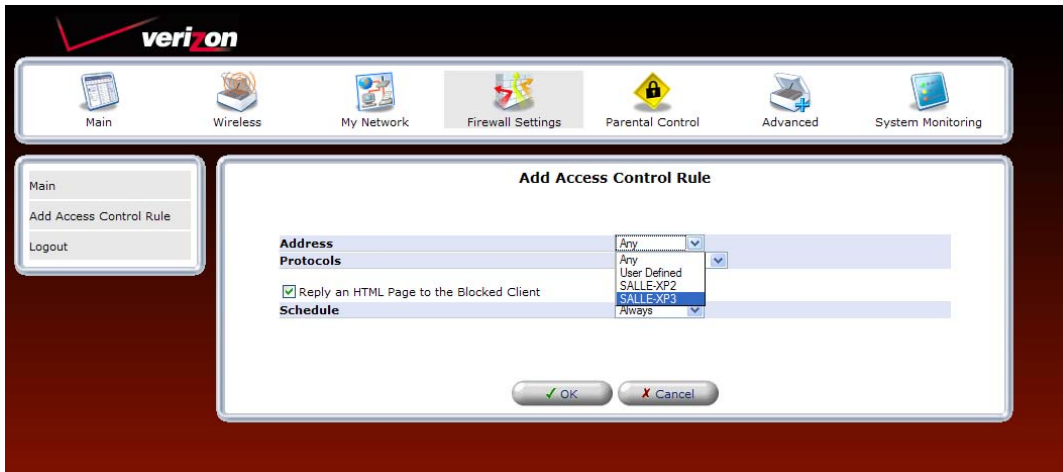
To add an Access Control rule, click the **New Entry** link or, alternatively, you can click the plus icon.



Adding a new entry will allow you to choose a device from the known network devices (For example, your computers) or enter a MAC address of a new device. Then you must choose the Protocol (or service) to be blocked.

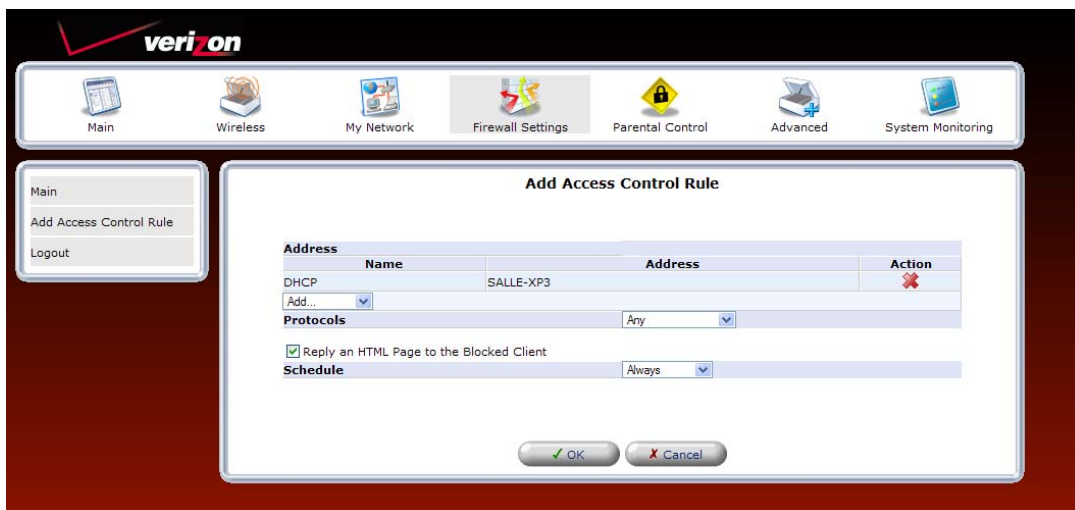
13.2.1 Selecting an Address

From the **Address** drop-down list, select the desired computer to which you want to apply this rule.



If your computer or device is not listed in the drop-down list, you may create a new Network Object manually by choosing the **User Defined** option. Please see section 15.11, “Network Objects,” for more details on setting up a network object.

After you have selected a computer, the following screen appears. Next, proceed to section 13.2.2 to select a protocol.





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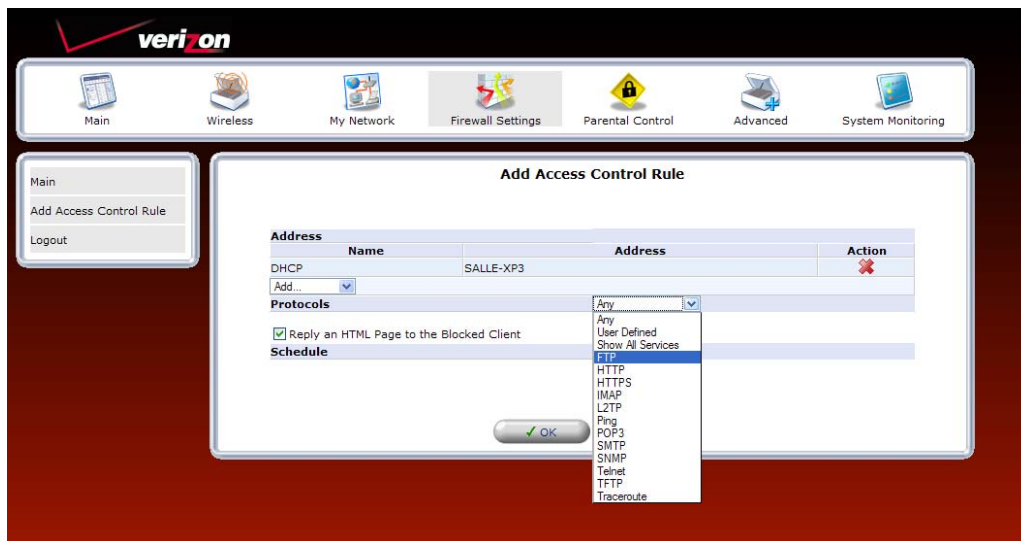
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13.2.2 Selecting an Protocol

From the **Protocols** drop-down list, select the desired option that you want to prohibit the computer from using. To notify the user of this blockage via an HTML (Web) page, click the check box (a check mark will appear in the box). Note: This feature only works for HTTP services.

To see more than the basic listed services choose **Show All Services** from the **Protocols** drop-down. This will show you many pre-defined services such as games and IM clients.



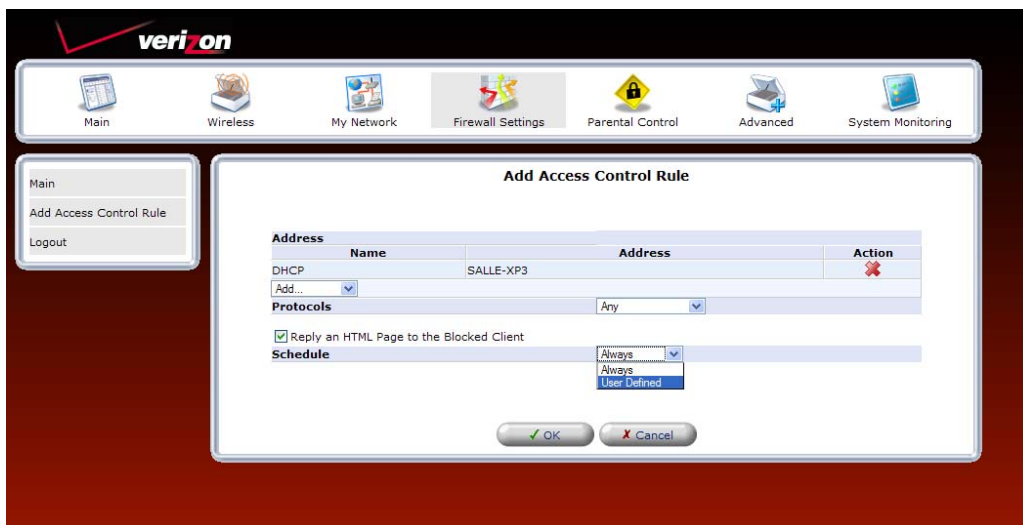
After you have selected the protocol, the following screen appears. Proceed to section 15.21 to configure a schedule rule.



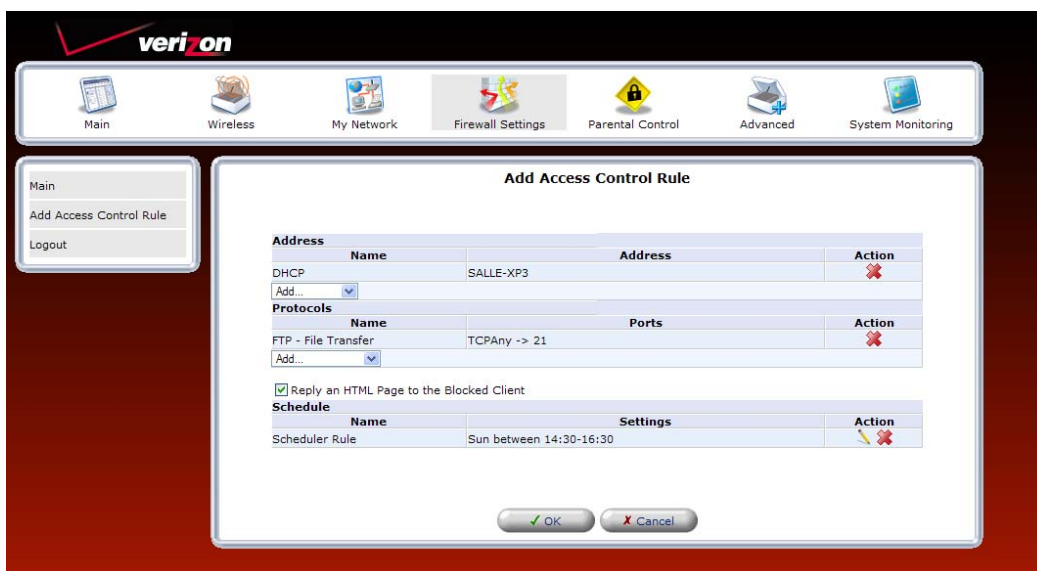
13.2.3 Configuring a Schedule Rule

After you have selected the protocol, the following screen appears. If desired, select a schedule from the **Schedule** drop-down menu. If you select **User Defined**, refer to the procedure explained in section 15.21, “Scheduler Rules,” to set up a schedule rule. Otherwise, select **Always**, and then click **OK** to continue.

- Select **Always** to allow the rule to be active all the time.
- Select **User Defined** to allow the rule to be active only at certain time, as defined by the rules you set up.



After you have set up a User Defined rule, the following screen will display the rule. Click **OK** to save the settings.



