SECURITY LOG

- **Malformed packet: Failed parsing** – a packed has been blocked because it is malformed.
- **Maximum security enabled service** – a packet has been accepted because it belongs to a permitted service in the maximum security level.
- **Multicast IGMP connection** – a multicast packet has been accepted.
- **NAT Error: Connection pool is full - No connection created** – a connection has not been created because the connection pool is full.
- **NAT Error: Conflict mapping already exists** – a conflict occurred because the NAT mapping already exists, so NAT failed.
- **NAT Error: No free NAT IP** – no free NAT IP, so NAT has failed.
- **NAT out failed** – NAT failed for this packet.
- **Outbound Auth1X** – an outbound Auth1X packet has been accepted.
- **Packet invalid in connection** – an invalid connection packet has been blocked.
- **Parental controls** – a package has been block because of parental controls.
- **Passive attack on ftp-server: Client attempted to open Server ports** – a packet has been blocked.
- **Service** – a packet has been accepted because of a certain service, as specified in the event type.

- **Spoofing protection** – a packet from the Internet with a source IP belong to the local network has been blocked.
- **STP packet** – STP (Spanning Tree Protocol) packet has been accepted/rejected.
- **SynCookies protection** – a SynCookies packet has been blocked.
- **Trusted device** – a packet from a trusted device has been accepted.
- **UDP flood protection** – a packed has been blocked, stopping a UDP flood.
- **User authentication** – a message arrived during login time, including both successful and failed authentication.
- **Wildcard connection hooked** – debug message regarding connection.
- **Wildcard connection opened** - debug message regarding connection.
- **WinNuke protection** – a WinNuke attack has been blocked.

To view the security log:

1. Select **Security Log**.

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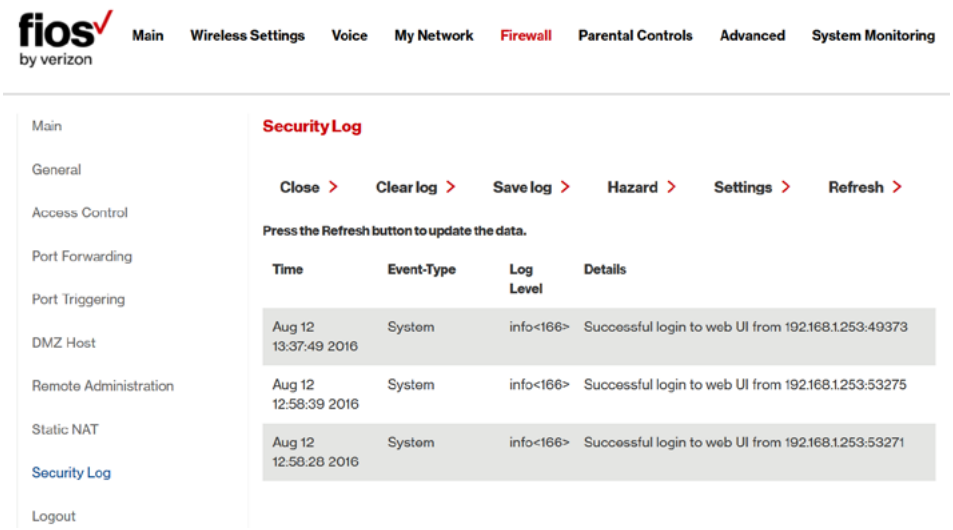
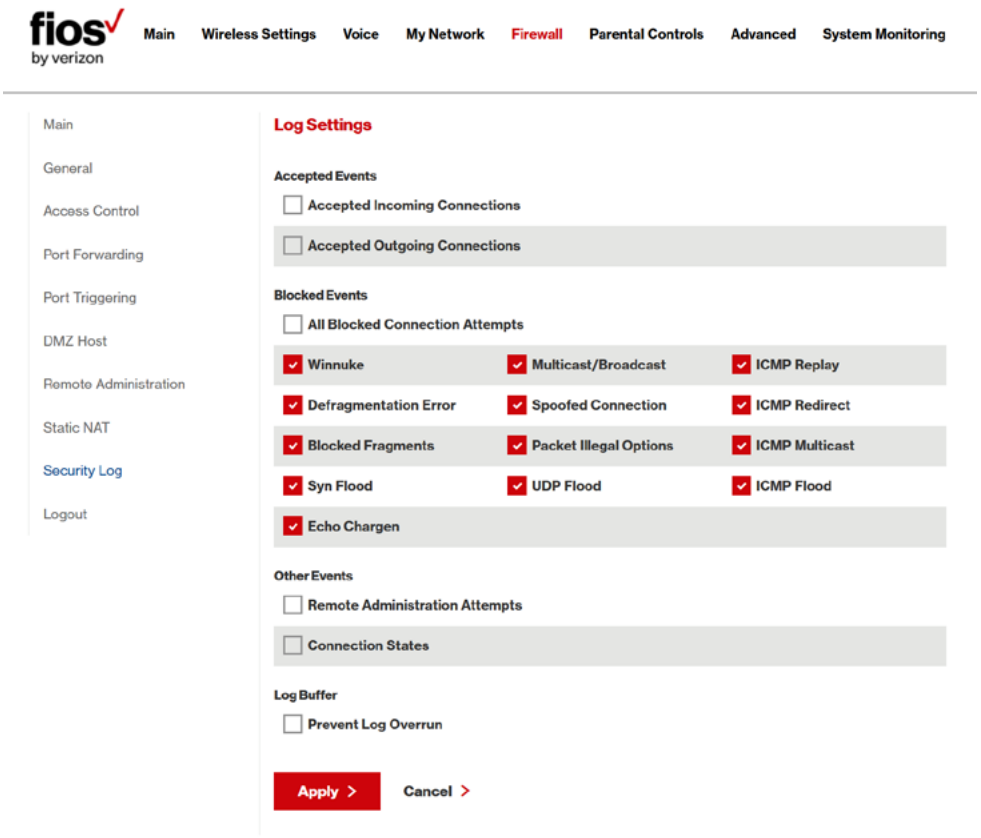
SECURITY LOG



2. To modify the types of events that display in the log, click **Settings**.



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SECURITY LOG

3. In the **Accepted Events** section, select the type of activities that generates a log message:
    - **Accepted Incoming Connections** – generates a log message for each successful attempt to establish an inbound connection to the local network.
    - **Accepted Outgoing Connections** - generates a log message for each successful attempt to establish an outbound connection to the public network.
4. In the **Blocked Events** section, select the type of blocked events you want logged.
5. To log a message for each remote administration connection attempt, click the **Remote Administration Attempts** check box.
6. To log the connection for handling by the firewall and application level Fios Routers, click the **Connection States** check box.
7. Click **Apply** to save changes. The Security Log page displays.

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08/

SETTING PARENTAL CONTROLS

8.0 Activating Parental Controls

8.1 Rule Summary

The abundance of harmful information on the Internet poses a serious challenge for employers and parents alike as they ask “How can I regulate what my employee or child does on the Internet?”

With that question in mind, your Fios Router’s Parental Controls were designed to allow control of Internet access on all locally networked devices.

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ACTIVATING PARENTAL CONTROLS

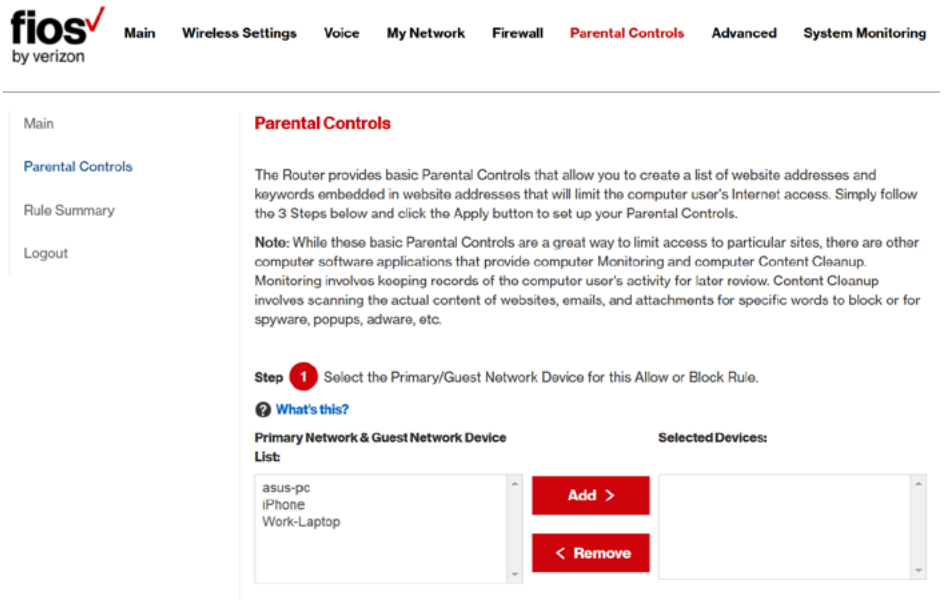
8.0/ ACTIVATING PARENTAL CONTROLS

You can create a basic access policy for any computer or device on your Fios Router network. Parental controls limit Internet access to specific websites based on a schedule that you create.

Access can be limited on specific websites or keywords embedded in a website. For example, you can block access to the 'www.anysite.com' as well as block any website that has the word 'any' in its site name.

To limit computer access:

1. Select **Parental Controls**.



2. In **Step 1** (optional), select the computers or device where you are limiting access in the **Networked Computer/ Device** list box, then click **Add**. The devices display in the **Selected Devices** section.
3. To remove a device from the **Selected Devices** list box, select the device, then click **Remove**. The device displays in the **Networked Computer/Device** list box.
4. In **Step 2**, click one of the following options in the **Limit Access By** section:
   - **Block the following Websites and Embedded Keywords within a Website** – blocks the specified websites and websites with names contained the specified keyword.
   - **Allow the following Websites and Embedded Keywords within a Website** – allows the specified websites and websites with names contained the specified keyword.
   - **Block ALL Internet Access** – will not allow the device to access the Internet.
5. Enter the name of the website or keyword, then click **Add**.

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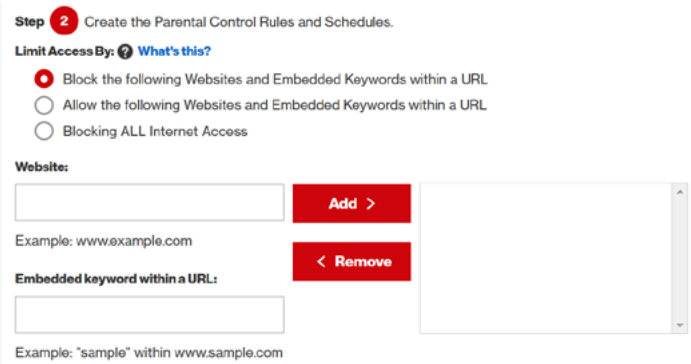
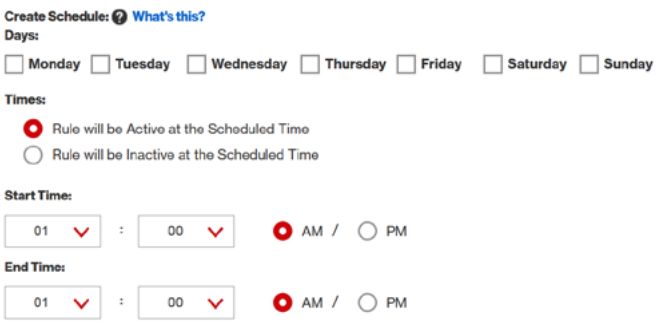
ACTIVATING PARENTAL CONTROLS AND RULE SUMMARY



6. To remove a website or keyword, select the word, then click **Remove**.
7. Create a schedule by selecting the days of the week when the rule will be active or inactive.



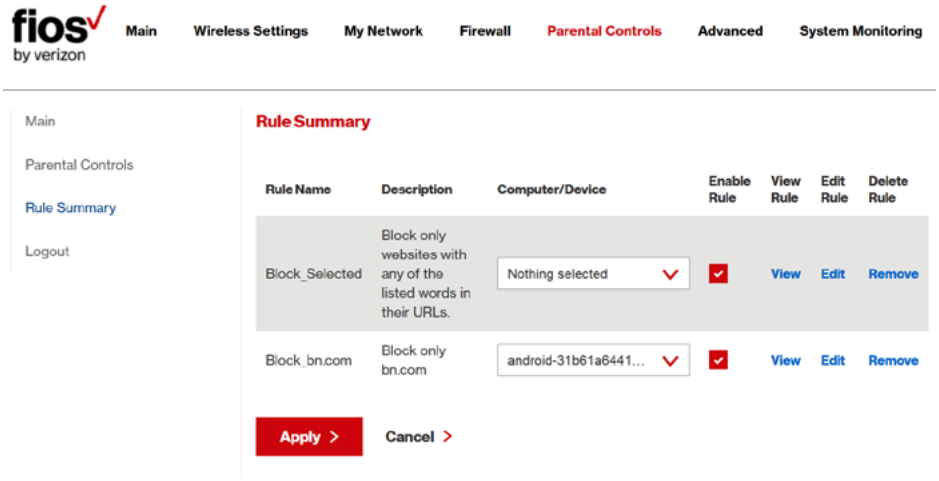
8. Set the time when the rule will be active or inactive, then specify the start time and end time.
9. Create a rule name and description.

10. Click **Apply** to save changes.

8.1/ RULE SUMMARY

You can view the rules created for your Fios Router.

- To view the rule summary, select **Rule Summary**. The Rule Summary page opens with the rule name, description, and computer or device displayed.



You can enable, view, edit, or delete the rule, refer to **Scheduler Rules** for additional setting details.

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09/

CONFIGURING ADVANCED SETTINGS

9.0 Using Advanced Settings
9.1 Utilities
9.2 DNS Settings
9.3 Network Settings
9.4 Routing
9.5 Date and Time
9.6 Configuration Settings

Advanced settings cover a wide range of sophisticated configurations for your Fios Router's firmware and network.

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USING ADVANCED SETTINGS AND UTILITIES

Caution: Many of the settings described in this section should only be configured by experienced network technicians. Changes could adversely affect the operation of your Fios Router and local network.

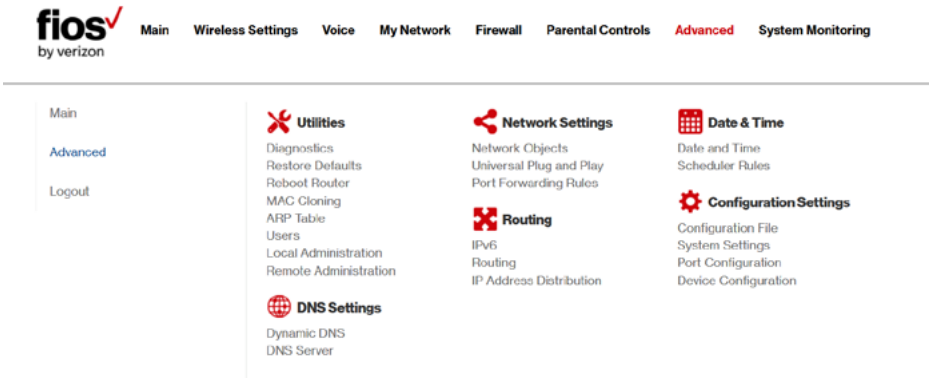
9.0/ USING ADVANCED SETTINGS

You can access the following settings:

- Utilities
- Date & Time
- DNS Settings
- Routing
- Network Settings
- Configuration Settings

To access the advanced settings:

1. Select **Advanced**. A warning page displays, asking if you want to proceed.
2. Click **Yes**. The Advanced page displays.