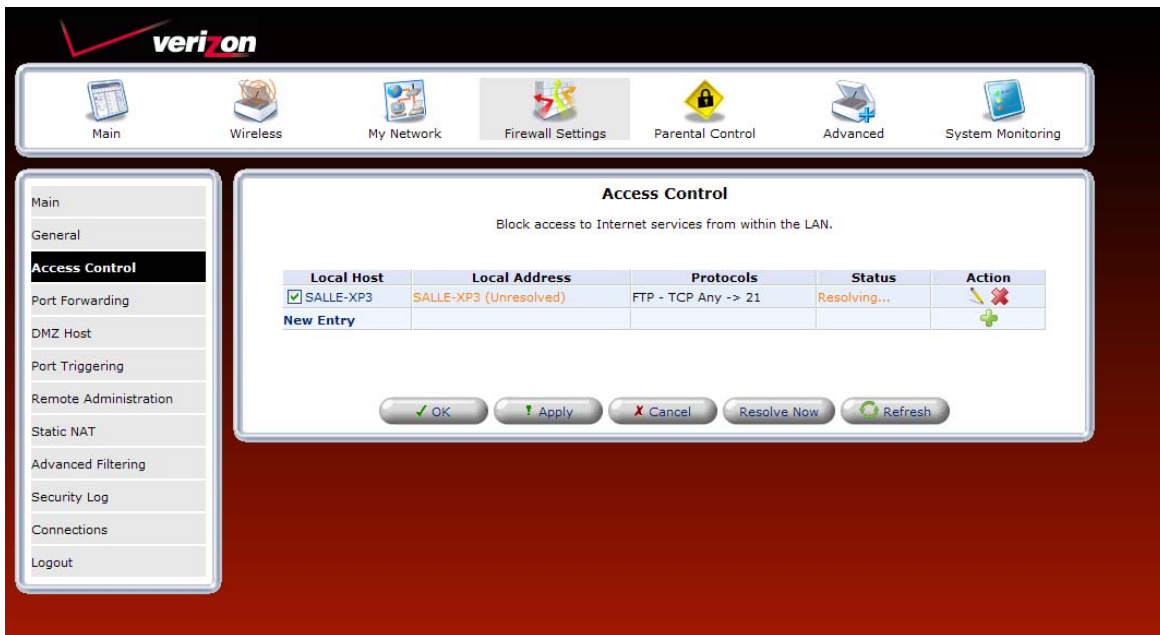


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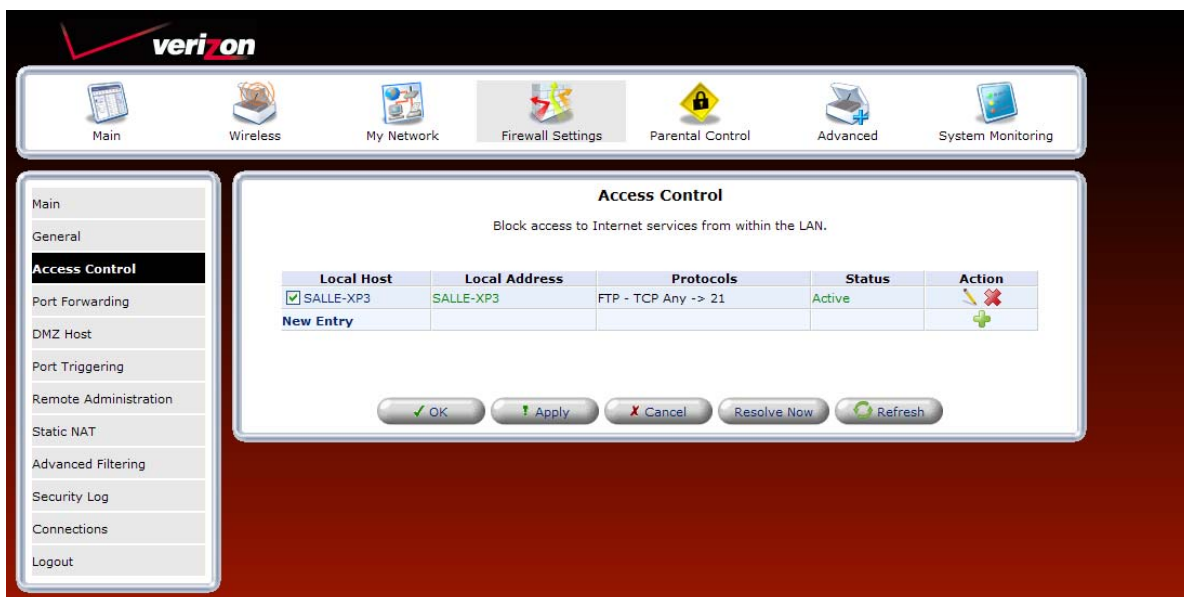
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If the **Status** field displays **Resolving**, this means that the Router is attempting to locate the restricted Web site. Click **Resolve Now** to resolve the Web site.



The restricted Web site will be resolved into the IP address (or device name) that you have specified, and the **Status** field will display **Active**.





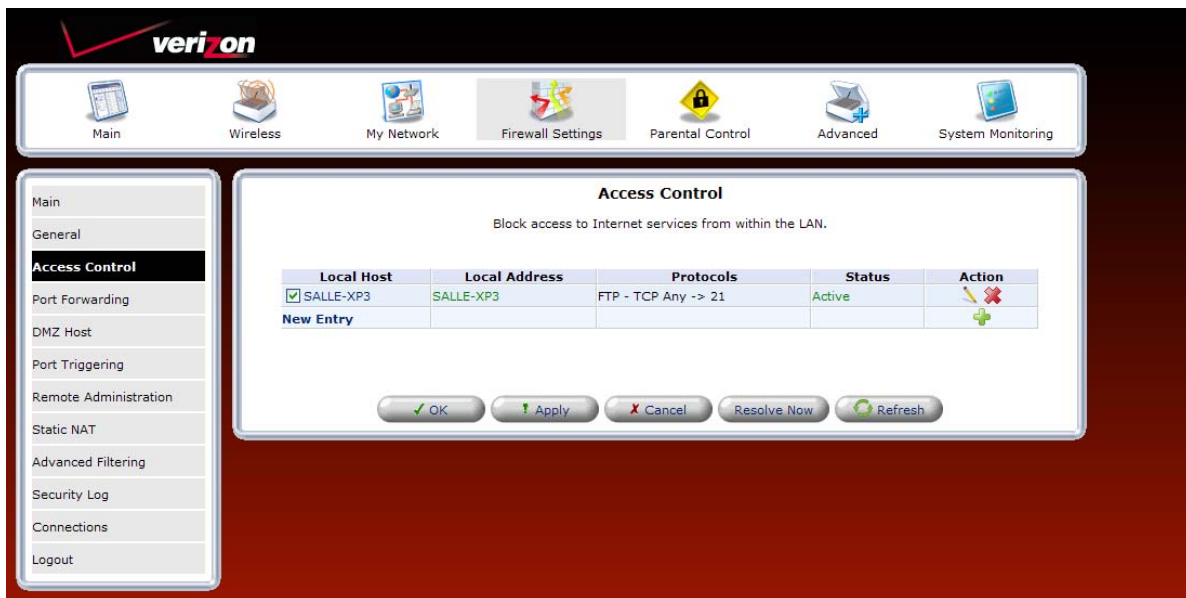
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13.2.4 Completing the Access Control Rule Configuration

If you clicked **OK**, the following screen appears. The rule has been added to the list of security rules. To disable the security rule for an entry, click the adjacent check box, and then click **Apply**. To add additional access control rules, click the **New Entry** link.





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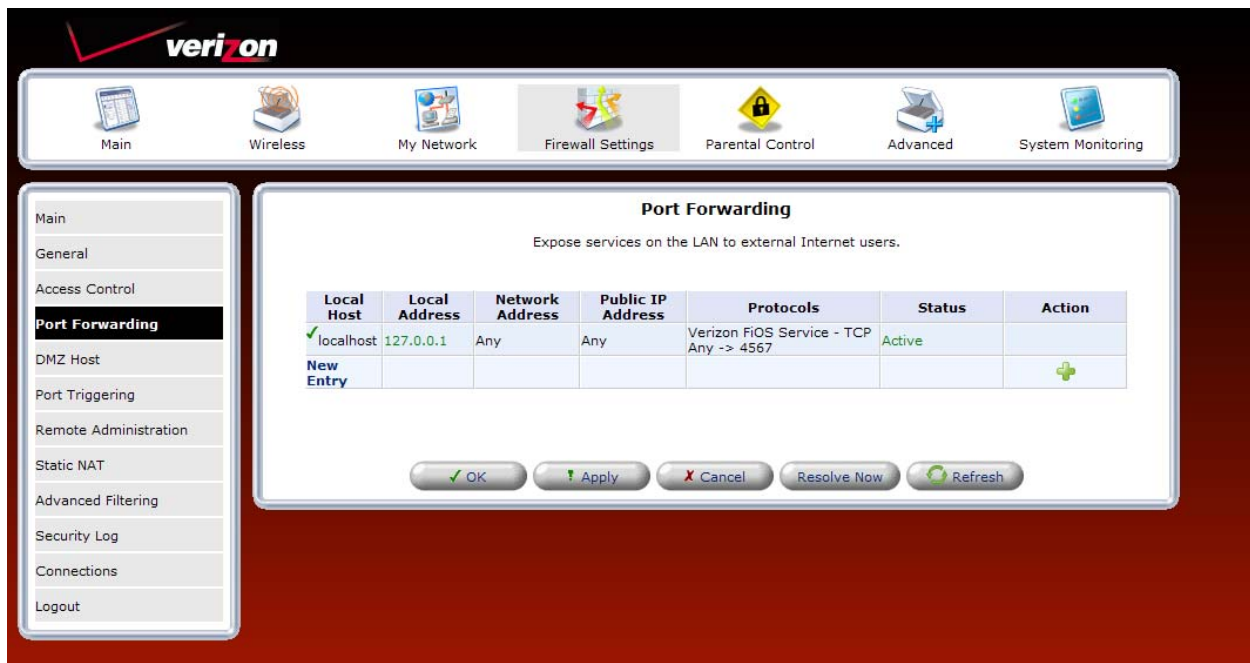
Verizon FiOS Router (Model 9100EM)

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13.3 Port Forwarding

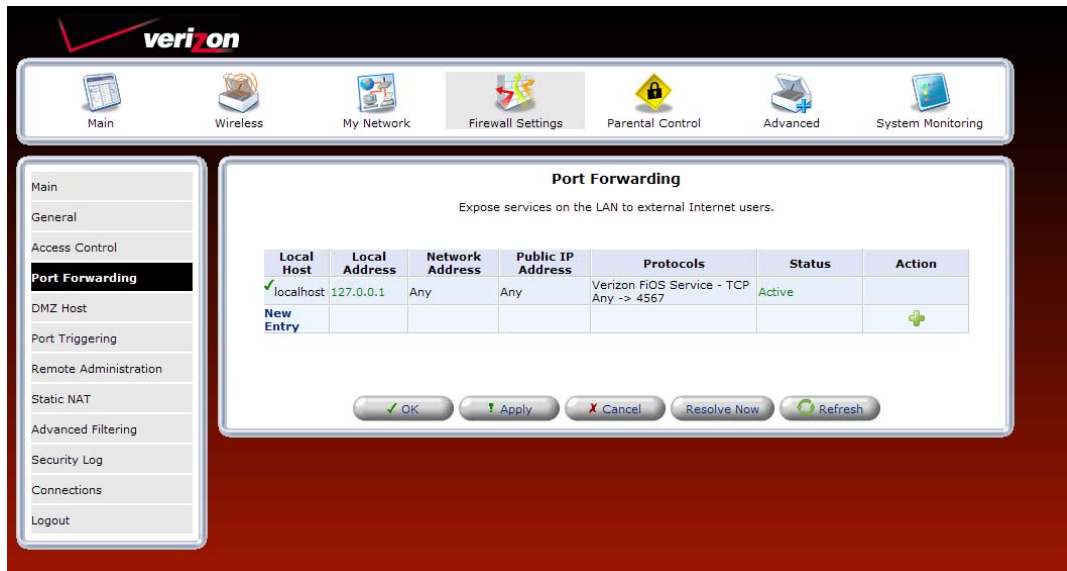
If you select **Firewall Settings** in the top navigation menu and then select **Port Forwarding** in the left submenu, the following screen appears.

By default the Router blocks all external users from connecting to your network. However, you can configure specific applications on your network to be accessible from the Internet. Port Forwarding allows the Router to enable applications (Games, Webcams, IM & Others) by opening a tunnel between remote (Internet) computers and a specific device port inside your local area network (LAN). Services on the LAN will be exposed to external Internet users.



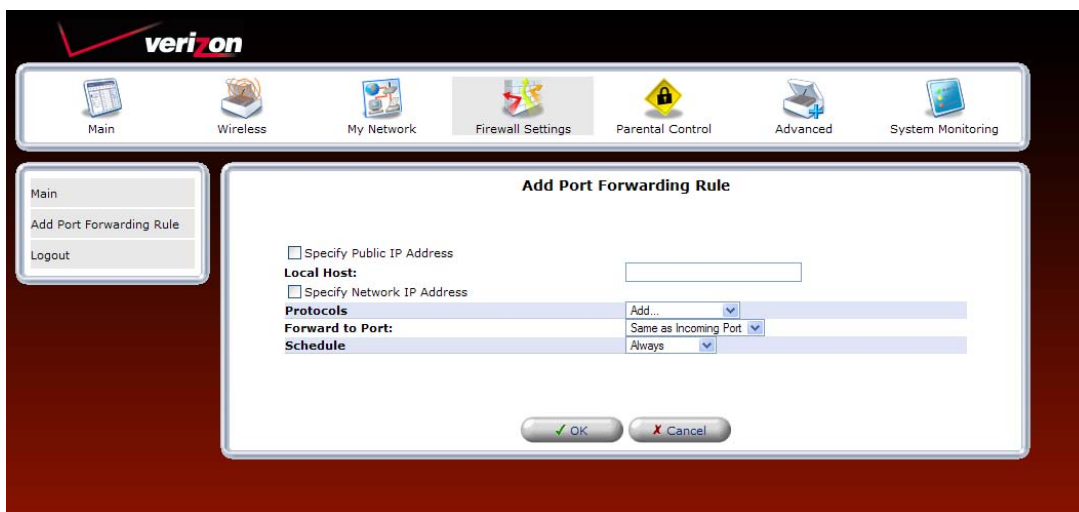
13.3.1 Setting Up a Predefined Port Forwarding Rule

To set up a predefined port forwarding rule, at the **Security** screen, click the **New Entry** link.



If you clicked **New Entry**, the following screen appears. In the **Local Host** field, enter a local host name or the IP address of the computer providing the service. If you will use a public IP address, click the check box next to **Specify Public IP Address**.

NOTE: Only one computer can be assigned to provide a specific service or application. If you want use public IP addresses in your Router's configuration, you must first obtain them from Verizon.





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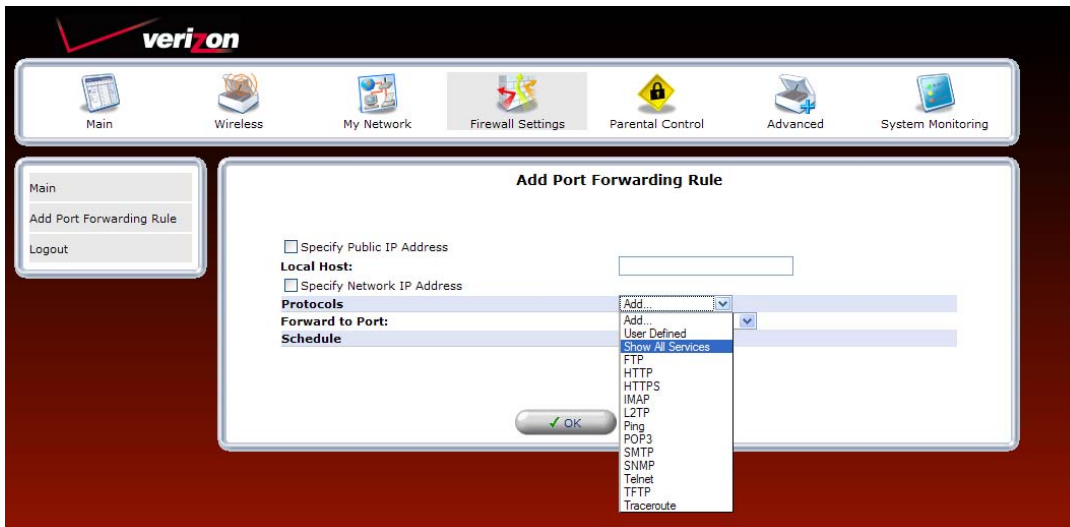
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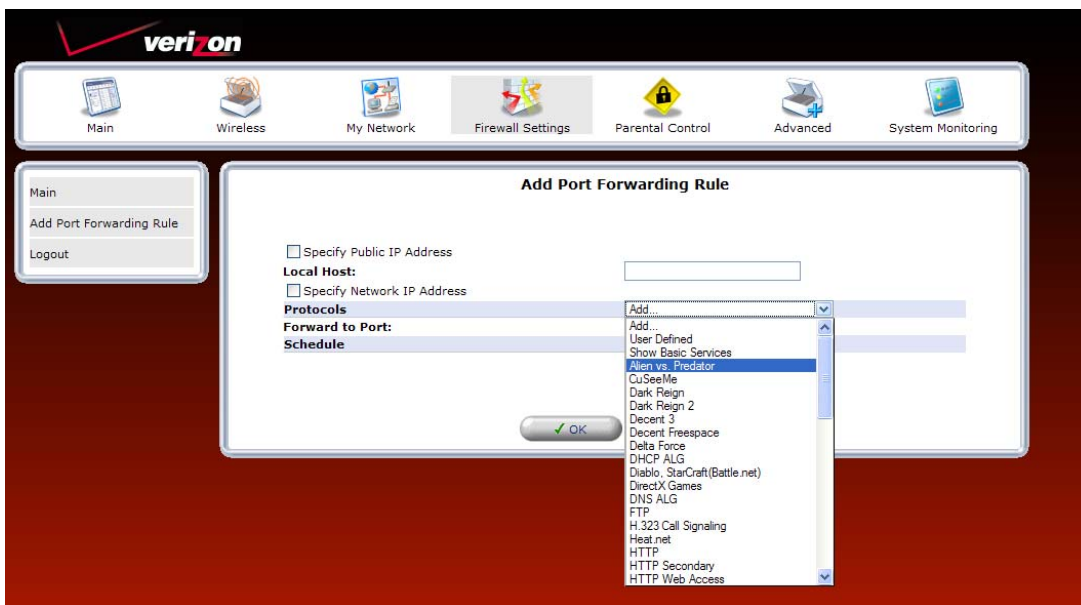
Next, select a predefined service from the **Protocol** drop-down list.

NOTE: For your convenience, the Router provides predefined protocols for applications, games, and VPN-specific programs.

The screen below displays the protocols of basic services provided in the Router. If you select **Show All Services** from the **Protocols** drop-down list, all available services will be displayed in the drop-down list.



Select a predefined service from the **Protocols** drop-down list.