3. Select a topic by clicking the topic name.

9.1/ UTILITIES

You can access the following advanced settings:

- **Diagnostics** – performs diagnostic tests
- **Restore Defaults** – resets your Fios Router to it default settings
- **Reboot Router** – restarts your Fios Router
- **MAC Cloning** – clones the MAC address
- **ARP Table** – displays active devices with their IP and MAC addresses
- **Users** – creates and manages remote users

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UTILITIES

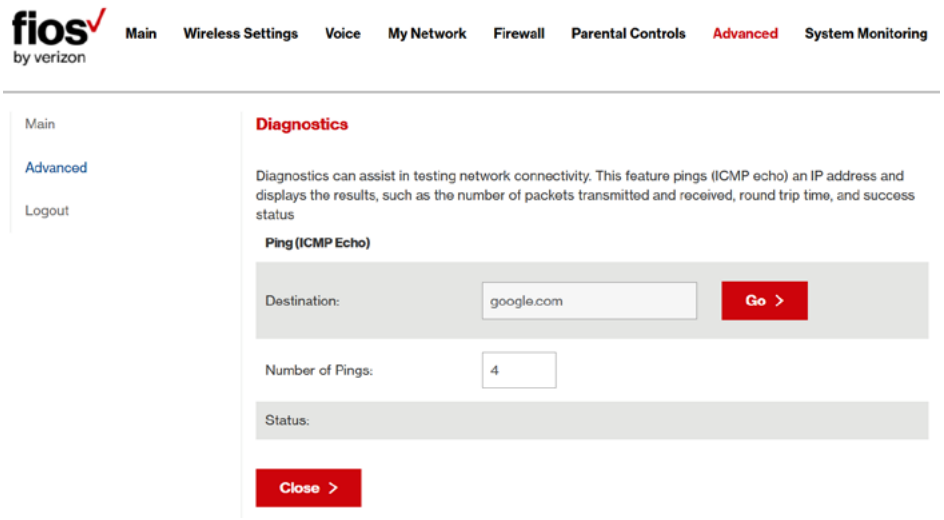
- **Local Administration** – allows you to grant local SSH access
- **Remove Administration** – detailed in Chapter 6 Configuring Your Network Settings

9.1a/ DIAGNOSTICS

You can use diagnostics to test network connectivity.

To diagnose network connectivity:

1. Select **Diagnostics** in the Advanced page.



2. To ping an IP address, enter the IP address or domain name in the **Destination** field and click **Go**.

The diagnostics will display the number of pings, status, packets sent, and round trip time.

If no diagnostic status displays, click **Refresh** in your web browser.

3. Click **Close** to exit the session.

9.1b/ RESTORE DEFAULTS

You can restore your configuration settings to your Fios Router factory default settings. Restoring the default settings erases the current configuration, including user defined settings and network connections. All connected DHCP client must request new IP addresses. Your Fios Router must restart.

Prior to restoring the factory defaults, you may want to save your current configuration to a file. This allows you to reapply your current settings and parameters to the default settings, as needed. For additional information, refer to the **Configuration File** section.

Note: When restoring defaults, the setting and parameters of your Fios Router are restored to their default values. This includes the Administrator password. A user-specified password will no longer be valid.

To restore your Fios Router's factory default settings:

1. Select **Restore Defaults** in the Advanced page.

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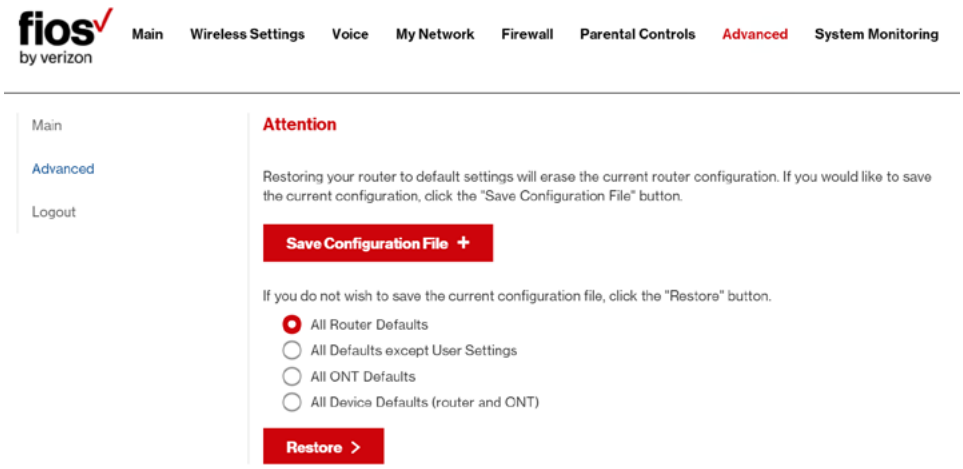
UTILITIES



2. To save your current configuration file, click **Save Configuration File**.
3. To restore the factory default settings, click **OK**.
    - **All Router Defaults** – will erase all router settings including user settings for SSID and Passwords.
    - **All Defaults except User Settings** – will erase all router settings but will retain the user settings for SSID and Passwords.
    - **All ONT Defaults** – will erase recent ONT network management changes made by Verizon. Use only if instructed to do so by Verizon support.
    - **All Device Defaults (router and ONT)** – will erase all custom router settings and recent ONT network management changes. Use only if instructed to do so by Verizon support.

4. The factory default settings are applied and your Fios Router restarts. Once complete, the Login page for the First Time Easy Setup Wizard displays.

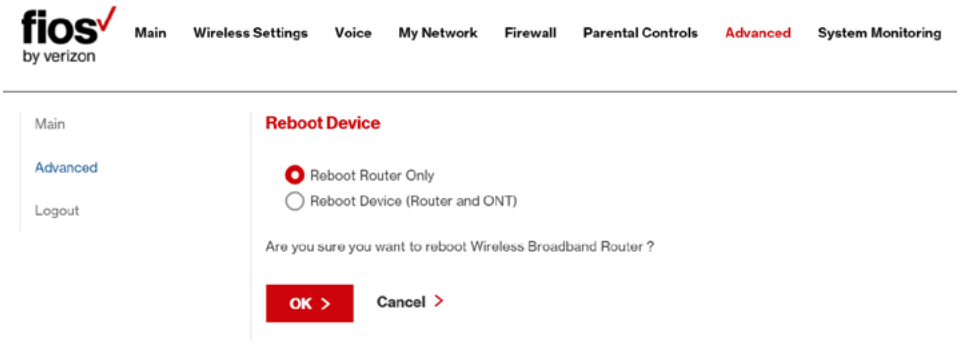
9.1c/ REBOOT FIOS ROUTER

Warning: Only select Reboot Device if instructed to do so by Verizon support.

You can reboot your Fios Router using the Reboot Router Only feature. Refer to 1.3b/ REAR PANEL for power button options.

To reboot your Fios Router's router using the user interface:

1. Select **Reboot Router Only** in the Advanced page.



2. To reboot, click **OK**. Your router will reboot. This may take up to a minute.

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3. To access your Fios Router user interface, refresh your web browser.

If instructed by Verizon support to reboot the entire Fios Router (the Router and ONT):

1. Select Reboot Device (Router and ONT) in the Advanced page.
2. To continue with the reboot, click OK. Your Fios Router will reboot. This may take a few minutes.
3. After the front panel Unified Button LED turns solid white you will automatically be sent to the web browser login page.

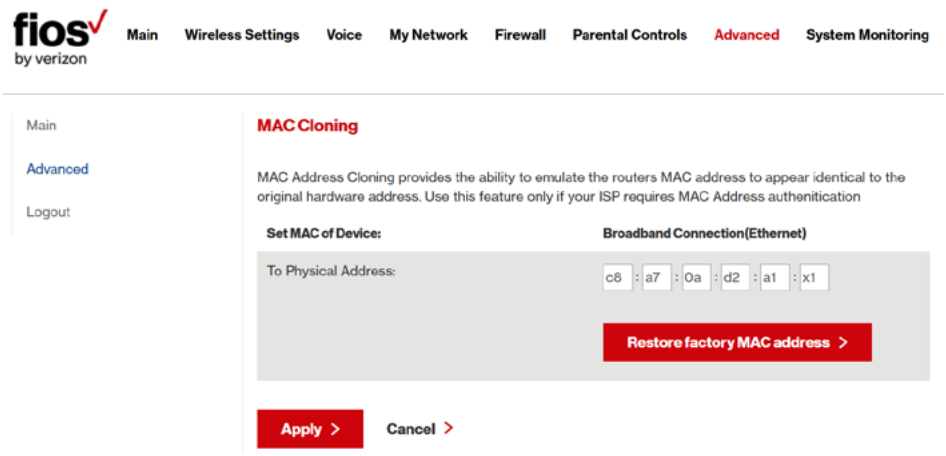
9.1d/ MAC CLONING

A MAC address is a hexadecimal code that identifies a device on a network. All networkable devices have a unique MAC address.

When replacing a network device on your Fios Router, you can simplify the installation process by copying the MAC address of the existing device to your Fios Router.

To copy the MAC address of the existing device:

1. Select **MAC Cloning** in the Advanced page.



2. In the **To Physical Address** field, enter the MAC address of your new device.
3. To locate the MAC address, refer to the documentation from the device manufacturer.
4. Click **Apply** to save changes.

9.1e/ ARP TABLE

You can view the IP and MAC addresses of each DHCP connection.

To view the IP and MAC addresses:

1. Select **ARP Table**.

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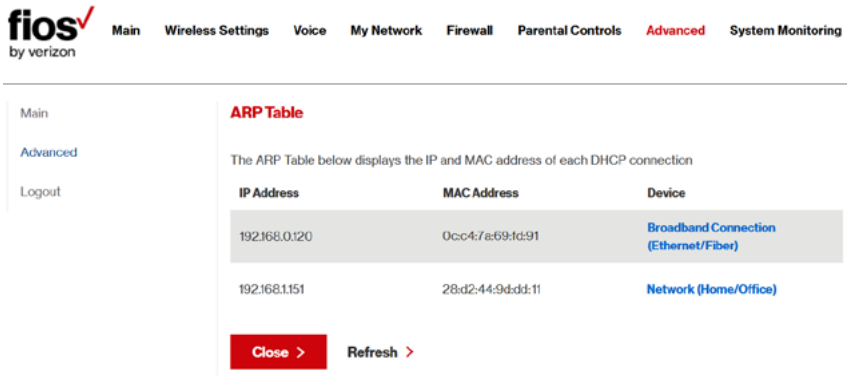
UTILITIES



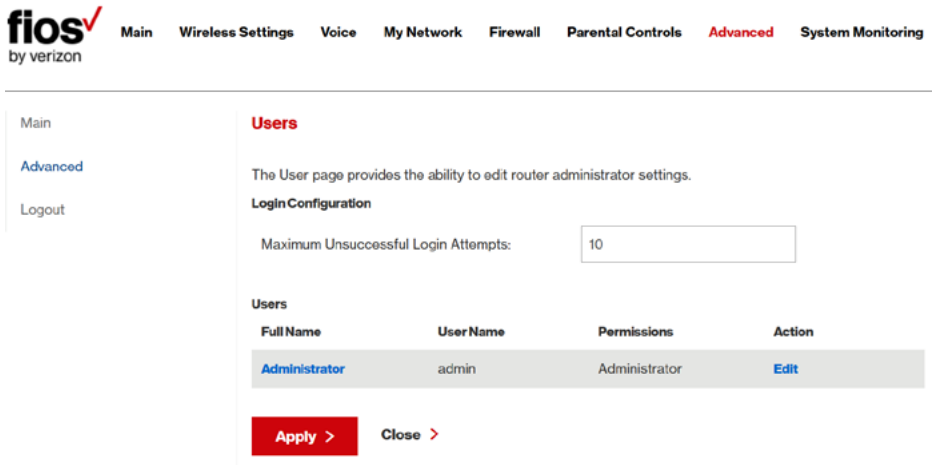
2. Review the IP and MAC address for each device.
3. When complete, click **Close**.

9.1f/ USERS

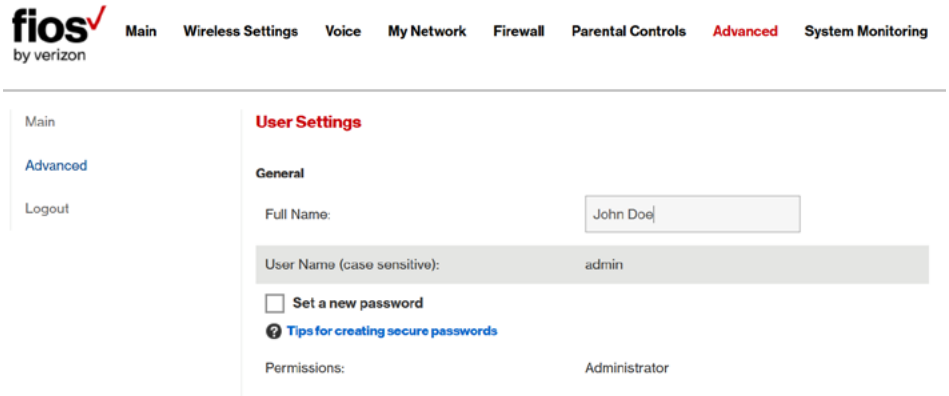
You can view the users that can currently access your wireless network. In addition, you can modify their login password and name as well as manage the number of unsuccessful login attempts a user can enter before your Fios Router temporarily denies all further login attempts by that user.

To view users:

1. Select **Users** in the Advanced page.



2. In the **Login Configuration** section, enter the maximum number of unsuccessful login attempts.
3. To edit usernames and passwords, click the **Edit** icon in the **Action** column. The User Settings page displays.



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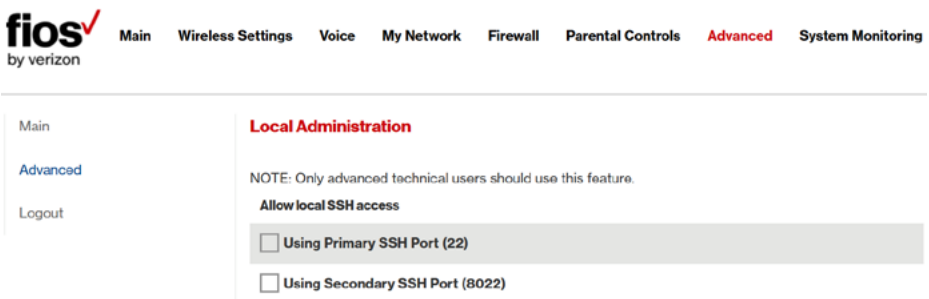
4. To edit the username and set a new password, as needed.
5. To add a new user, specify the following parameters:
   - **Full Name** - name of the user.
   - **User Name** – name the user enters to remotely access the home or office network. This field is case-sensitive.
6. To set a new Password, select the **Set a new password** check box. The **New Password** fields display.
7. Verify the level of access for the user in the **Permissions** field.
8. Click **Apply** to save changes. The Users page opens with the user information displayed.
9. Click **Apply** again to save changes and exit.

9.1g/ LOCAL ADMINISTRATION

You can grant local access on a specific port.

To grant access:

1. Select **Local Administration** in the Advanced page.



2. To grant access, select the check box for the specific SSH access.
3. Click **Apply** to save changes. Local access is granted.
4. To remove access, clear the checkbox, then click **Apply**. No local access is granted.

9.1h/ REMOTE ADMINISTRATION

The Remote Administration parameters are detailed in **Chapter 4 Configuring Your Network Settings**.

9.2/ DNS SETTINGS

You can view and manage the DNS server host name and IP address as well as add a new computer. The DNS server does not require configuration.

9.2a/ DYNAMIC DNS

Typically, when connecting to the Internet, your router is assigned an unused public IP address from a pool, and this address changes periodically.

Dynamic DNS allows a static domain name to be mapped to the dynamic IP address, allowing a computer within your network to be more easily accessible from the Internet.

When using Dynamic DNS, each time the public IP address changes, the DNS database is automatically updated with the new IP address.