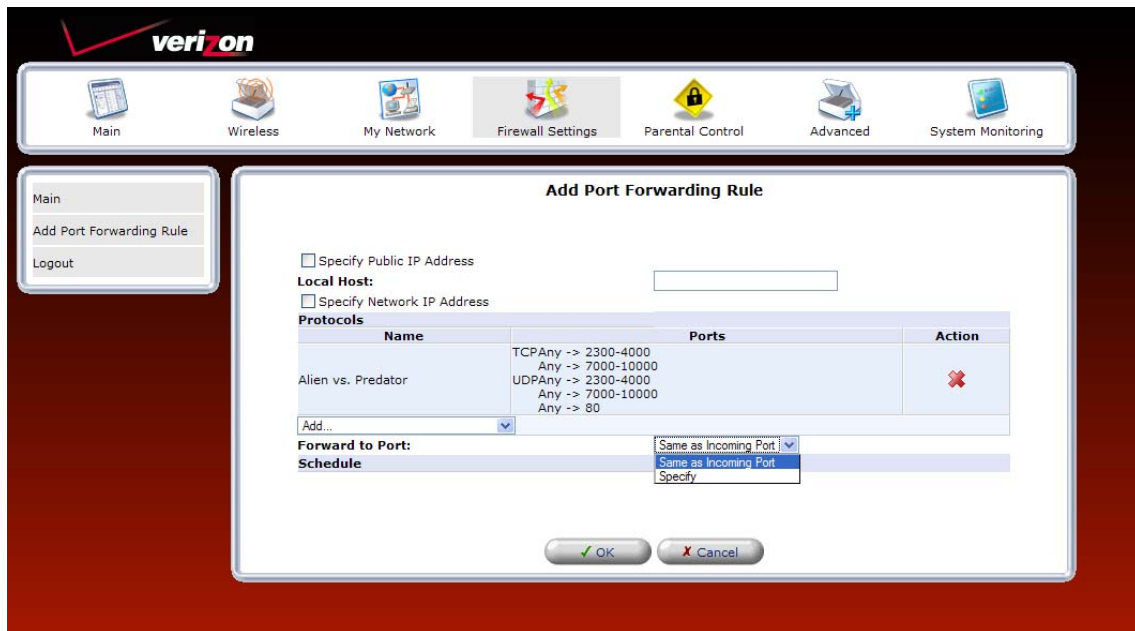


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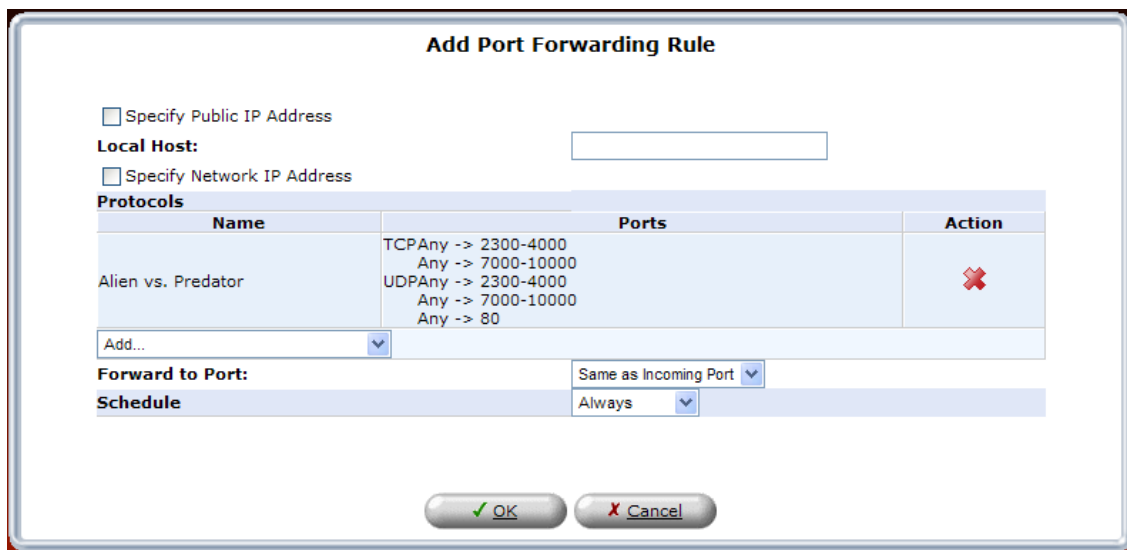
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After you have selected a predefined service, the following screen appears. Next select an option from the **Forward to Port** drop-down list to indicate the port to which traffic will be forwarded.



If you selected **Same as Incoming Port** from the **Forward to Port** drop-down list, the following screen appears. Click **OK** to continue.





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Next, set up a schedule rule using the instructions explained in section 15.21 “Scheduler Rules.” After you have set up a schedule, enter the address of the local Host, and then click **OK** to save the settings.

Add Port Forwarding Rule

Specify Public IP Address

Local Host:

Specify Network IP Address

Name	Ports	Action
Alien vs. Predator	TCPAny -> 2300-4000 Any -> 7000-10000 UDPAny -> 2300-4000 Any -> 7000-10000 Any -> 80	✗

Add...

Forward to Port:

Name	Settings	Action
Scheduler Rule	Fri between 14:30-16:30	✍ ✗

If you clicked **OK** the following screen appears. The predefined port forwarding rule has been assigned.

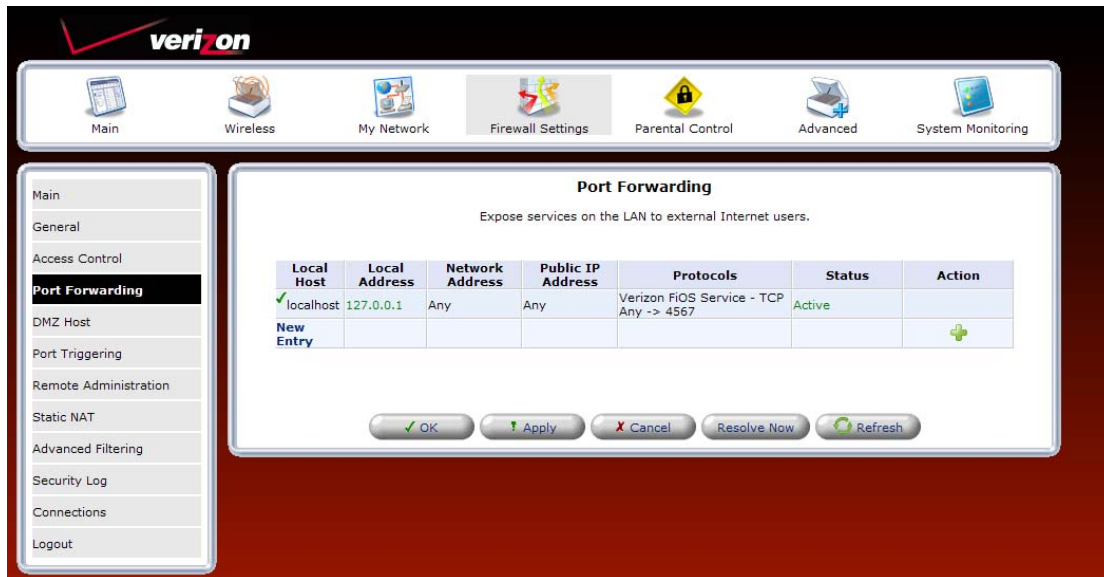
Port Forwarding

Expose services on the LAN to external Internet users.

Local Host	Local Address	Network Address	Public IP Address	Protocols	Status	Action
✓ localhost	127.0.0.1	Any	Any	Verizon FiOS Service - TCP Any -> 4567	Active	
✓	(Unresolved)	Any	Any	Alien vs. Predator - TCP Any -> 2300-4000 TCP Any -> 7000-10000 UDP Any -> 2300-4000 UDP Any -> 7000-10000 UDP Any -> 80	New	✍ ✗
New Entry						+

13.3.2 Setting Up a User Defined Port Forwarding Rule

To set up a user-defined port forwarding rule, in the **Port Forwarding** screen, click the **New Entry** link.



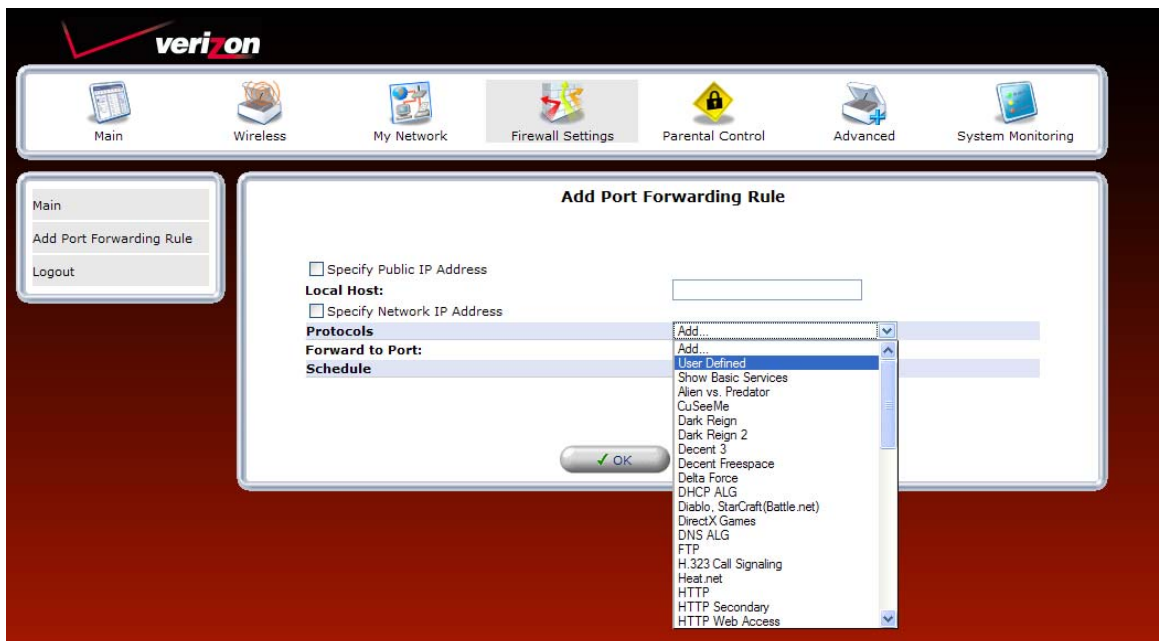
The following screen appears. In this screen, do the following to add a port forwarding rule:

- Specify the local computer to which you want to apply port forwarding rule. This is done in the **Local Host** field. The field will accept either your computer name (the NetBios name; for example DADS-PC) or the computer IP address. These values can be found on your **My Network page**.
- If you are setting up a NAT/NAPT rule you must also specify the public IP address that data will be coming in on. Check the **Specify Public IP Address** check-box and enter a specific external IP address such as the WAN IP address of the router or a Static NAT IP address.
- Optionally, you can specify a remote network (to forward packets to (this is a network that it outside the control of your Router). This is common in a small business or advanced configuration that uses multiple routers. Select the **Specify Network IP Address** check-box if you would like to apply this rule to send packets to a host IP address outside the local network (such as a remote gaming server). The screen will refresh and present you with a field in which to insert this IP address.

NOTE: Only one computer can be assigned to provide a specific service or application. If you use public IP addresses in your Router's configuration, you must first obtain them from Verizon.



Next, choose the protocol that you want to forward. You can select from many common applications provided in the **Forward to Port** drop-down list. If you want to define your own port forwarding rule, select **User Defined**.





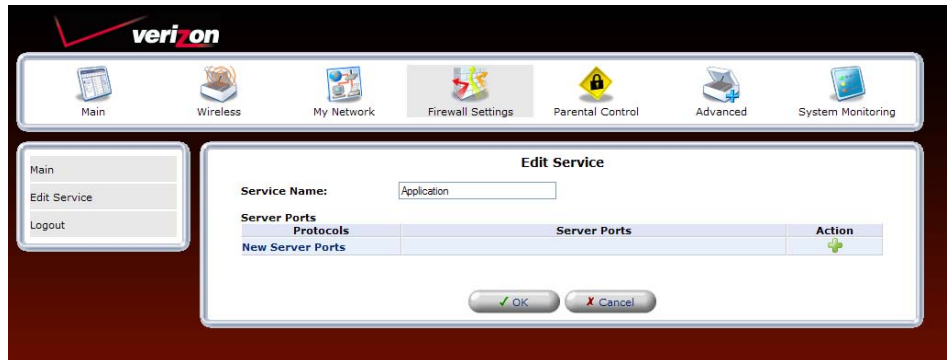
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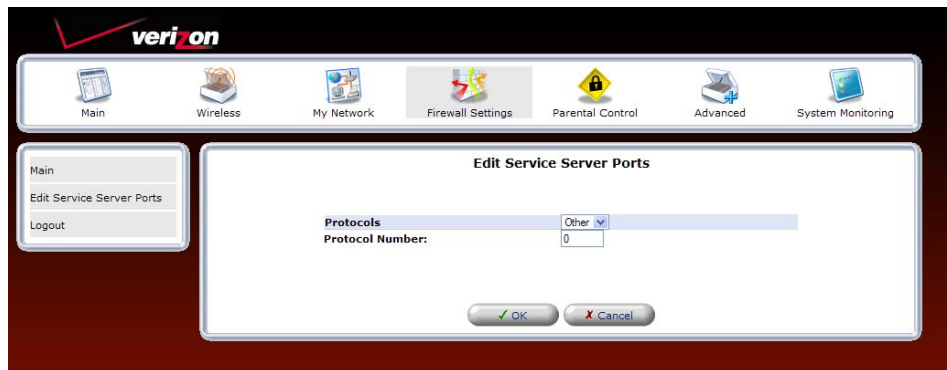
If you selected **User Defined** in the preceding screen, the following screen appears. If desired, you can name your service by typing the desired name in the **Service Name** field. Next, click the **New Server Ports** link to define the ports for your newly created service.

NOTE: At least one server port entry must be defined before you can enter a service name.

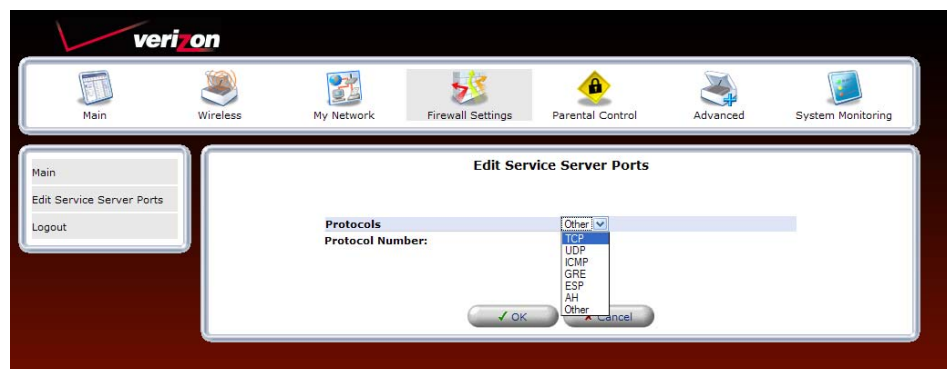


The following screen appears. From the **Protocols** drop-down list, select the desired protocol.

NOTE: Protocol information should be provided by your application developer or documentation.



Next, enter your protocol number in the **Protocol Number** field. Click **OK** to continue.



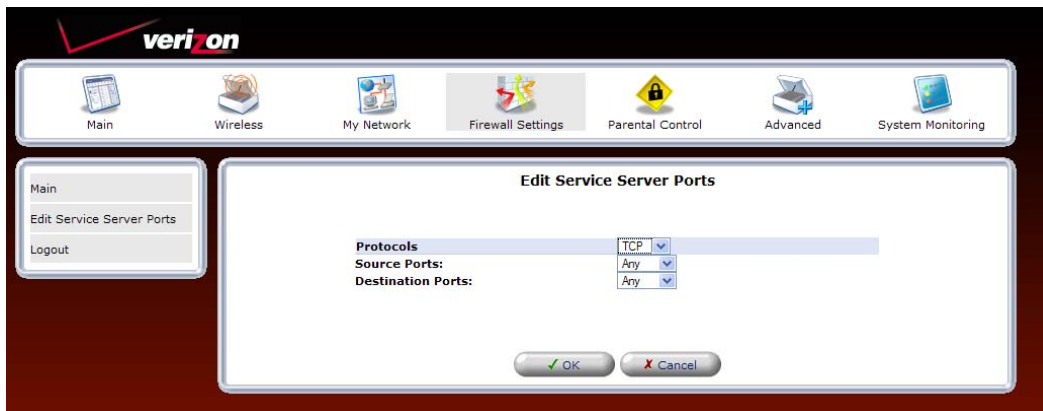


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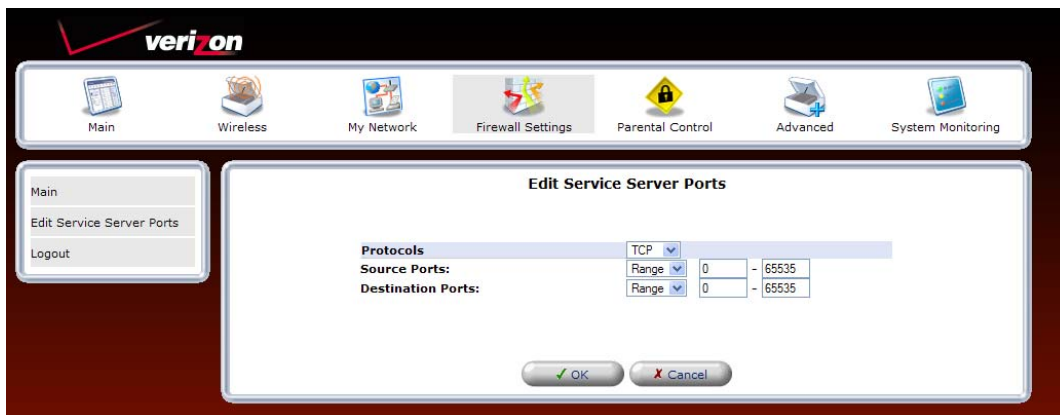
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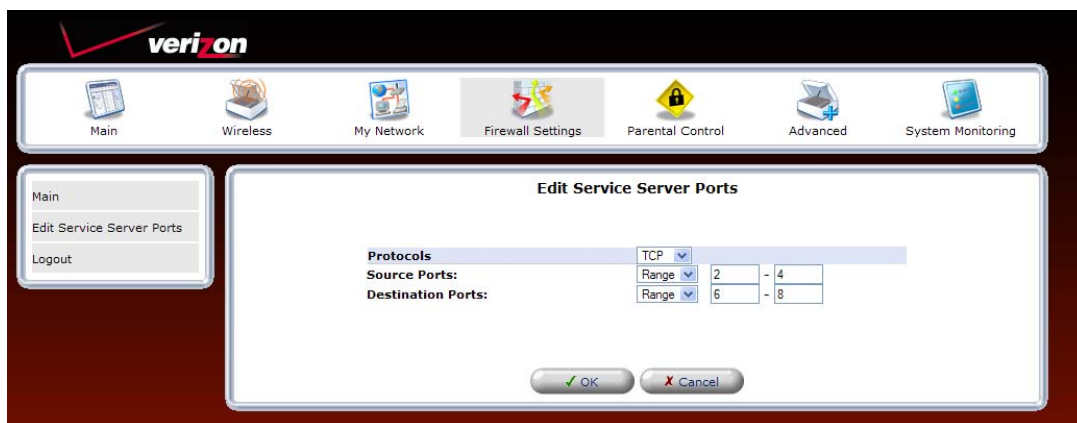
For example, if you selected **TCP**, from the drop-down list, the following screen appears. Select the desired source and destination port settings from the drop-down lists.



To set up a range of ports, select “Range” from the **Source Ports** and **Destination Ports** drop-down lists.



Next, enter the desired port range values in the fields provided, and then click **OK** to continue.



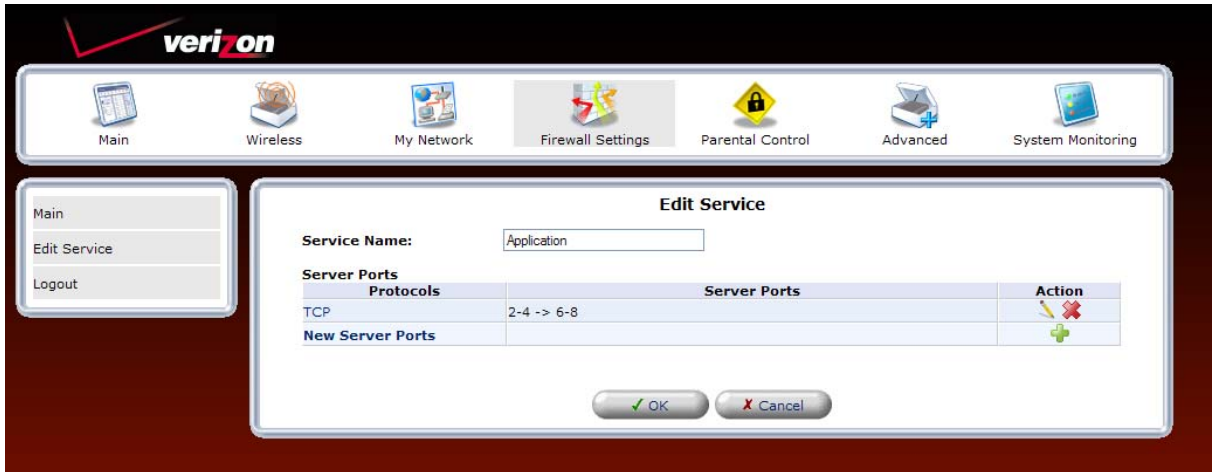


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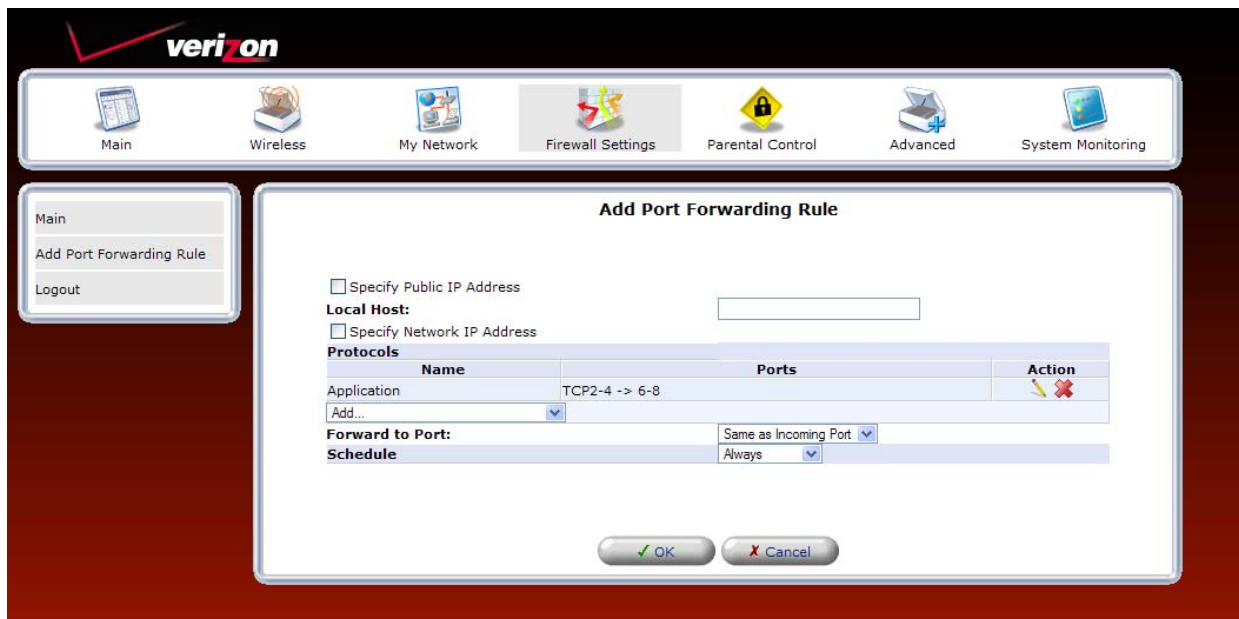
If clicked **OK** in the preceding screen, the following screen appears. If desired, click the **New Server Port** link to add additional server ports. Then, click **OK** to save the settings.