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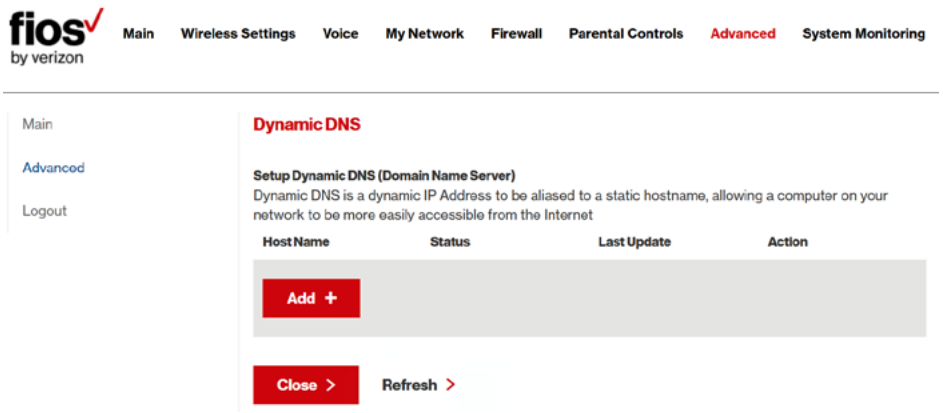
DNS SETTINGS AND NETWORK SETTINGS

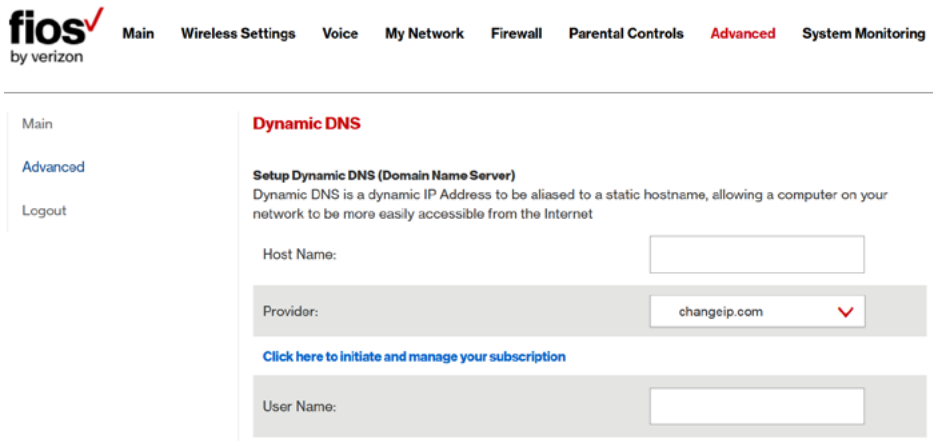
In this way, even though the IP address changes often, the domain name remains constant and accessible.

To set up dynamic DNS:

1. Select **Dynamic DNS**



2. To set up a new entry, click the **Add** button.



3. Configure the following parameters:
   - **Host Name** – enter the full domain name for your Dynamic DNS domain.
   - **Provider** – select the Dynamic DNS account provider from the menu.
   - **User Name** – enter your user name for your Dynamic DNS account.
   - **Password** – enter the password for your Dynamic DNS account.
   - **SSL Mode** – select if your Dynamic DNS service supports SSL.

   Click **Apply** to save your changes.

To edit the host name or IP address:

1. In the Action column, click the Edit icon. The DNS Entry page displays.
2. Edit the settings.
3. Click **Apply** to save the changes.

9.2b/ DNS SERVER

You can edit the host name and/or IP address, if the host was manually added to the DNS table. If not, you can only modify the host name.

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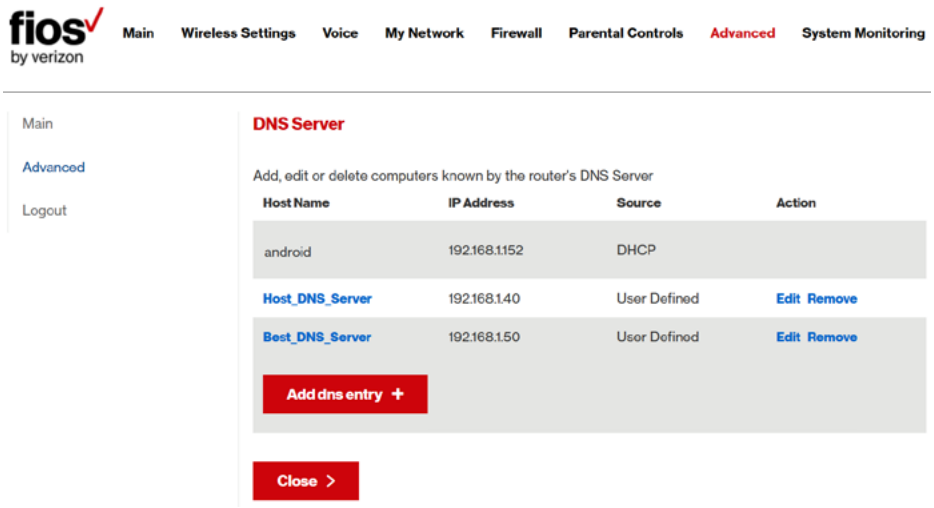
NETWORK SETTINGS

To access the DNS server:

1. Select **DNS Server** in the Advanced page.



2. To view and add computers stored in the DNS table, click **Add DNS Entry**. The Add DNS Entry page displays.
3. In the **Host Name** field, enter the name of the computer, then enter the IP address and click **Apply** to save changes. The DNS Server page displays.
4. To edit the host name or IP address, click the **Edit** icon in the **Action** column. The DNS Entry page displays. Edit the host name and/or IP address, then click **Apply** to save changes.
5. To remove a host from the DNS table, click the **Delete** icon in the **Action** column.

9.3/ NETWORK SETTINGS

You can configure the following network settings:

- **Network Objects** – define a group, such as a group of computers
- **UPnP** – checks the validity of all UPnP services and rules
- **Port Forwarding Rules** – displays port forwarding rules

9.3a/ NETWORK OBJECTS

Network objects define a group, such as a group of computers, on your Fios Router network by MAC address, IP address, and /or host name. The defined group becomes a network object. You can apply settings, such as configuring system rules, to all devices defined in the network object.

For example, instead of setting the same website filtering configuration individually to five computers one at a time, you can define the computers as a network object. Website filtering can then be simultaneously applied to all the computers.

You can use network objects to apply security rules based on host names, instead of IP addresses. This is useful since IP addresses change from time to time. In addition, you can define network objects according to MAC address to make the rule application more persistent against network configuration settings.

To define a network object:

1. Select **Network Objects** in the Advanced page.

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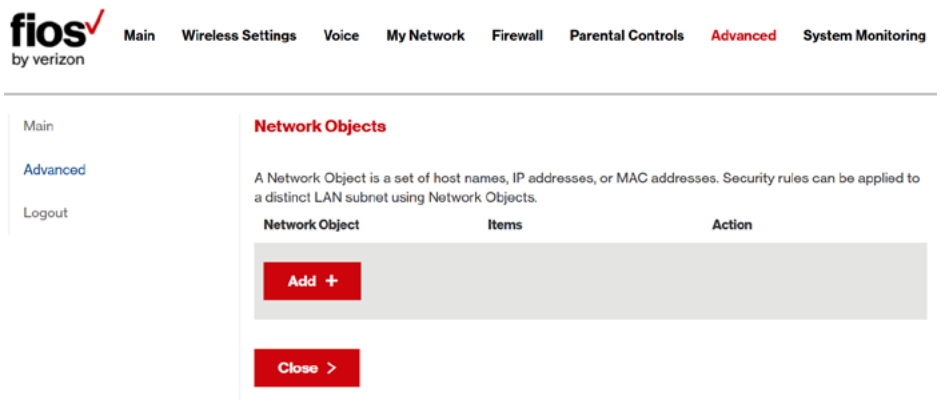
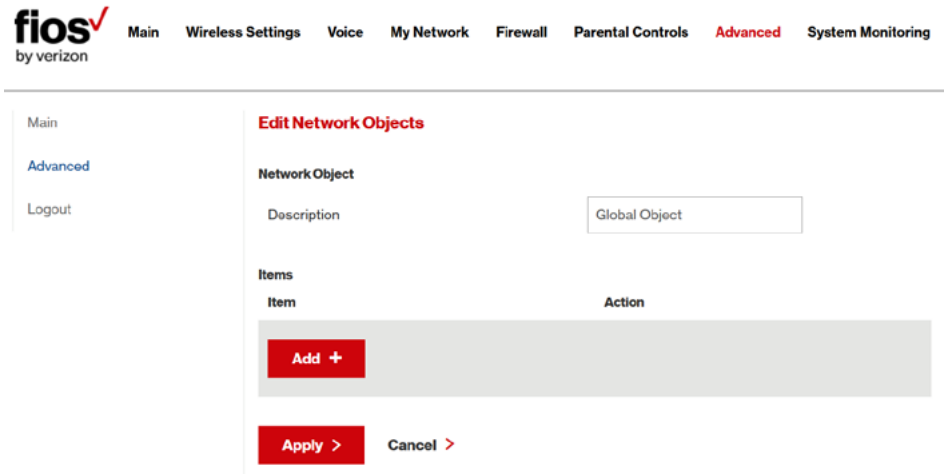
NETWORK SETTINGS

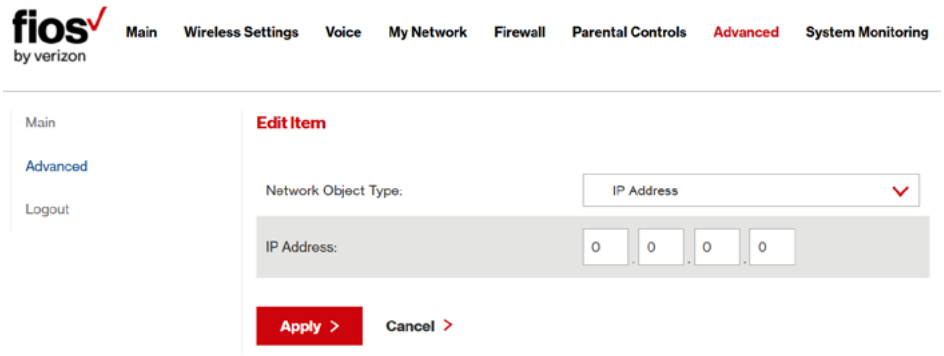


2. To define a network object, click **Add**. The Edit Network Objects page displays.



3. In the **Description** field, enter a name for the network object.

4. Click **Add**. The Edit Item page displays.



5. Select the type of network object as IP address, IP subnet, IP range, MAC address, host name, DHCP option, or protocol, and click **Apply** to save changes.
6. Repeat the above steps to create additional network objects.
7. When complete, click **Apply** to save changes.

9.3b/ UNIVERSAL PLUG AND PLAY

You can use Universal Plug and Play (UPnP) to support new devices without configuring or rebooting your Fios Router.

In addition, you can enable the automatic cleanup of invalid rules. When enabled, this functionality verifies the validity of all UPnP services and rules every five minutes. Old and unused UPnP defined services are removed, unless a user-defined rule depends on it.

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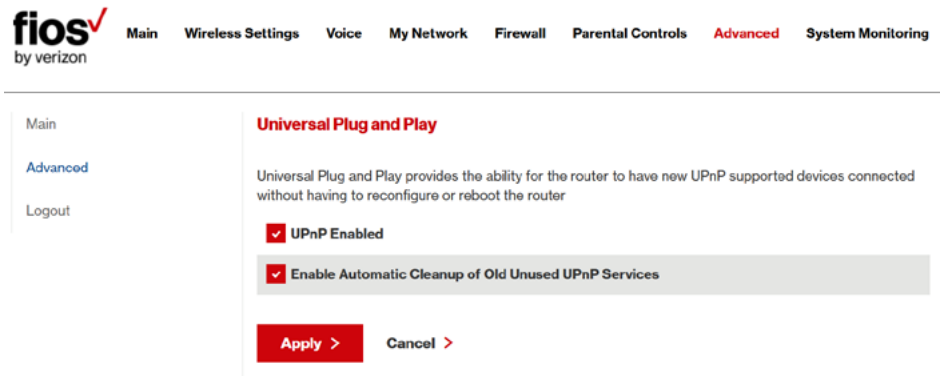
NETWORK SETTINGS

UPnP services are not deleted when disconnecting a computer without proper shutdown of the UPnP applications, such as messenger. Services may often not be deleted and eventually this leads to the exhaustion of rules and services, and no new services can be define. The cleanup feature locates the invalid services and removes them, preventing services exhaustion.

To access this setting:

1. Select **Universal Plug and Play** in the Advanced page.



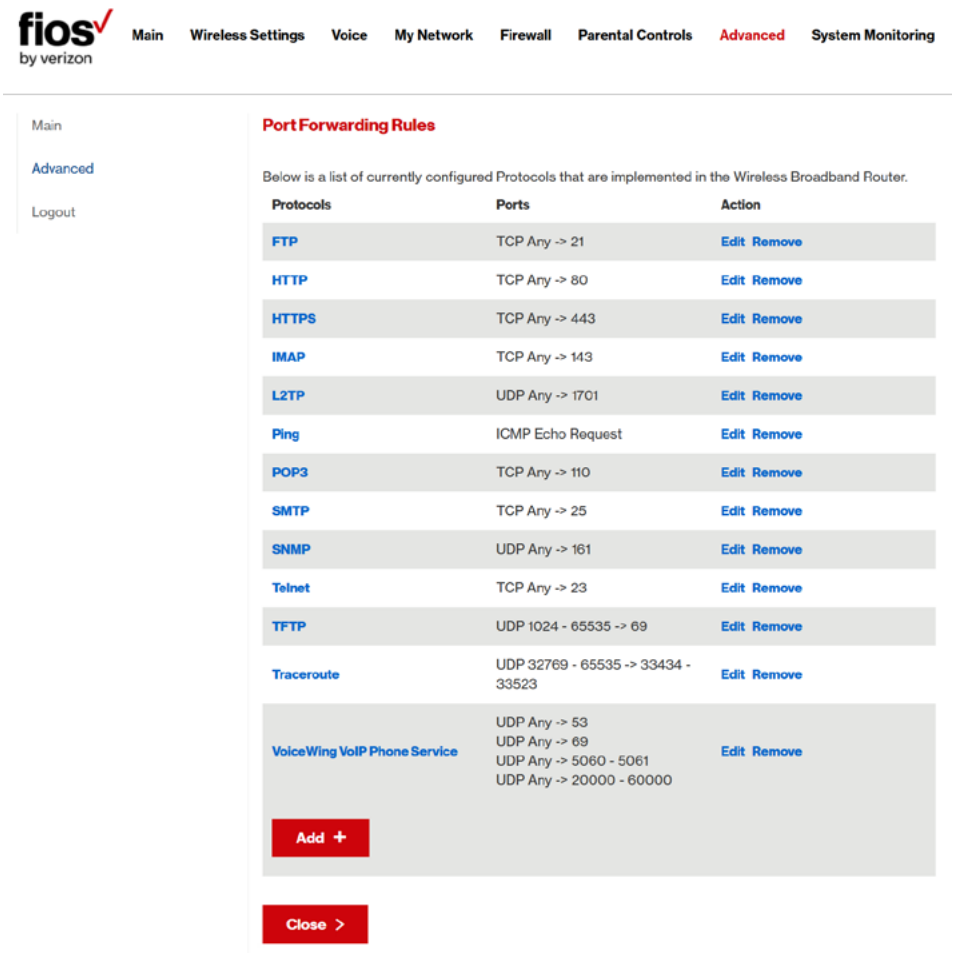
2. To enable UPnP and allow UPnP services to be defined on any network hosts, select the **UPnP Enabled** check box.
3. To enable automatic cleanup of invalid rules, select **Enable Automatic Cleanup of Old Unused UPnP Services** check box.
4. Click **Apply** to save changes.

9.3c/ PORT FORWARDING RULES

You can view, modify, and delete port forwarding rules.

To access the rules:

1. Select **Port Forwarding Rules** in the Advanced page.



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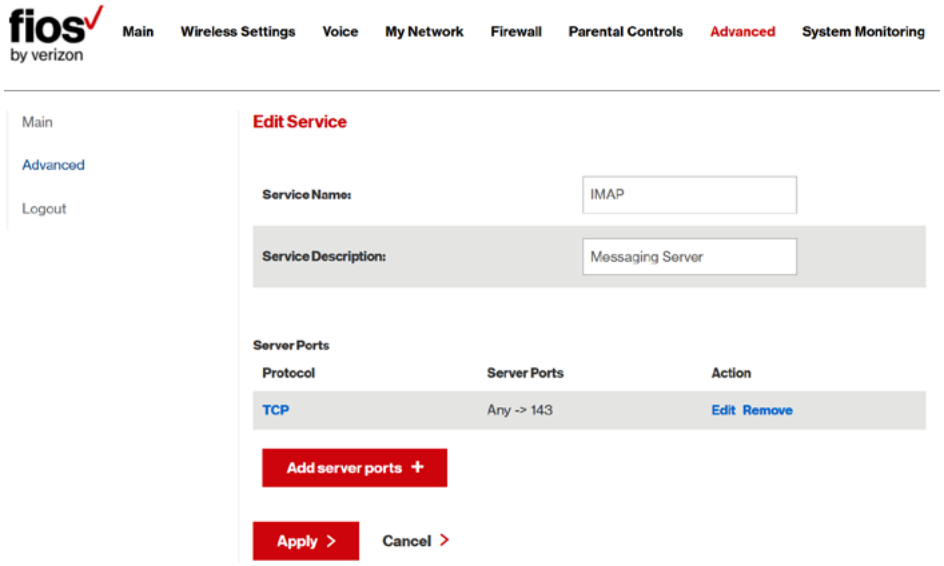
2. To edit a protocol rule, click the **Edit** icon in the **Action** column. The Edit Service page displays.



3. Modify the **Service Name** and **Service Description**, as needed.
4. To modify the current protocol, click the **Edit** icon in the Action column.
5. To add server ports, click **Add Server Ports**.
6. Click **Apply** to save changes.

9.4/ ROUTING

You can configure the following settings:

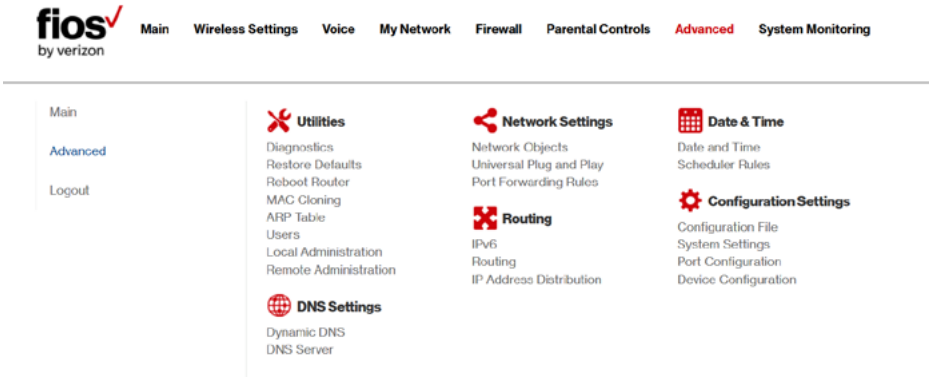
- **IPv6** – enables IPv6 support.

- **Routing** – manages the routing and IP address distribution rules.
- **IP Address Distribution** - adds computers configured as DHCP clients to the network

9.4a/ IPv6

Use the IPv6 feature settings to enable, disable, or configure an IPv6 Internet connection and IPv6 LAN settings.

1. To configure your network to use the IPv6 Internet connection type. Select IPv6 from the Advanced page to display the IPv6 service options:



2. Select **Enable** under the Enable IPv6 Support option. (Once IPv6 is enabled the default setting will be IPv6 WAN as DHCPv6 and IPv6 LAN as Stateless).

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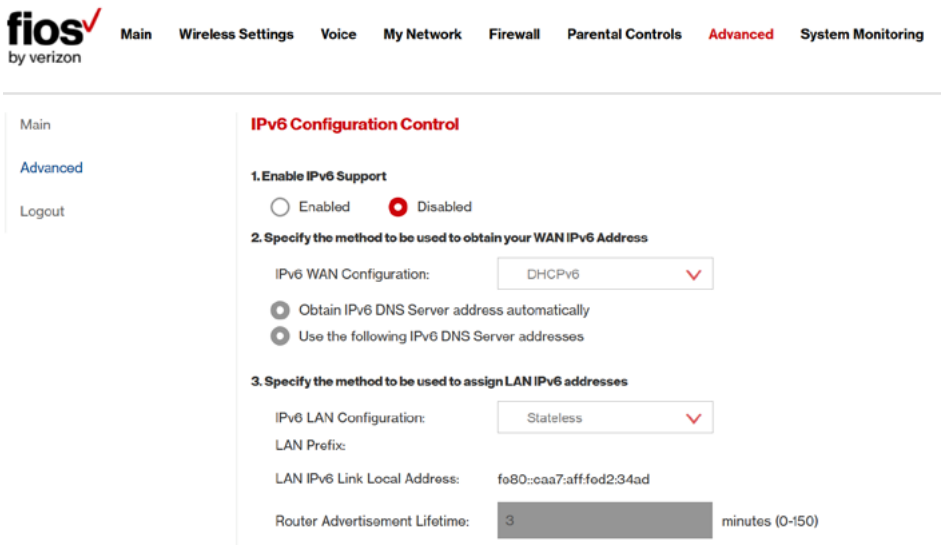
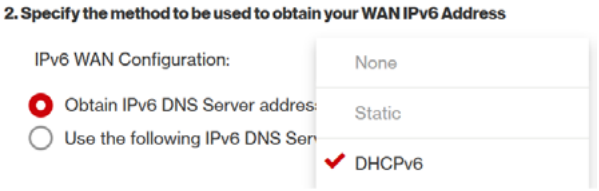
ROUTING



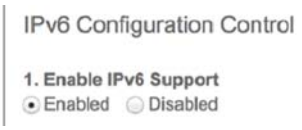
3. Select the appropriate IPv6 connection **method** from the drop-down list, as shown below to specify the method to be used to obtain your WAN IPv6 Address.



4. Click Apply to have changes take effect.

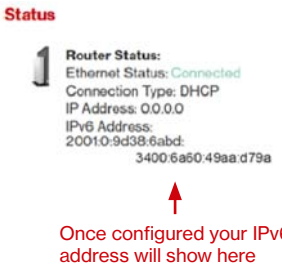
   Note: The Internet IPv6 service is required for this feature to work over the Internet.

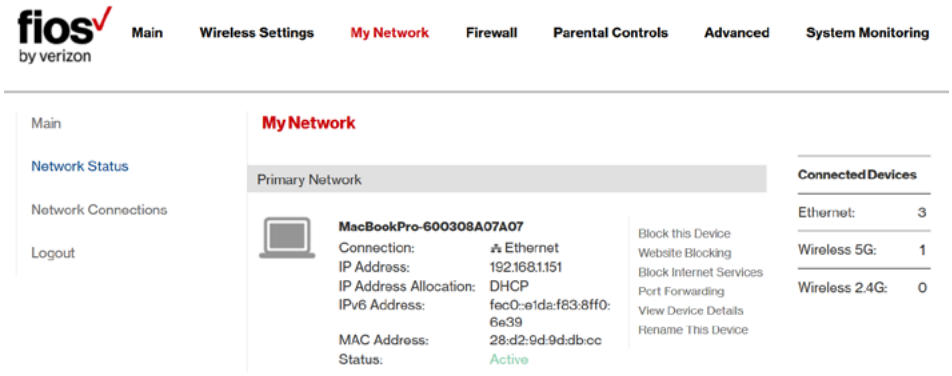
5. To disable the IPv6 service click on the “Disable” option as shown below and click **Apply** to have changes take effect.



Once configured using valid IPv6 WAN and LAN configurations you should not see any errors when you click on the “Apply” button and the Main page will reflect the router’s new IPv6 address as shown below.

You should also see the IPv6 address for all IPv6 supported devices on your local network displayed on the My Network page and under the Broadband Connection (Ethernet/ Fiber) Properties as shown on the two pages below.





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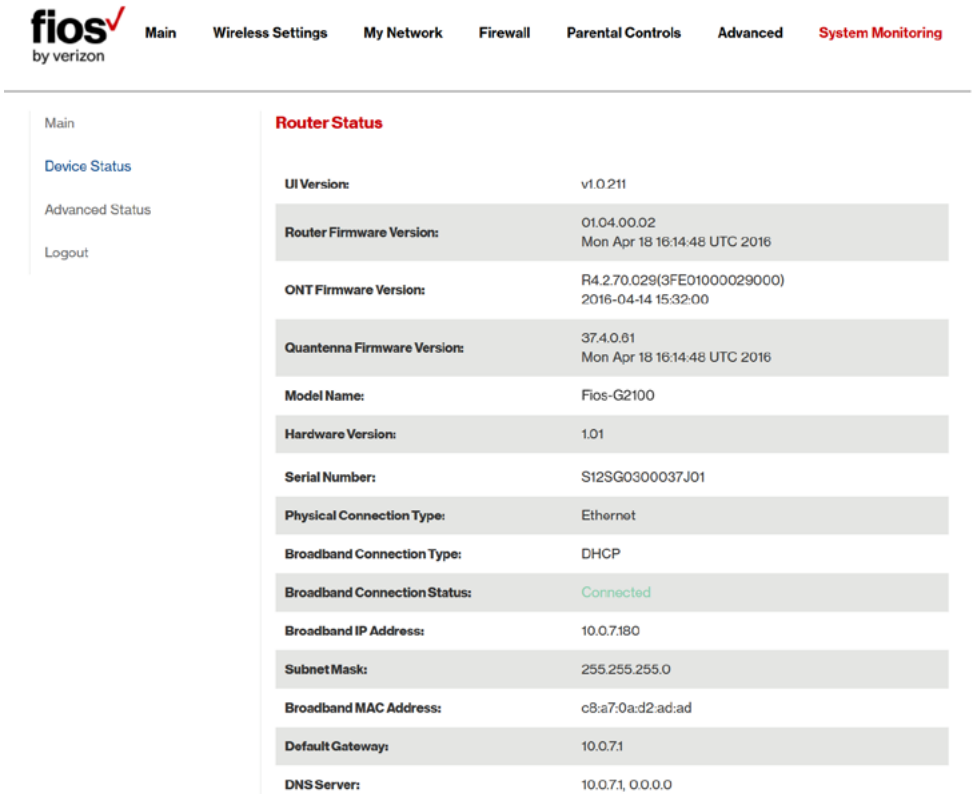
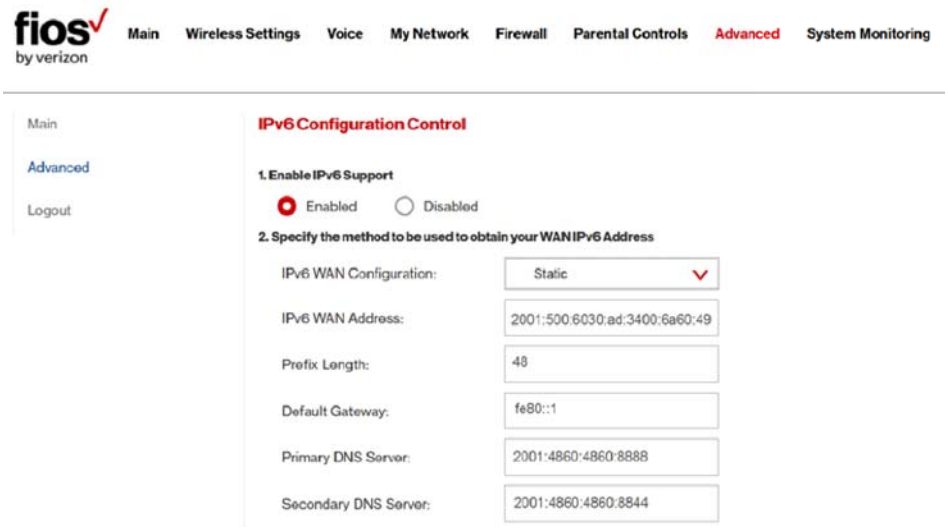
ROUTING



STATIC - WAN IPv6 ADDRESS CONNECTION

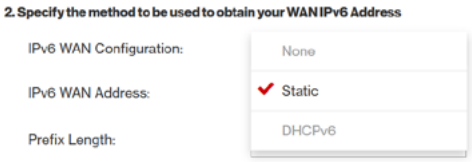
The IPv6 WAN Static configurations are IPv6 settings that you enter manually. These specific IPv6 addresses and settings are not expected to change frequently.

1. To configure IPv6 WAN **Static** mode, select the Static option on the IPv6 Configuration Control Page as shown below:



2. Specify the **Static** method to be used to obtain your WAN IPv6 Address by entering:

   - **IPv6 WAN Configuration (select Static)** *as shown in drop-down list and page below:*



   - **IPv6 WAN Address**
   - **Prefix Length** *(A numeric value between 16 and 128)*

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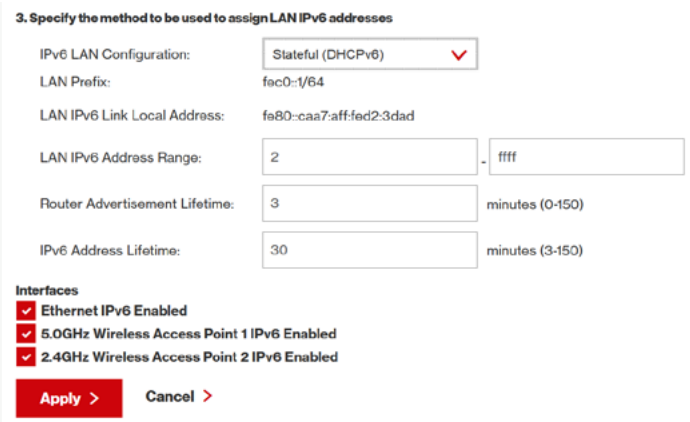
- **Default Fios Router**
- **Primary DNS Server**
- **Secondary DNS Server**

3. After entering all appropriate IPv6 settings click Apply to have changes take effect.

STATIC - WAN IPv6 ADDRESS CONNECTION

1. To configure IPv6 LAN Stateful mode with Static WAN, select the Stateful (DHCPv6) option on the IPv6 Configuration Control Page as shown below:



2. Specify the **Stateful (DHCPv6)** settings to be used to assign LAN IPv6 addresses by entering the following details:
   - **IPv6 LAN Configuration** (select **Stateful** from the drop-down list) as shown in drop-down list and page below:

- **LAN Prefix**
- **LAN IPv6 Link Local Address (automatically populated)**
- **LAN IPv6 Address Range** *(start and end)*
- **Router Advertisement Lifetime** *(minutes between 0-150)*
- **IPv6 Address Lifetime** *(minutes between 3-150)*
- **Interfaces -** check one or more of the box(s) to apply IPv6 LAN settings to the selected interfaces:
  - Ethernet IPv6 Enabled
  - Wireless Access Point 1 IPv6 Enabled
  - Wireless Access Point 2 IPv6 Enabled

3. After entering all appropriate IPv6 settings click Apply to have changes take effect.

STATIC WAN WITH LAN IPv6 STATELESS SETTINGS:

1. To configure LAN IPv6 Stateless mode with **Static** WAN, select the Stateless option on the IPv6 Configuration Control Page as shown below:

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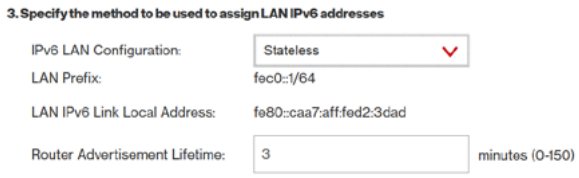
2. Specify the settings to be used to assign LAN IPv6 addresses by entering the following details:



- **IPv6 LAN Configuration** (select **Stateless** from the drop-down list) *as shown in drop-down list and page below:*

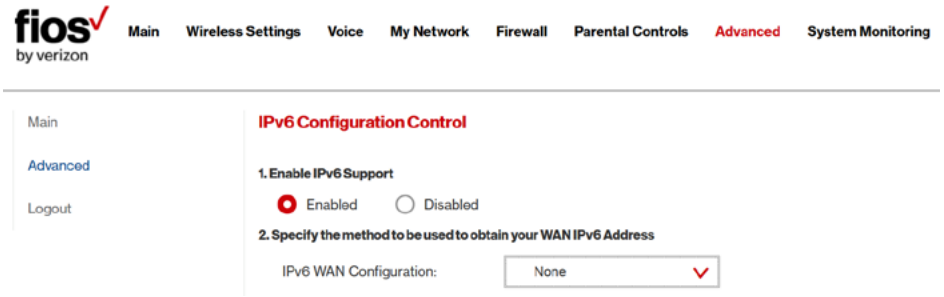
- **LAN Prefix**
- **LAN IPv6 Link Local Address** *(automatically populated)*
- **Router Advertisement Lifetime** *(minutes between 0-150)*
- **Interfaces** - check one or more of the box(s) to apply IPv6 LAN settings to the selected interfaces:
  - Ethernet IPv6 Enabled
  - Wireless Access Point 1 IPv6 Enabled
  - Wireless Access Point 2 IPv6 Enabled

3. After entering all appropriate IPv6 settings click Apply to have changes take effect.

DHCPv6 - WAN IPv6 ADDRESS CONNECTION

The IPv6 WAN DHCPv6 configurations are IPv6 settings that you enter that will allow your IPv6 connection to be updated by the ISP as needed.