Now you must specify a local host for which you to assign this user-defined port forwarding rule. To assign the rule to a public IP address, click the **Specify Public IP Address** check box.

NOTE: Only one computer can be assigned to provide a specific service or application. If you want use public IP addresses in your Router's configuration, you must first obtain them from Verizon.

At the **Add Port Forwarding Rule** screen, you can enter the name of a local host or click the **Specify Public IP Address** check box to indicate the host or IP Address to which the port forwarding rule will be assigned.



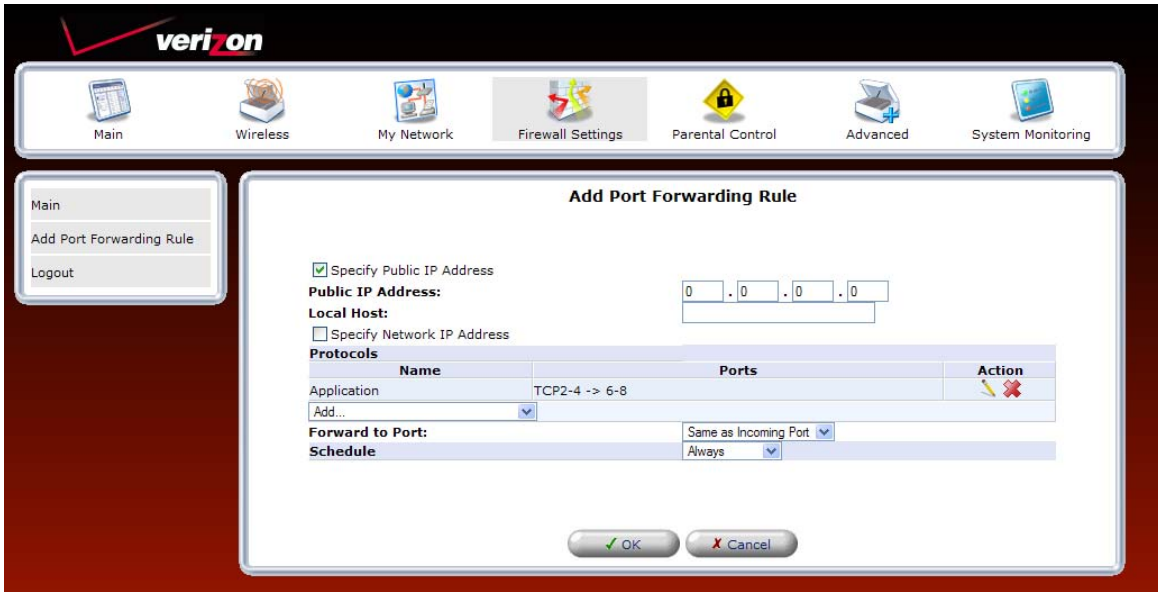


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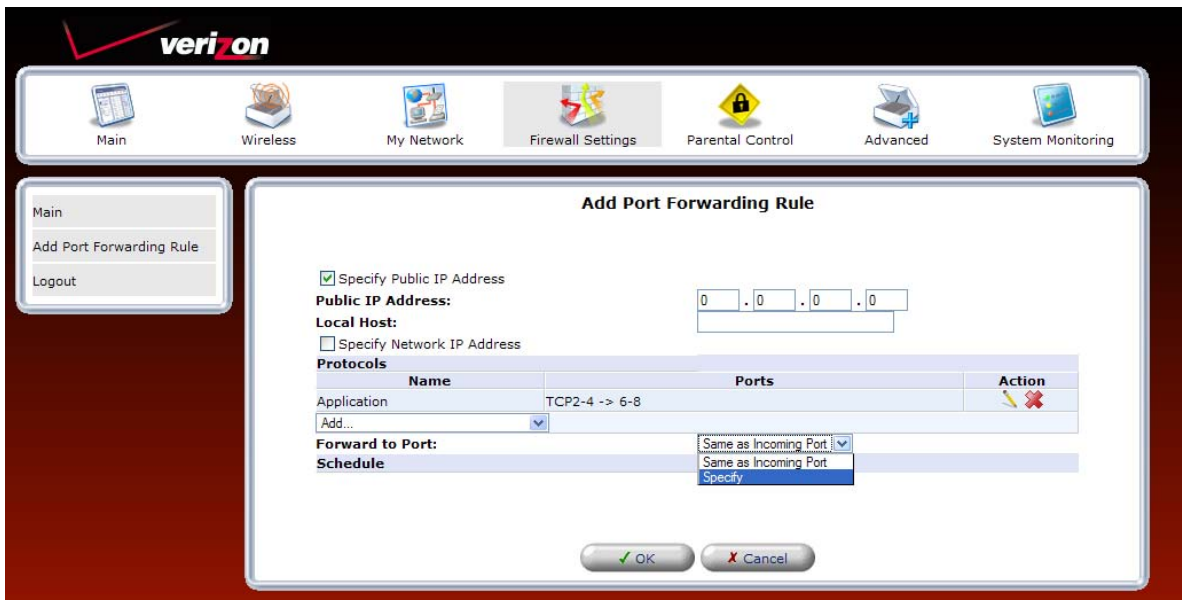
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To assign the port forward rule to a NAT policy (or external IP address) click the **Specify Public IP Address** check box, and enter the appropriate IP address.



From the **Forward to Port** drop-down list, select the desired option to indicate the port to which traffic will be forwarded. This is almost always the same as the incoming port. You may define a custom port map by specifying a new port to send this traffic to. (For example you could forward all the incoming traffic, coming in on Port 80, to an external IP address assigned to your internal computer, except Port 81).





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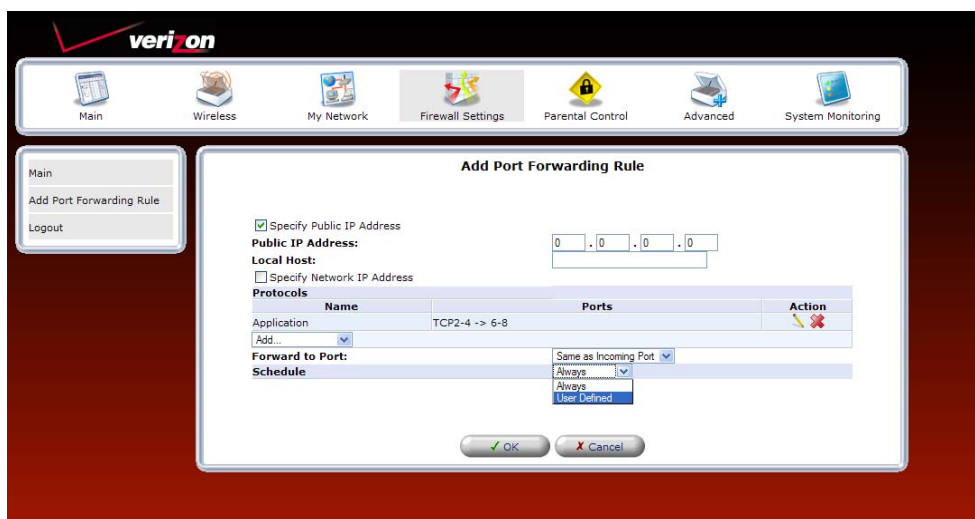
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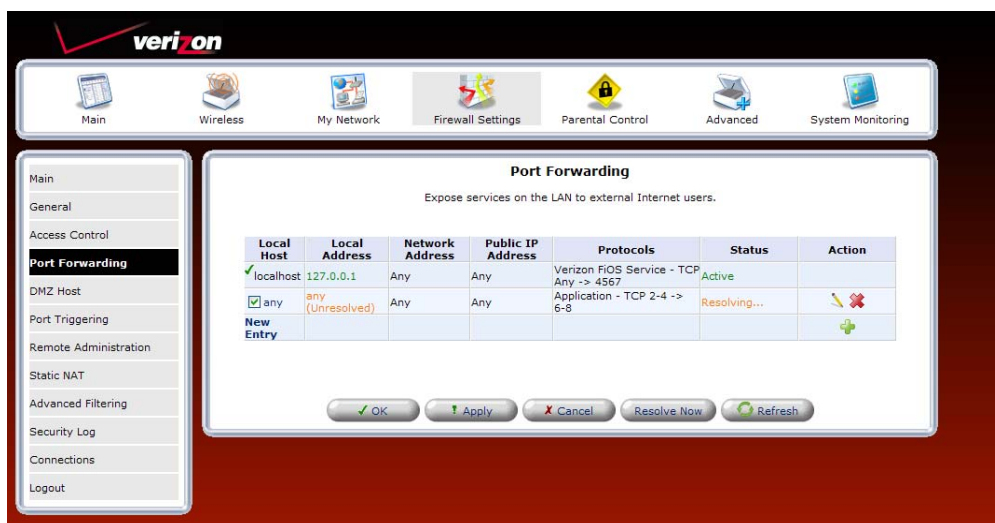
If desired, set up schedules for your port forwarding rules. To add a schedule rule, select an option from the **Schedule** drop-down menu.

- Select **Always** to allow the rule to be active all the time.
- Select **User Defined** to allow the rule to be active only at certain time, as defined by the rules you set up.

If you select **User Defined**, refer to the procedure explained in section 15.21, “Scheduler Rules,” to set up a schedule rule. Otherwise, select **Always**, and then click **OK** to continue.



After you have entered the desired values in the preceding screen and clicked **OK**, the following screen appears. Your port forwarding rule will be added to the list of rules. You may need to click **Resolve Now** while the Router is attempting to save the rule to the local host. To disable a port forwarding rule, clear the check box next to the appropriate host name or IP address. Then, click **Apply** to save the setting.