1. To configure IPv6 WAN Stateful (DHCPv6) mode, select the Stateful (DHCPv6) option on the IPv6 Configuration Control Page as shown below:



2. Specify the DHCPv6 method to be used to obtain your WAN IPv6 Address by entering:
   - **IPv6 WAN Configuration** (select **DHCPv6** from the drop-down list) *as shown in drop-down list and page below:*

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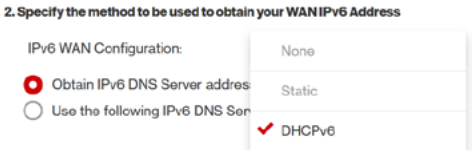
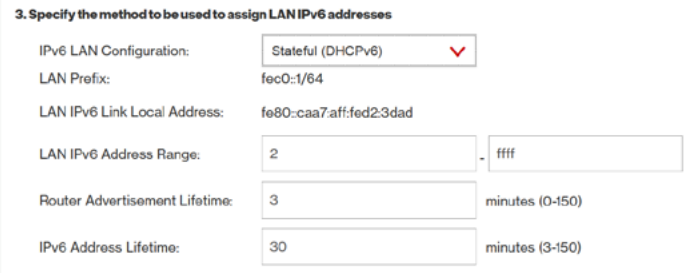
ROUTING



3. Check to either 'Obtain IPv6 DNS Server address automatically', or to 'Use the following IPv6 DNS Server addresses'
4. After entering all appropriate IPv6 settings click Apply to have changes take effect.

DHCPv6 WAN WITH LAN IPv6 STATEFUL (DHCPv6) SETTINGS:

1. To configure IPv6 WAN Stateful (DHCPv6) mode, select the Stateful (DHCPv6) option on the IPv6 Configuration Control Page as shown below:



2. Specify the Stateful (DHCPv6) settings to be used to assign LAN IPv6 addresses by entering the following details:

- **IPv6 LAN Configuration** (select **Stateful** from the drop-down list) *as shown in drop-down list and page below:*

- **LAN Prefix**
- **LAN IPv6 Link Local Address** *(automatically populated)*
- **LAN IPv6 Address Range** *(start and end)*
- **Router Advertisement Lifetime** *(minutes between 0-150)*
- **IPv6 Address Lifetime** *(minutes between 3-150)*
- **Interfaces** - check one or more of the box(s) to apply IPv6 LAN settings to the selected interfaces:
  - Ethernet IPv6 Enabled
  - Wireless Access Point 1 IPv6 Enabled
  - Wireless Access Point 2 IPv6 Enabled

3. After entering all appropriate IPv6 settings click Apply to have changes take effect.

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ROUTING

DHCPv6 WAN WITH LAN IPv6 STATELESS SETTINGS:

1. To configure IPv6 LAN Stateless mode with DHCPv6 WAN, select the Stateless option on the IPv6 Configuration Control Page as shown below:

2. Specify the Stateless settings to be used to assign LAN IPv6 addresses by entering the following details:

   - **IPv6 LAN Configuration** (select **Stateless** from the drop-down list) *as shown in drop-down list and page below:*

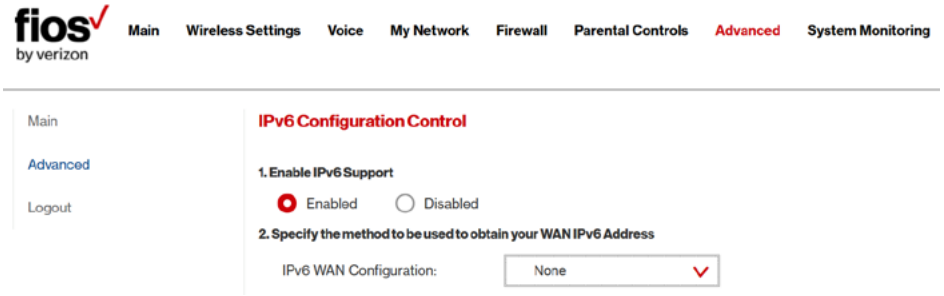
   - **LAN Prefix** *(automatically populated)*
   - **LAN IPv6 Link Local Address** *(automatically populated)*
   - **Router Advertisement Lifetime** *(minutes between 0-150)*
   - **Interfaces** - check one or more of the box(s) to apply IPv6 LAN settings to the selected interfaces:
     – Ethernet IPv6 Enabled

- Wireless Access Point 1 IPv6 Enabled
- Wireless Access Point 2 IPv6 Enabled

3. After entering all appropriate IPv6 settings click Apply to have changes take effect.

LAN IPv6 CONFIGURATION WITHOUT AN IPv6 WAN CONNECTION:

1. To configure IPv6 to use either the IPv6 LAN Stateful or Stateless mode without using an IPv6 Internet WAN connection, select the **None** option on the IPv6 Configuration Control Page as shown below:



2. After entering all appropriate IPv6 settings click Apply to have changes take effect.

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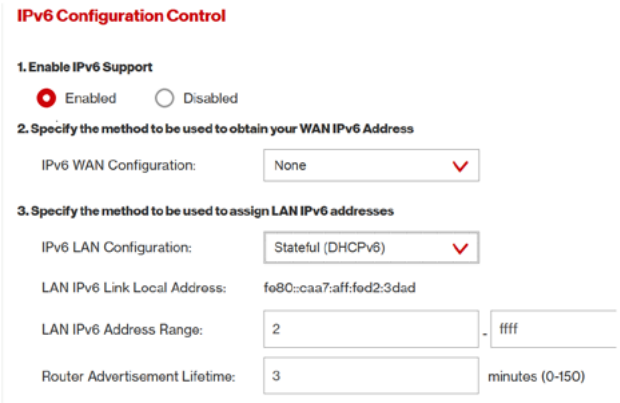
ROUTING

LAN IPv6 STATEFUL (DHCPv6) WITH NO WAN SETTINGS:

1. To configure IPv6 LAN Stateful mode with No WAN connection, select the Stateful option on the IPv6 Configuration Control Page as shown below:



2. Specify the **Stateful (DHCPv6)** settings to be used to assign LAN IPv6 addresses by entering the following details:

   - **IPv6 LAN Configuration** (select **Stateful** from the drop-down list) *as shown in drop-down list and page below:*

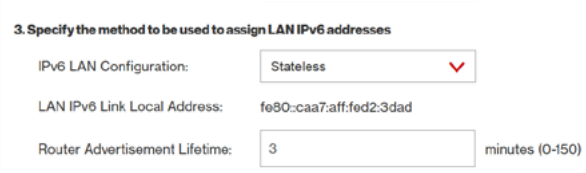
   - **LAN IPv6 Link Local Address** *(automatically populated)*
   - **LAN IPv6 Address Range** *(start and end)*

- **Router Advertisement Lifetime** *(minutes between 0-150)*
- **Interfaces -** check one or more of the box(s) to apply IPv6 LAN settings to the selected interfaces:
  - Ethernet IPv6 Enabled
  - Wireless Access Point 1 IPv6 Enabled
  - Wireless Access Point 2 IPv6 Enable

3. After entering all appropriate IPv6 settings click Apply to have changes take effect.

LAN IPv6 STATELESS WITH NO WAN SETTINGS:

1. To configure IPv6 LAN Stateless mode with No WAN connection, select the Stateless option on the IPv6 Configuration Control Page as shown below:



2. Specify the **Stateless** settings to be used to assign LAN IPv6 addresses by entering the following details:

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- **IPv6 LAN Configuration** (select **Stateless** from the drop-down list) *as shown in drop-down list and page below:*
- **LAN IPv6 Link Local Address** *(automatically populated)*
- **Router Advertisement Lifetime** *(minutes between 0-150)*
- **Interfaces** - check one or more of the box(s) to apply IPv6 LAN settings to the selected interfaces:
  - Ethernet IPv6 Enabled
  - Wireless Access Point 1 IPv6 Enabled
  - Wireless Access Point 2 IPv6 Enable

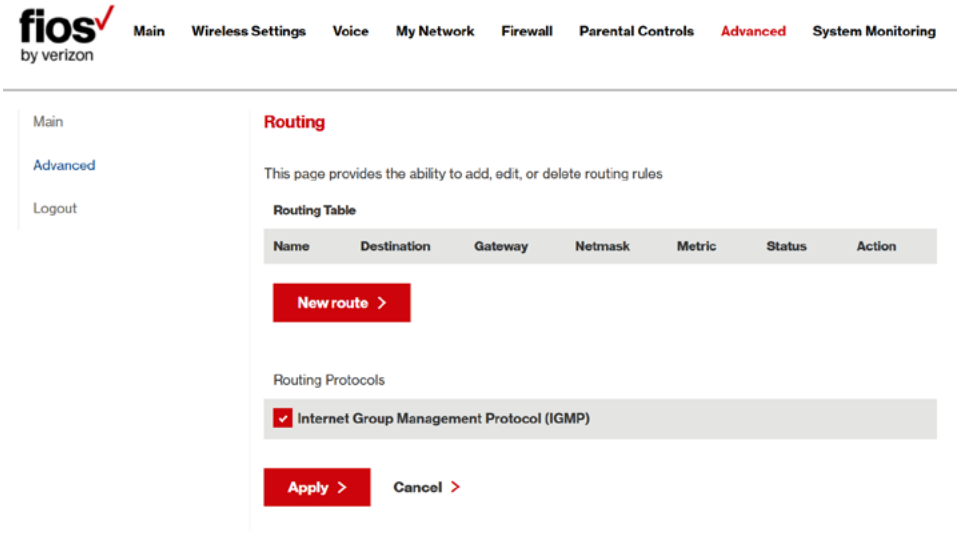
3. After entering all appropriate IPv6 settings click Apply to have changes take effect.

9.4b/ ROUTING SETTINGS

You can view the routing and IP address distribution rules as well as add, edit, or delete the rules.

To view the rules:

1. Select **Routing** in the Advanced page.



2. To add a new Route, click **Add New Route**.

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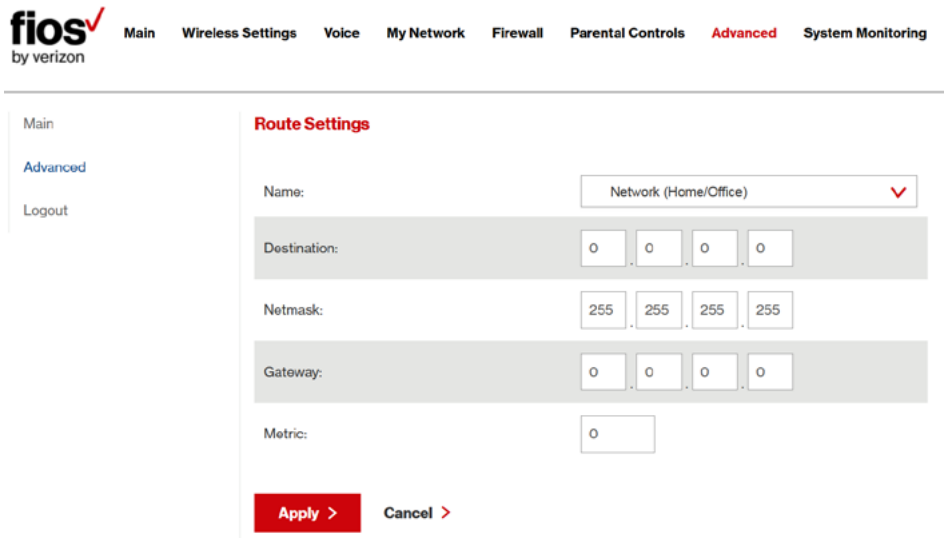
ROUTING



3. Specify the following parameters:
    - **Name** – select the network type.
    - **Destination** - enter the destination IP of the destination host, subnet address, network address, or default route. The destination for a default route is 0.0.0.0.
    - **Netmask** – enter the network mask. This is used in conjunction with the destination to determine when a route is used.
    - **Fios Router** – enter the IP address of your Fios Router.
    - **Metric** – enter a measurement preference of the route. Typically, the lowest metric is the most preferred route. If multiple routes exist to a specific destination network, the route with the lowest metric is used.

4. Click **Apply** to save changes.

9.4c/ IP ADDRESS DISTRIBUTION

You can easily add computers configured as DHCP clients to the network. The DHCP server provides a mechanism for allocating IP addresses to these hosts and for delivering network configuration parameters to the hosts.

For example, a client (host) sends a broadcast message on the network requesting an IP address for itself. The DHCP server then checks its list of available addresses and leases a local IP address to the host for a specific period of time and simultaneously designates this IP address as taken. At this point, the host is configured with an IP address for the duration of the lease.

The host can renew an expiring lease or let it expire. If it renews a lease, the host receives current information about network services, as it did during the original lease, allowing it to update its network configurations to reflect any changes that occurred since the first connection to the network.

If the host wishes to terminate a lease before its expiration, it sends a release message to the DHCP server. This makes the IP address available for use by other hosts.

The DHCP server performs the following functions:

- Displays a list of all DHCP host devices connected to your Fios Router

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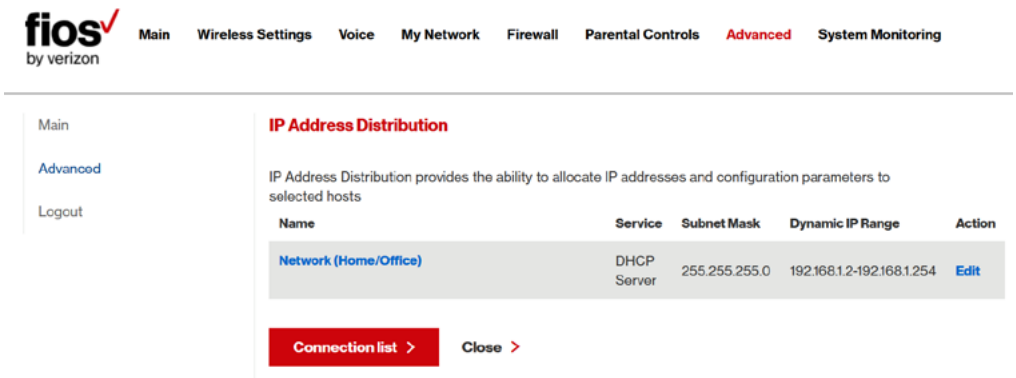
ROUTING

- Defines the range of IP addresses that can be allocated in the network
- Defines the length of time the dynamic P addresses are allocated
- Provides the above configurations for each network device and can be configured and enabled or disabled separately for each network device
- Assigns a static lease to a network computer to receive the same IP address each time it connects to the network, even if this IP address is within the range of addresses that the DHCP server may assign to other computer
- Provides the DNS server with the host name and IP address of each computer connected to the network

To view a summary of the services provided by the DHCP server:

1. Select **IP Address Distribution** in the Advanced page.

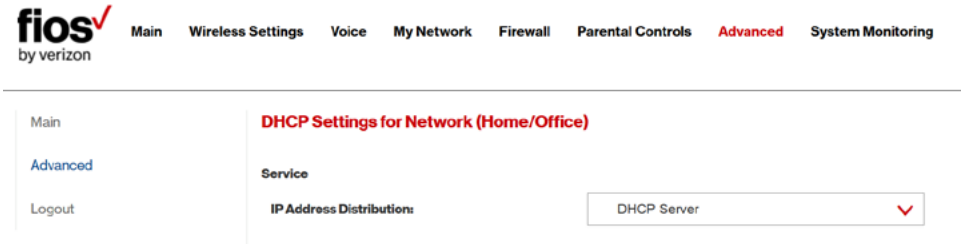


DHCP SERVER SETTINGS

You can edit the DHCP server settings for a device.

To edit the settings:

1. On the IP Address Distribution page, click the **Edit** icon in the **Action** column. The DHCP Settings page opens with the device information displayed.



2. To enable the DHCP server, select **DHCP Server** in the **IP Address Distribution** field.

   Once enabled, the DHCP server provides automatic IP assignments (IP leases) based on the preset IP range defined below.

3. To configure the DHCP server complete the following fields:

   - **Start IP Address** – enter the first IP address that your Fios Router will automatically begin assigning IP addresses from. Since your Fios Router's default IP address is 192.168.1.1, the default start IP address should be 192.162.1.2.