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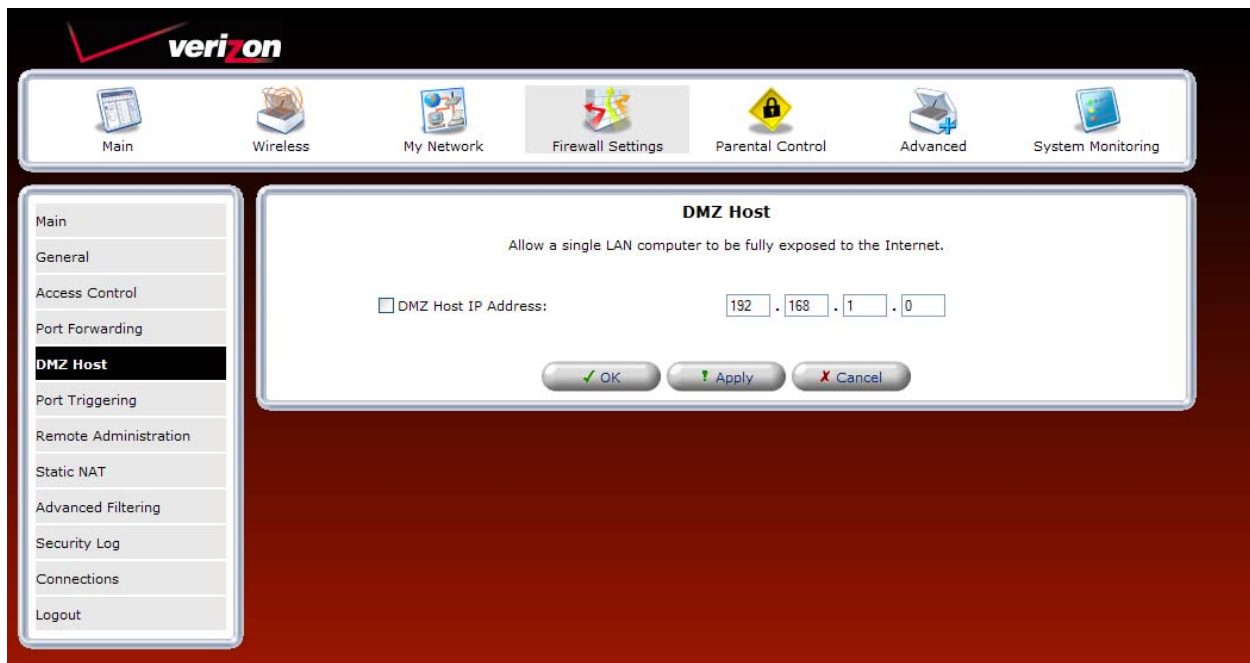
13.4 DMZ Host

If you select **Firewall Settings** in the top navigation menu and then select **DMZ Host** in the left submenu, the following screen appears. The DMZ (Demilitarized) Host feature allows the user to forward unsolicited inbound WAN traffic to any single IP on the LAN. One computer on your LAN will be fully exposed to the Internet. The designated computer will be connected to your network without regard to firewall security or restrictions. Use this feature in cases where you want to use Internet services that are not available in the Port Forwarding list, such as Web games or video-conferencing.

WARNING: The computer that is configured as a DMZ Host will not have security or firewall protection.

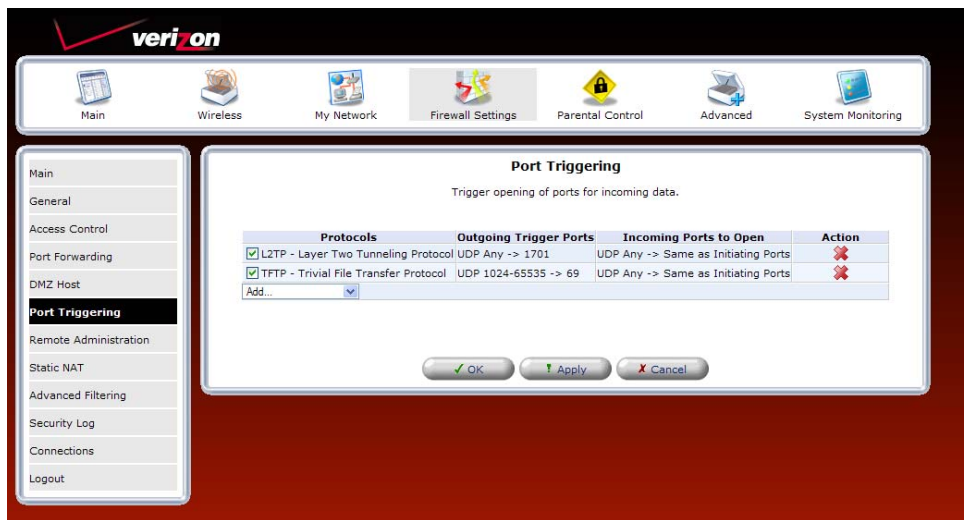
To configure a computer for DMZ Host, click the **DMZ Host IP Address** check box, and then enter the IP Address of the computer that you want to be accessible from the Internet. The computer will answer to the default WAN IP address of the Router. Click **Apply** to save the settings.

To disable DMZ Host (if previously enabled), click to clear the check box. Then click **Apply** to save the settings.



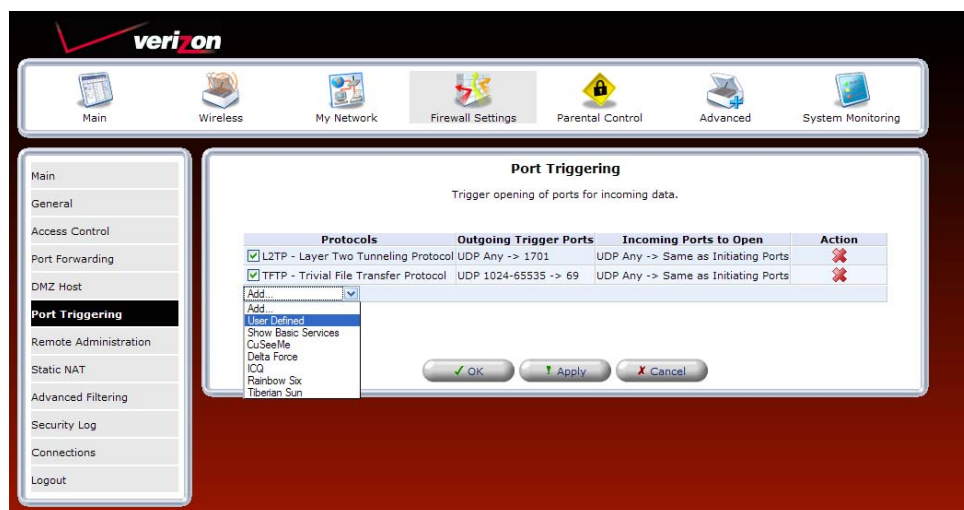
13.5 Port Triggering

If you select **Firewall Settings** in the top navigation menu and then select **Port Triggering** in the left submenu, the following screen appears. You can define port triggering rules to dynamically open the firewall for specific protocols or ports. The specified ports will be opened for incoming traffic. Port triggering can be used for dynamic port forwarding configuration. By setting port triggering rules, you can allow inbound traffic to arrive at a specific LAN host, using ports different than those used for the outbound traffic. This is called port triggering because the outbound traffic triggers the ports to which inbound traffic is directed.



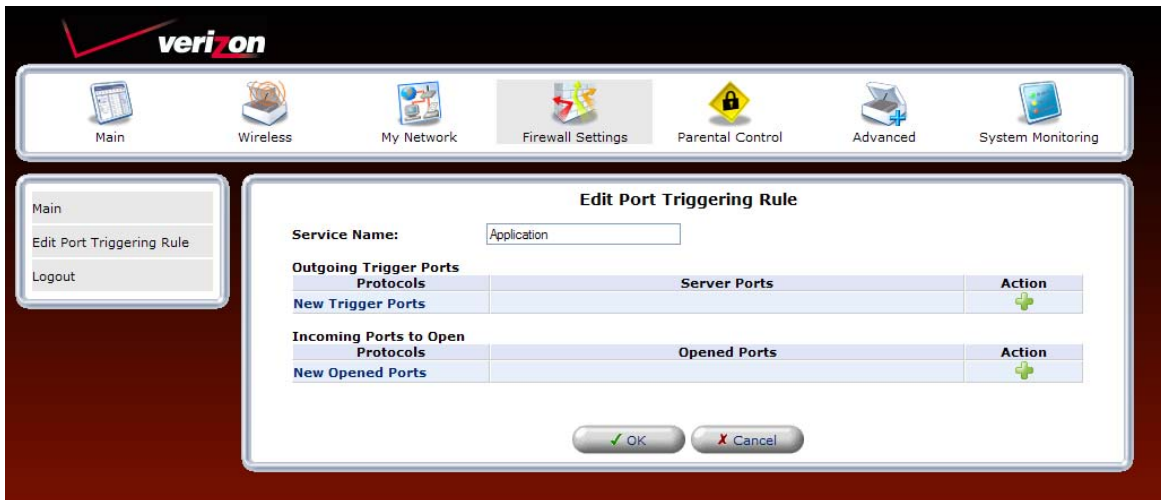
13.5.1 Setting Up a User Defined Port Triggering Rule

To set up a user-defined port triggering rule, in the **Add** drop-down list, select **User Defined**.

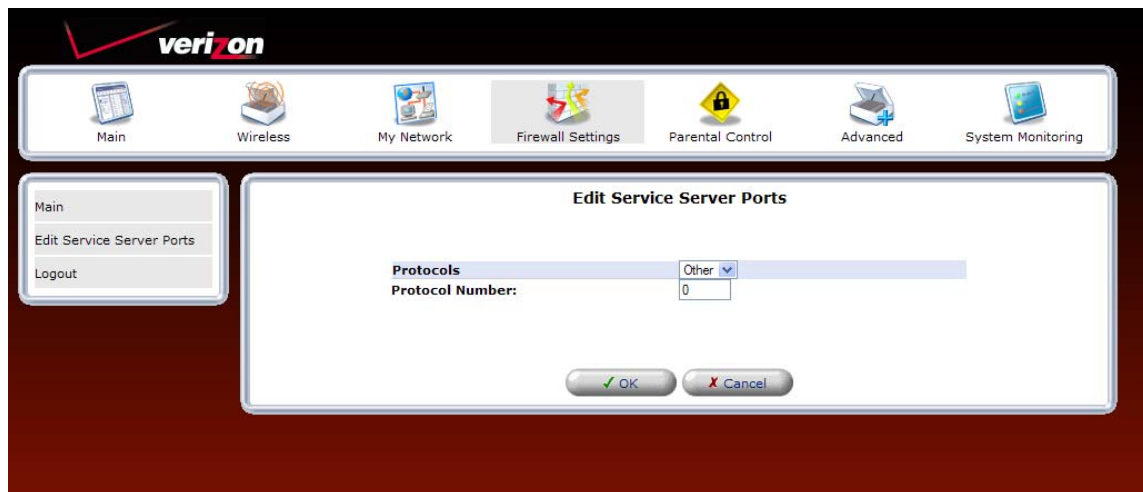


13.5.1.1 Configuring Outgoing Trigger Ports

If you selected **User Defined** in the preceding screen, the following screen appears. Enter the desired name in the **Service Name** field. Next, click the **New Trigger Ports** link to configure outgoing trigger ports.