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- **End IP Address** – enter the last IP address that your Fios Router will automatically stop the IP address allocation. The maximum end IP address range that can be entered is 192.168.1.254.
- **WINS Server** – determines the IP address associated with a network device.
- **Lease Time in Minutes** – assigns the amount of time in minutes that each device is assigned an IP address by the DHCP server when it connects to the network.

  When the lease expires, the server determines if the computer has disconnected from the network. If it has, the server may reassign this IP address to a newly-connected computer.

4. Click **Apply** to save changes.

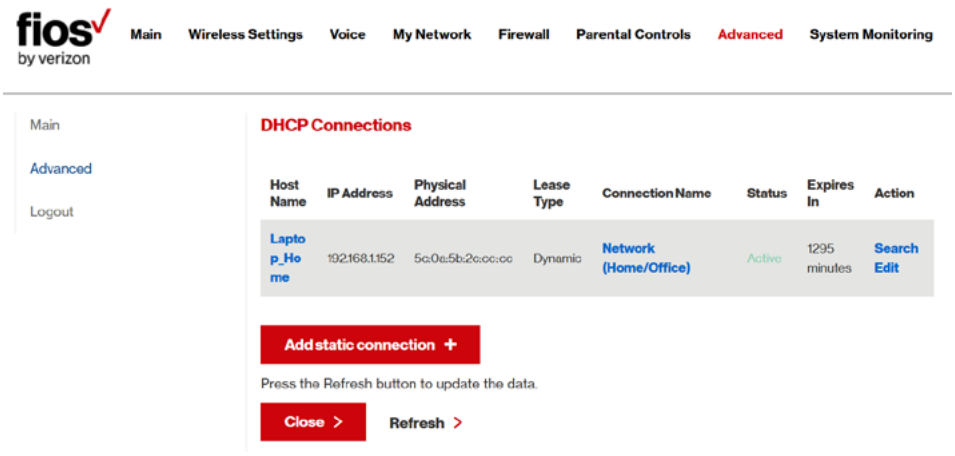
DHCP CONNECTIONS

You can view a list of the connections currently assigned and recognized by the DHCP server. In addition, you can add a new connection with a fixed IP address.

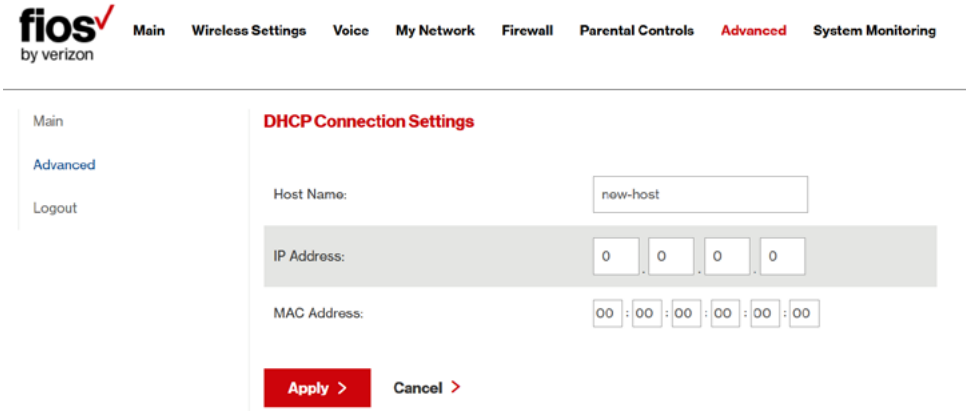
Note: The fixed IP address of a device is assigned to the MAC address of the network card installed on the network computer. If this network card is replaced, you must update the device entry in the DHCP Connections list with the MAC address of the new network card.

To view a list of computers:

1. On the IP Address page, click **Connection List**.



2. To define a new Static Connection with a fixed IP address, click **Add Static Connection**.



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DATE AND TIME

3. Enter the host name.
4. Enter the fixed IP address to be assigned.
5. Enter the MAC address of the network interface of the computer used with this DHCP static connection.
6. Click **Apply** to save changes.

9.5/ DATE AND TIME

You can configure the following settings:

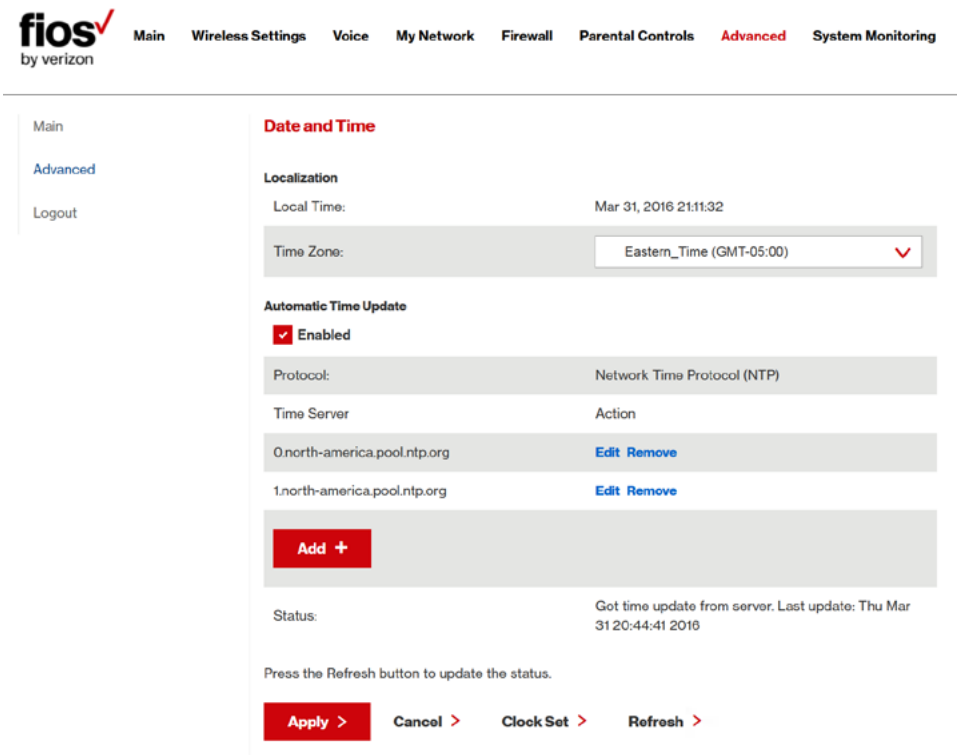
- **Date and Time Settings** – sets the time zone and enables automatic time updates.
- **Scheduler Rules** – limits the activation of firewall rules to specific time periods.

9.5a/ DATE AND TIME SETTINGS

You can set the time zone and enable automatic time updates.

To configure the settings:

1. Select **Date and Time** in the Advanced page.



2. Select the local time zone. Your Fios Router automatically detects daylight saving times for selected time zone.
3. In the **Automatic Time Update** section, select the **Enabled** check to perform an automatic time update.
4. Define the time server addresses by clicking **Add**. The Time Server Settings page displays.

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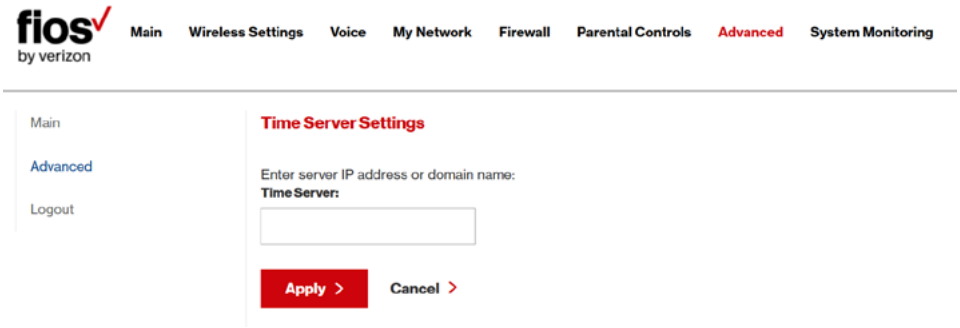
DATE AND TIME AND CONFIGURATION SETTINGS



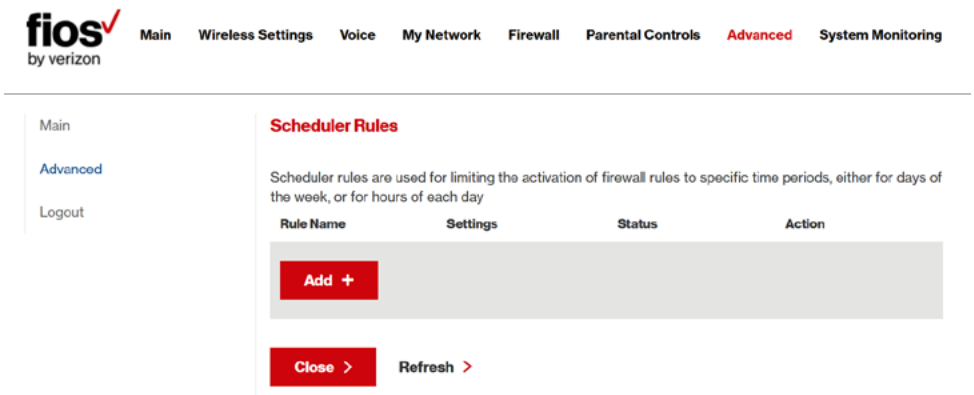
5. Enter the IP address or domain name of the time server, then click **Apply** to save changes.

9.5b/ SCHEDULER RULES

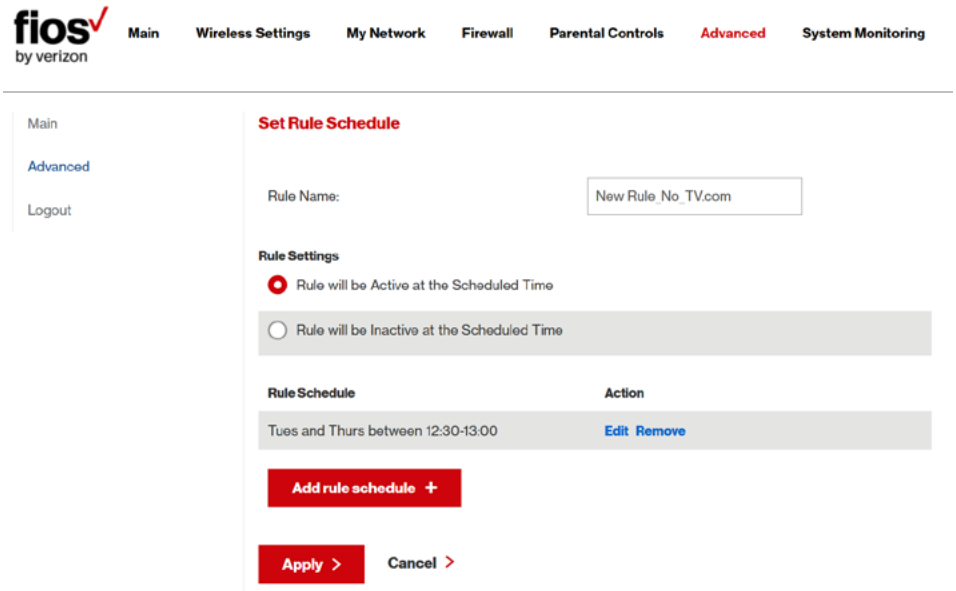
Scheduler rules are used for limiting the activation of firewall rules to specific time periods. The time periods are either for days of the week or for hours of each day based on activity or inactivity.

To define a rule:

1. Verify that the date and time of your Fios Router is correct.
2. Select **Scheduler Rules** in the Advanced page.



3. Click **Add**. The Set Rule Schedule page displays.



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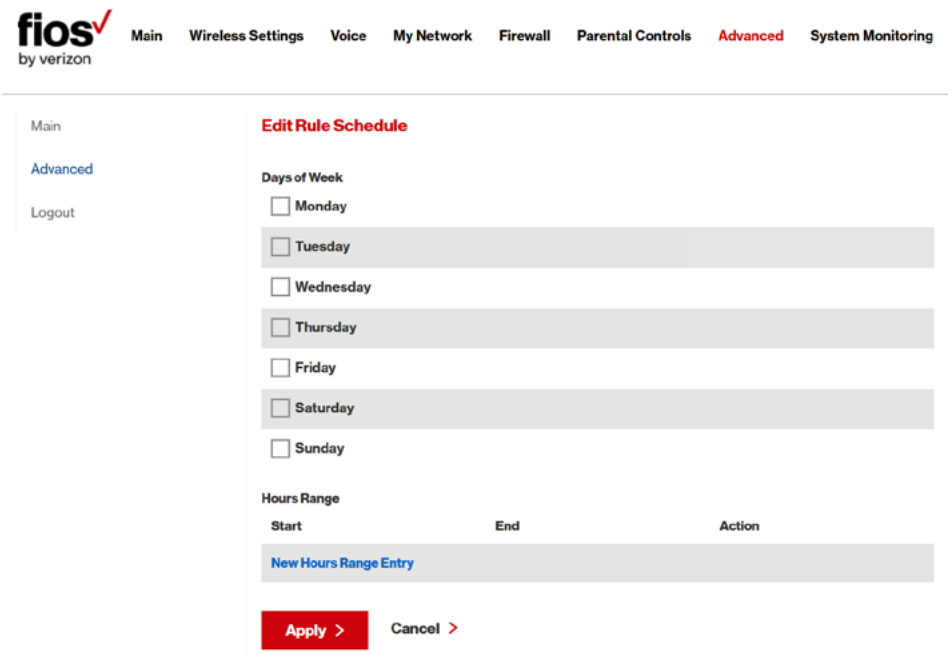
CONFIGURATION SETTINGS

4. Enter the name of the rule.
5. In the **Rule Settings** section, specify if the rule is active at the scheduled time or inactive at the scheduled time.
6. Click the **Add Rule Schedule**. The Edit Rule Schedule page displays.



7. Select the active or inactive days of the week.
8. To define a new active or inactive hourly range, click **New Hours Range Entry**.

9. Enter the start and end time, then click **Apply** to save changes.
10. Click **Apply** again to save the rule schedule.

9.6/ CONFIGURATION SETTINGS

You can configure the following configuration settings:

- **Configuration File** – used for file backups and restoring configuration files
- **System Settings** – configures various system and management parameters
- **Port Configuration** – sets up Ethernet ports
- **Device Configuration** – supports Router Only, ONT only, and Full (Router and ONT)

9.6a/ CONFIGURATION FILE

You can use the Configuration File functionality to view, save, and load configuration files. These files are used to backup and restore the current configuration of your Fios Router.

Only configuration files saved on a specific Fios Router can be applied to that Fios Router. You cannot transfer configuration files between Fios Routers.

Warning: Manually editing a configuration file can cause your Fios Router to malfunction or become completely inoperable.

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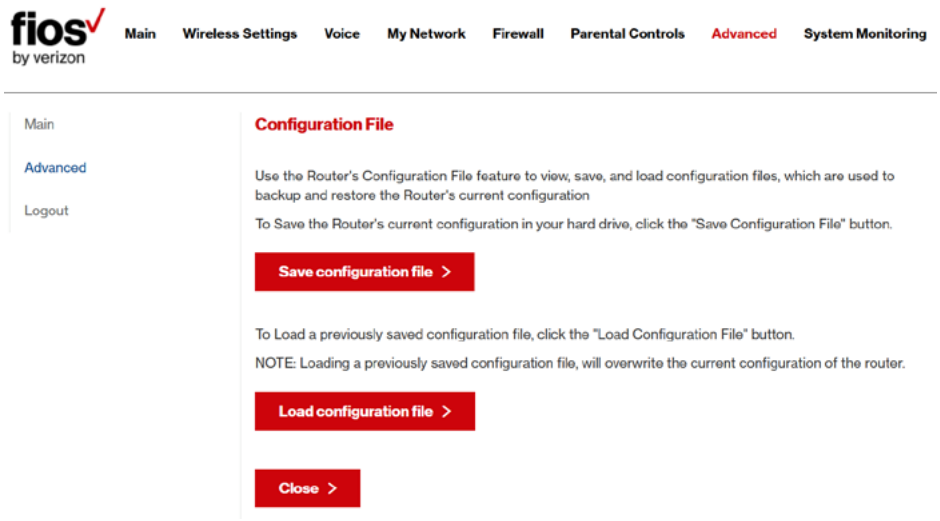
CONFIGURATION SETTINGS

To save or load the configuration file:

1. Select **Configuration File**.



2. To save the current configuration to a file, click **Save Configuration File**. The configuration file is saved to you web browser's download folder.
3. To load a previously saved configuration file, click **Load Configuration File**.