If you clicked **New Trigger Ports**, the following screen appears. Select the desired protocol from the **Protocol** drop-down list.



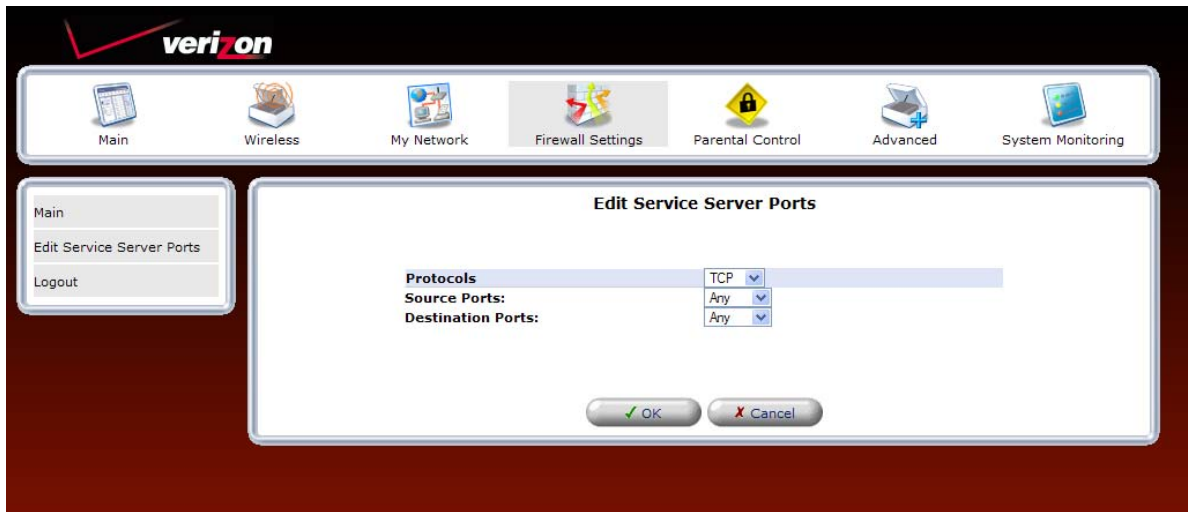


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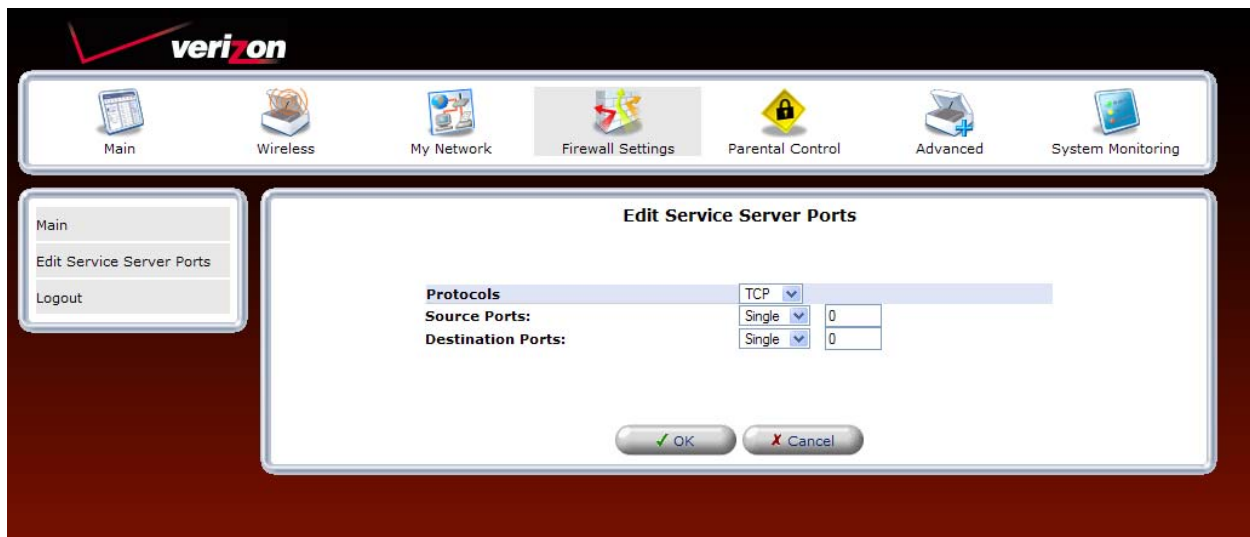
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For example, if you selected **TCP** from the **Protocol** drop-down list, the following screen appears. Select the desired source and destination settings from the drop-down lists.



For example, if you selected **Single**, the following screen appears. Enter the desired source port and destination port values, and then click **OK** to save the settings.



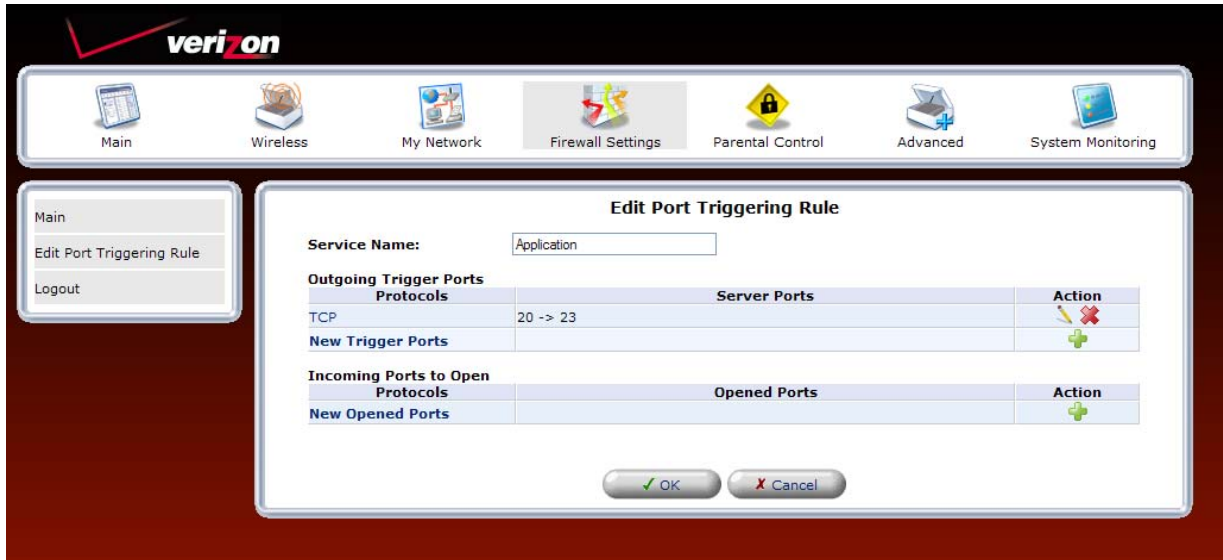


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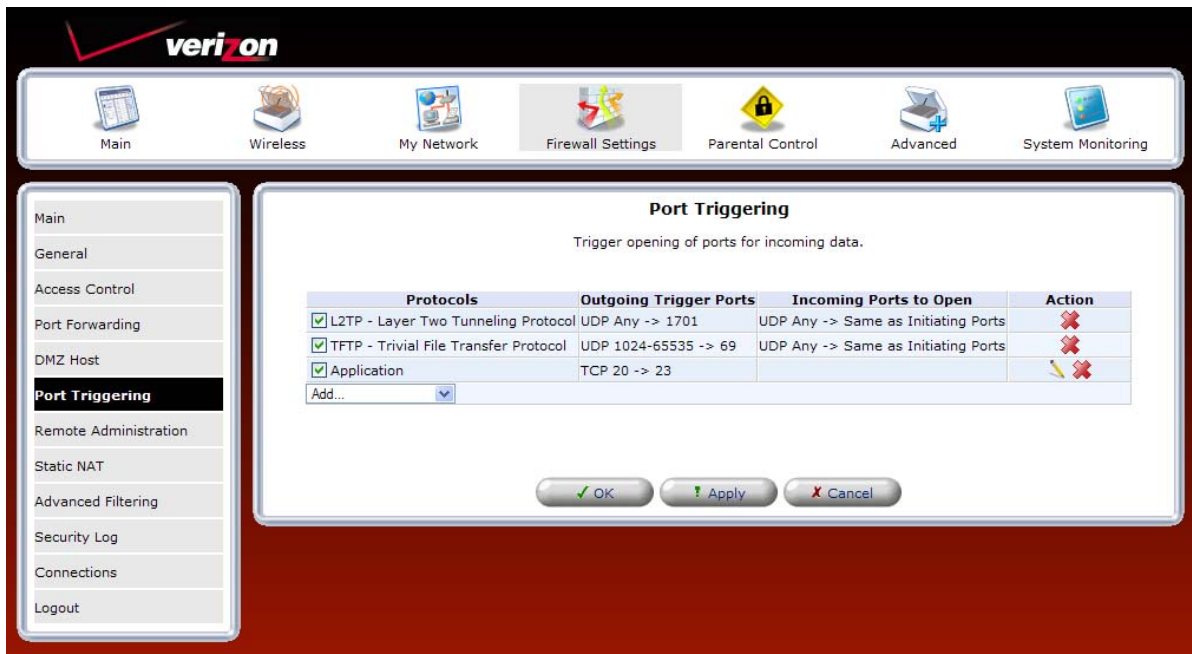
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If you entered source and destination port values clicked **OK** in the preceding screen, the following screen appears. If you desire to configure incoming trigger port, proceed to section 13.5.1.2. Otherwise, click **OK** to continue.



If you clicked **OK**, the following screen appears. Click **Apply** to save the settings. If you want to edit a rule, click the pencil icon next to the rule that you want to edit. To delete a rule, click the “X” icon next to the rule that you want to delete.





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13.5.1.2 Configuring Incoming Trigger Ports

To configure incoming trigger ports, in the **Edit Port Triggering Rule** screen, click the **New Opened Ports** link.



If you clicked **New Opened Ports**, the following screen appears. Select a protocol from the **Protocol** drop-down list.