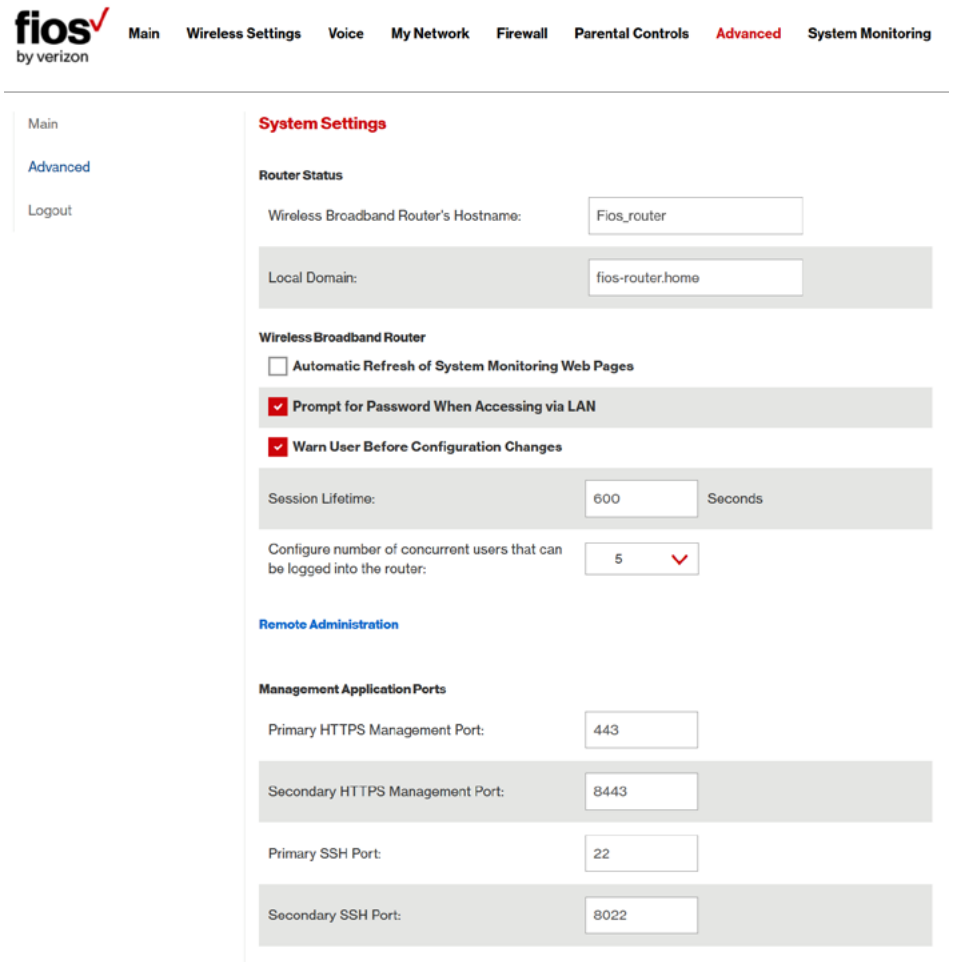
   Browse to the location of the file, then click **Apply** to begin the configuration uploading process. Your Fios Router will automatically restart with that configuration.

9.6b/ SYSTEM SETTINGS

You can configure various system and management parameters.

To configure system settings:

1. Select **System Settings** in the Advanced page.



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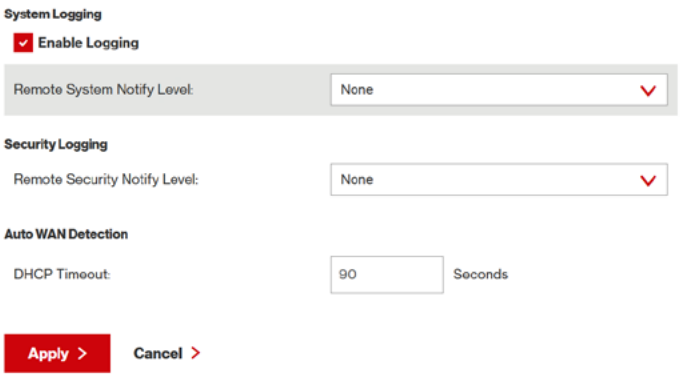
CONFIGURATION SETTINGS

2. In the **Router Status** section, configure the following:
   - **Wireless Broadband Route's Hostname** – enter the host name or URL address of your Fios Router. Both names are the same.
   - **Local Domain** – view the local domain of the network.
3. In the **Wireless Broadband Router** section, configure the following by selecting the check box:
   - **Automatic Refresh of System Monitoring Web Pages** – activates the automatic refresh of system monitoring web pages.
   - **Prompt for Password when Accessing via LAN** – causes your Fios Router to ask for a password when trying to connect to the network.
   - **Warn User Before Configuration Changes** – activates user warnings before network configuration changes take effect.

   In the **Session Lifetime** field, specify the length of time required before reentering a user name and password after your Fios Router has been inactive.

   In the **Configure a Number of Concurrent Users** field, select the number of users that can access your Fios Router at any time.
4. Select **Remote Administration** to configure the remote administration to your Fios Router.

5. In the **Management Application Ports** section, change the primary and secondary HTTP management and SSH ports.
6. In the **System Logging** section, configure the following system log options:
   - **Enable Logging** – activates system logging.
   - **Remote System Notify Level** – specify the type of information, such as none, error, warning, and information, received for remote system logging.



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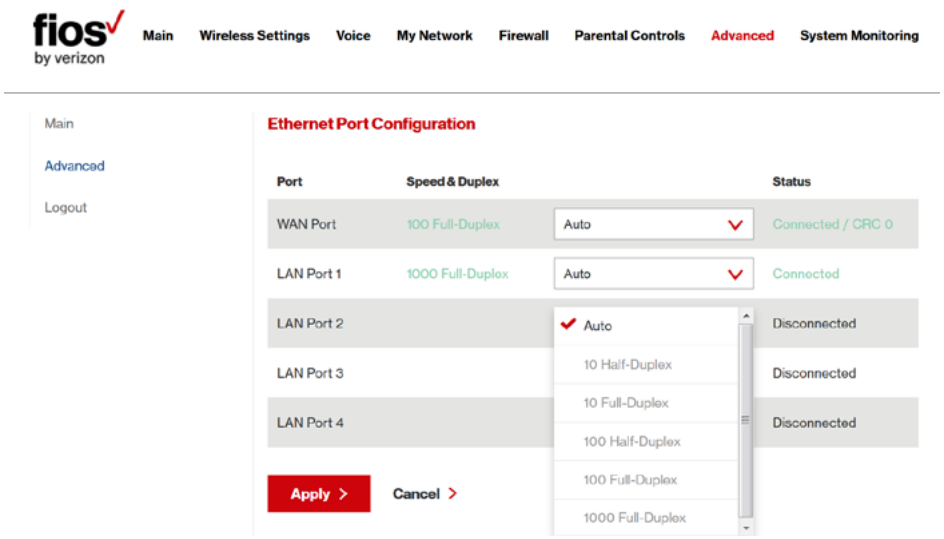
7. In the **Security Logging** section, configure the following security logging options:
    - **Low Capacity Notification Enabled** – activates low capacity notification. This works in conjunction with the Allowed Capacity before Email Notification and System Log Buffer Size.
    - **Allowed Capacity before Email Notification** – specify the capacity before an email notification is sent.
    - **System Log Buffer Size** – specify the size of the system log buffer.
    - **Remote System Notify Level** – specify the type of information, such as none, error, warning, and information, received for remote system logging.
8. In the **Auto WAN Detection** section, specify the DHCP timeout.
9. Click **Apply** to save changes.

9.6c/ ETHERNET PORT CONFIGURATION

Ethernet port configuration allows you to set up the Ethernet ports as either full- or half-duplex ports, at either 10 Mbps, 100 Mbps, or 1000 Mbps.

To configure the ports:

1. Select **Port Configuration** in the Advanced page.



2. To emulate the speed and duplex configuration of the port with which it's communicating, select **Auto** or select the port speed and duplicity.
3. Click **Apply** to save changes.

9.6d/ DEVICE CONFIGURATION

Caution: The Device Configuration settings should only be configured by experienced network technicians to avoid adversely affecting the operation of your Fios Router, your local network or your Internet access.

Method displayed should represent current configuration.

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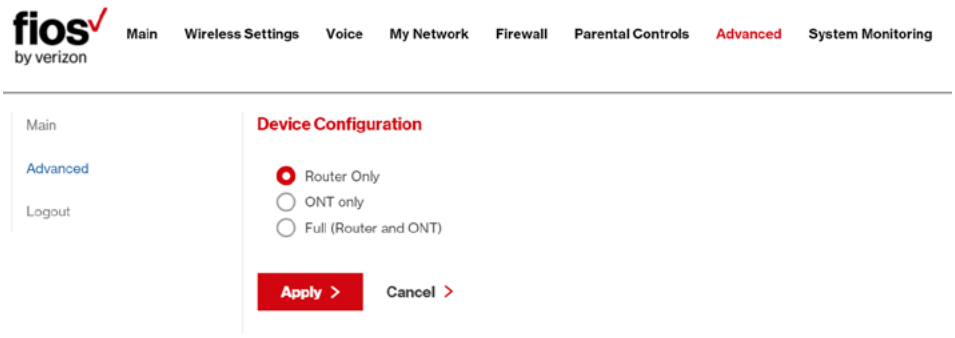
CONFIGURATION SETTINGS

- **Router Only** – Used when there is already an existing ONT or modem providing broadband service. Selecting this option will disable the Fios Router's ONT functionality.
- **ONT only** – Used when there is already an existing router providing networking service. Selecting this option will disable the Fios Router's router functionality.
- **Full (Router and ONT)** – This default setting is used when both the ONT and router services are utilized. Selecting this option will enable both the Fios Router's ONT and router functionality.



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10/

MONITORING YOUR FIOS ROUTER

10.0 Fios Router Status
10.1 Advanced Status
10.2 System Logging
10.3 Full Status/System wide Monitoring of Connections
10.4 Traffic Monitoring
10.5 Bandwidth Monitoring
10.6 Voice Diagnostics
10.7 Optical Status

System Monitoring displays system information, including basic settings, system log, key network device parameters and network traffic statistics.

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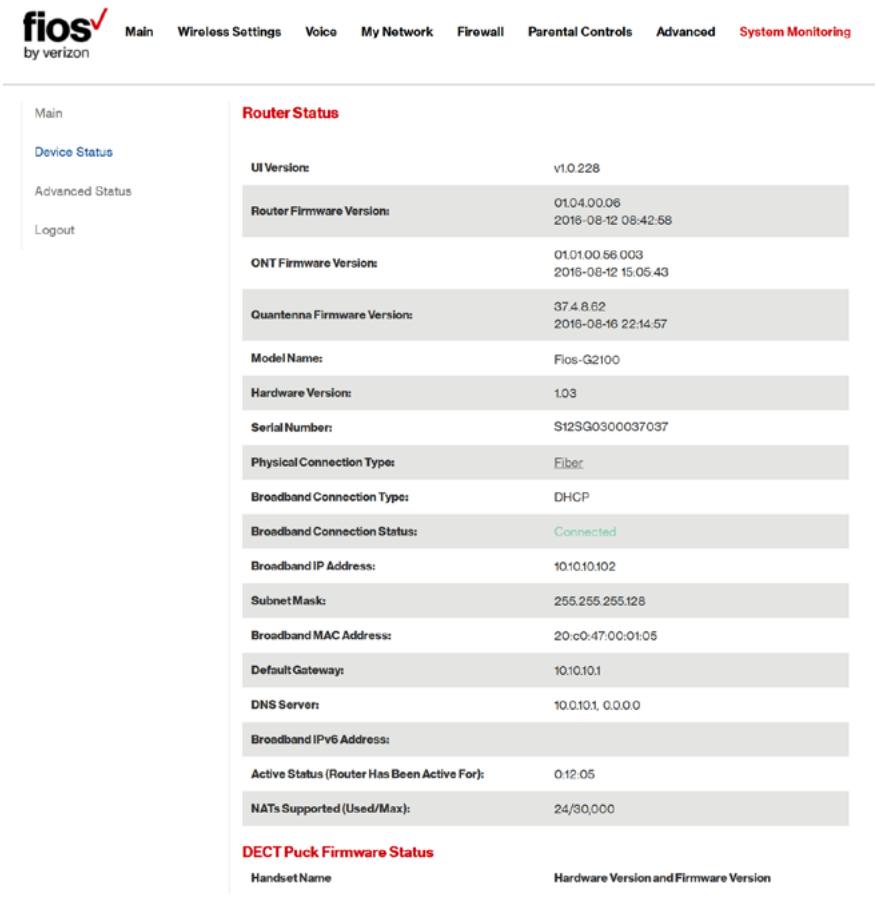
FIOS ROUTER STATUS AND ADVANCED STATUS

10.0/ FIOS ROUTER STATUS

You can view the basic settings of your Fios Router.

To view the basic settings:

1. Select **System Monitoring** in the Main menu. The Router Status page displays.



2. To refresh the page, click **Refresh**.
3. To continuously refresh the page, click **Automatic Refresh On**.

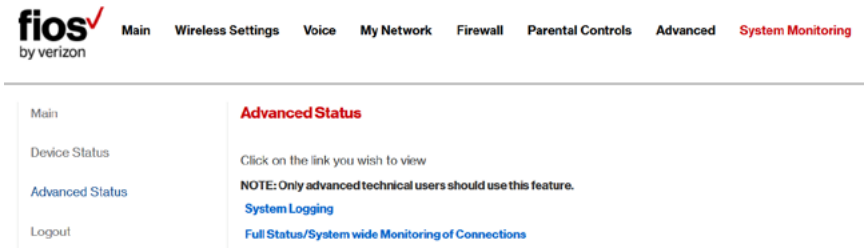
10.1/ ADVANCED STATUS

You can view the details and status of:

- **System Logging**
- **Full Status/System wide Monitoring of Connections**
- **Traffic Monitoring**
- **Bandwidth Monitoring**
- **Voice Diagnostics**
- **Optical Diagnostic Status**

To view the advanced status:

1. Select **Advanced Status**. A warning page displays.
2. Click **Yes**. The Advanced Status page displays.



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SYSTEM LOGGING AND FULL STATUS/ SYSTEM WIDE MONITORING OF CONNECTIONS

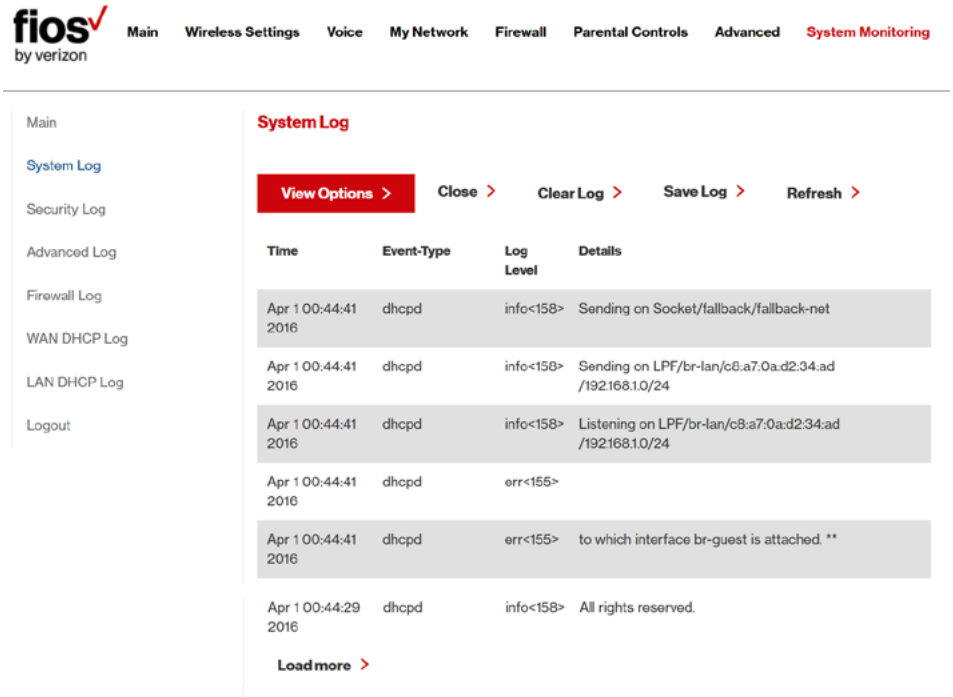
3. To view the details of the listed monitoring options, click the link.

10.2/ SYSTEM LOGGING

System logging provides a view of the most recent activity of your Fios Router. In addition, you can view additional logs, such as the security, advanced, firewall, WAN, DHCP, and LAN DHCP.

To view the system log:

1. In the Advanced Status page, click the **System Logging** link.



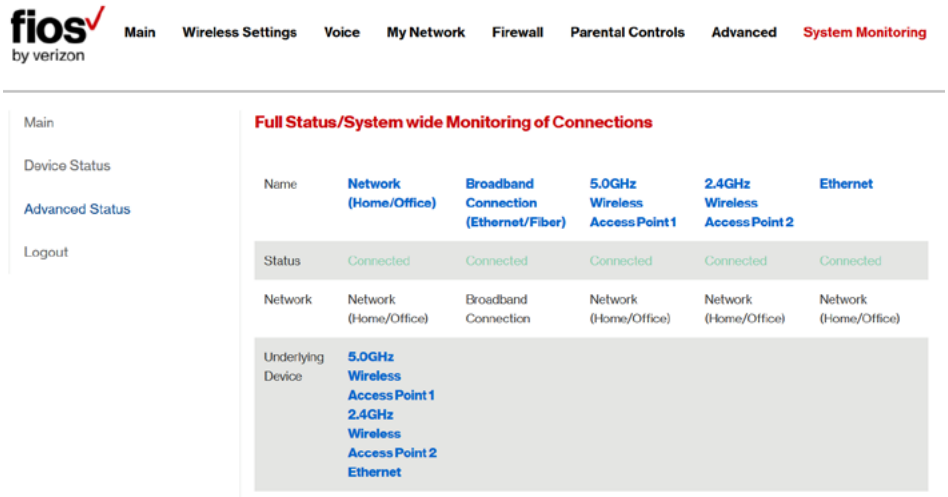
2. To view a specific type of log event such as Security Log, WAN DHCP Log, etc., click the appropriate link in the menu in the left column.
3. To update the data, click **Refresh**.

10.3/ FULL STATUS/SYSTEM WIDE MONITORING OF CONNECTIONS

You can view a summary of the monitored data collected for your Fios Router.

To view your Fios Router's full system status:

1. In the Advanced Status page, click **Full Status/System wide Monitoring of Connections**.



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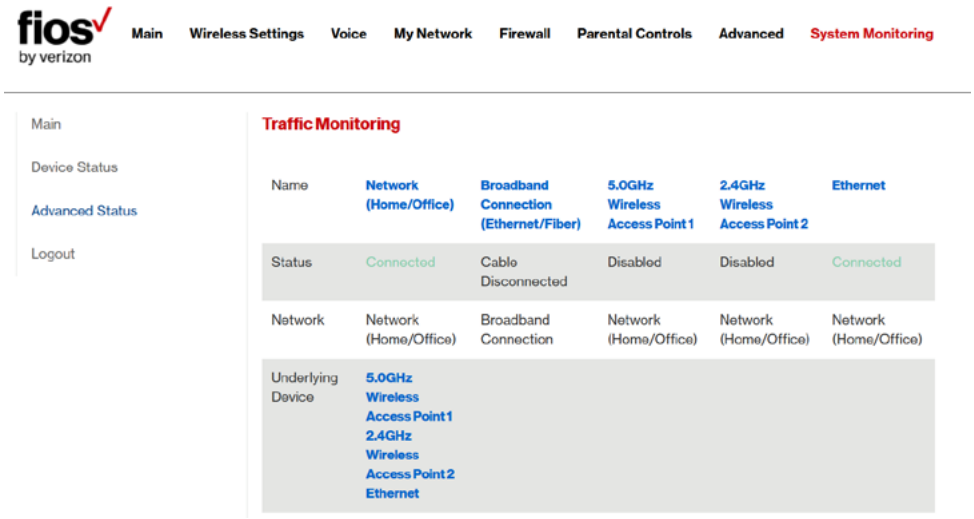
2. To modify the connection properties, click the individual connection links.
3. To refresh the page, click **Refresh**.
4. To continuously refresh the page, click **Automatic Refresh On**.

10.4/ TRAFFIC MONITORING

Your Fios Router continually monitors traffic in the local area network and between the local network and the Internet. You can view up to the second statistical information about data received from and transmitted to the Internet as well as data received from and transmitted to computers in the local network.

To view the traffic monitoring data:

1. In the Advanced Status page, select **Traffic Monitoring**.



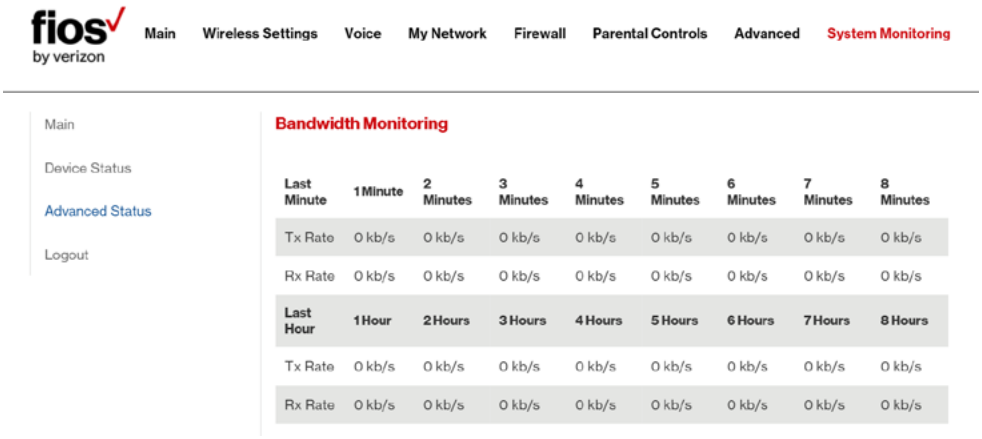
2. To refresh the page, click **Refresh**.
3. To continuously refresh the page, click **Automatic Refresh On**.

10.5/ BANDWIDTH MONITORING

You can view and monitor the recorded bandwidth usage measured in Kbps.

To view the bandwidth:

1. In the Advanced Status page, select **Bandwidth Monitoring**.



2. To refresh the page, click **Refresh**.
3. To continuously refresh the page, click **Automatic Refresh On**.

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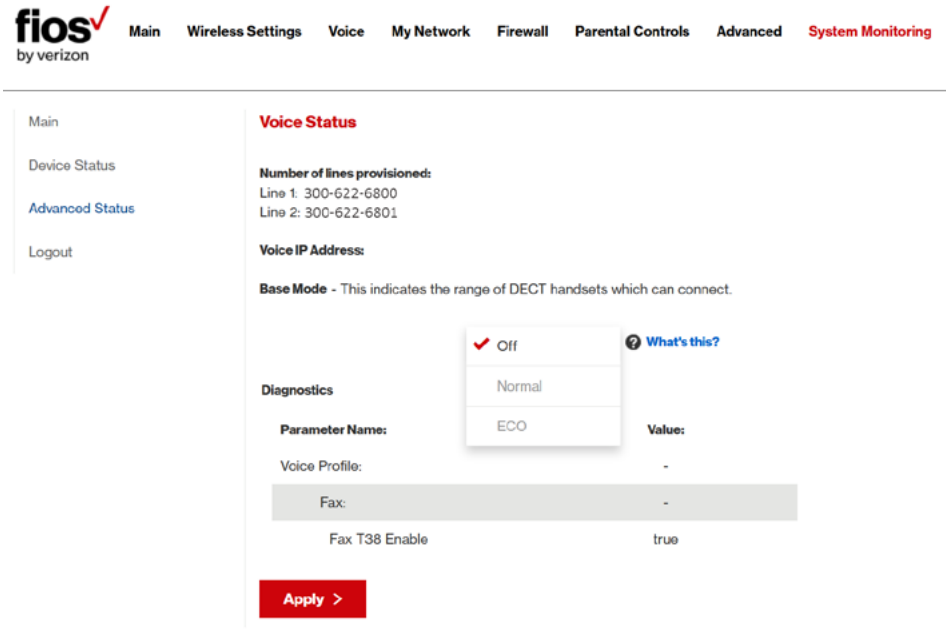
VOICE DIAGNOSTICS AND OPTICAL DIAGNOSTIC STATUS

10.6/ VOICE DIAGNOSTICS

The Voice Status page provides details about the provisioned lines and discovered DECT handsets known to the Fios Router. This page will not be available if your voice service has not been enabled or configured. Refer to the voice section under ‘4.0 Voice’ for the voice configuration options and details.



10.7/ OPTICAL DIAGNOSTIC STATUS

Optical Status provides basic statistics for fiber connection for Optical Network Terminal (ONT) including: Network, Management, Optical Measurements for the ONT-Side (including: Rx & Tx, Voltage, Laser Bias, Ranging Detail and Bit Error Rates)

To view the Fios Router's current optical statistics, refer to the Optical Status page located under the Advanced Diagnostic's feature.

- **OpticRXPower** – (-27dBm, -8dBm) – Optical power of the received signal.
- **OpticTXPower** – (1dBm, 4dBm) Optical power of the transmitted signal.
- **OpticTXBias** – (2mA, 25mA) – Electric current on the transmitted optical signal.
- **OpticVoltage** – 3.3v – Optical signal voltage.
- **Laser Bias Current** – Electric charge on the laser signal.
- **Temperature** – (-5C, 80C) – Temperature of the optical HW module.
- **Ranging** – Connection status of the fiber signal – 0: Connecting; 1: Connected; 2: Disconnected.
- **Bit Error Rates** – <10^(-10) – Optical transmission bit error rate.

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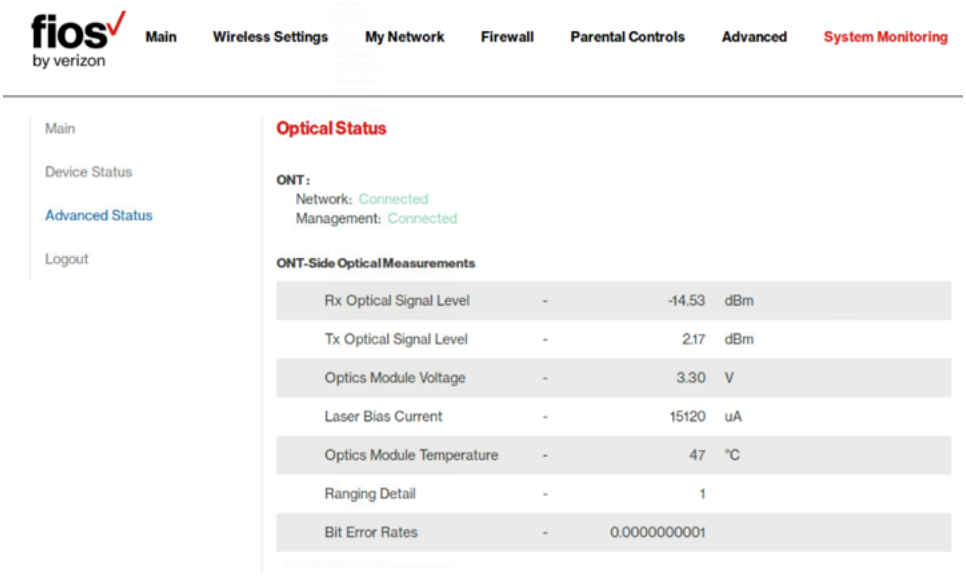
VOICE DIAGNOSTICS AND OPTICAL DIAGNOSTIC STATUS

Note: This page is not available if an optical connection has not been established.



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11/

TROUBLE SHOOTING

11.0 Troubleshooting Tips

11.1 Frequently Asked Questions

This chapter lists solutions for issues that may be encountered while using your Fios Router as well as frequently asked questions.

Although the majority of the Fios Router's Internet connectivity is automatic and transparent, if an issue does occur accessing the Internet (e.g. complete loss of connectivity, inability to access services, etc.), you may need to take additional steps to resolve the problem.

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TROUBLESHOOTING TIPS

Note: The advanced settings should only be configured by experienced network technicians to avoid adversely affecting the operation of your Fios Router and your local network.

11.0/ TROUBLESHOOTING TIPS

11.0a/ IF YOU ARE UNABLE TO CONNECT TO THE INTERNET:

- The first thing to check is whether your Fios Router is powered on and it is connected to the Internet. Check the front panel's Unified Button light on the front of the Fios Router. Be sure to refer to the Router Lights quick link to determine status of the Fios Router. Check the WAN cable (Ethernet or Fiber) connecting your Fios Router to the Internet to make sure it is properly connected on both ends.
- If the prior tips do not resolve your connection issue, try restarting (rebooting) the router portion of the Fios Router by manually pressing the protruding 'red' power button on the rear panel of the Fios Router for 2-4 seconds (the Unified Button LED should go off) and then press the power button again to begin rebooting your Fios Router. Your Fios Router will begin rebooting and returning to service in 3 - 5 minutes depending on your network connection, check Fios Router's Unified Button LED status and if it is solid white, try again to access the Internet.
- If rebooting your router does not resolve your connection issue, try power cycling the Fios Router by unplugging the power cable from the adapter or the wall and wait 2 minutes. During the 2 min. wait period, also power cycle the network device (e.g. the computer, tablet, etc.) and then plug the power cable back in

back into the Fios Router, after 3-5 minutes recheck the Fios Router's Unified Button LED status and try again to access the Internet.

11.0b/ IF YOU ARE UNABLE TO CONNECT TO YOUR FIOS ROUTER USING WI-FI:

- Be sure your wireless device is within range of your Wi-Fi Fios Router, move it closer to see if your connection improves.
- Check your network device's Wi-Fi settings to be sure your device's Wi-Fi is on (enabled) and that you have the correct Wi-Fi network and password (if using a Wi-Fi password) as configured on your Fios Router.
- Be sure you are connecting to the correct Wi-Fi network, check to be sure you are using your Fios Router's ESSID. In some cases, if using a wireless password, you may need to enter the Wi-Fi password into your network device again to be sure your device accepts the password.
- Check to be sure you are running the latest software for your network device.
- Try turning your network device's Wi-Fi off and on and try to connect.
- If you have made any changes in your network settings and turning your network device's Wi-Fi off and on does not help, try to restart your network device.

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TROUBLESHOOTING TIPS

- You may need to turn your Fios Routers' Wi-Fi settings from on to off, and back to on again and apply the changes.
- If you are still unable to access your Fios Router may need to try connecting to the Fios Router using another network device. If the issue goes away with another network device, the issue is likely with that individual network device's configuration.

11.0c/ ACCESSING YOUR FIOS ROUTER IF YOU ARE LOCKED OUT

If your Fios Router connection is lost while making configuration changes, a setting that locks access to your Fios Router's GUI may have inadvertently been activated.

The common ways to lock access to your Fios Router are:

- **Scheduler** - If a schedule has been created that applies to the computer over the connection being used, your Fios Router will not accessible during the times set in the schedule.
- **Access Control** - If the access control setting for the computer is set to block the computer, access to your Fios Router is denied.

To gain access, restore the default settings to your Fios Router.

11.0d/ RESTORING YOUR FIOS ROUTER'S DEFAULT SETTINGS

There are two ways to restore your Fios Router's default settings. It is important to note that after performing either procedure, all previously save settings on your Fios Router will be lost.

For additional information regarding the Restore Defaults feature refer to the section 9.1b/ Restore Defaults

- Using the tip of a ballpoint pen or pencil, press and hold the **Reset** button on the back of your Fios Router for three seconds.
- Access the GUI and navigate to the Advanced Settings page. Select the **Restore Defaults** option. After saving your configuration, if desired, click the **Restore Defaults** button. For additional details, refer to the **Restore Defaults** section of this guide.

  Note: If you reset or reboot your Fios Router, you may also need to disconnect your Fios Router's power supply for a few minutes (3 or more) and then reconnect the power cable. In some cases simply pressing the power button on the Fios Router, as indicated, should restore Internet connectivity. However, in order to provide full synchronization to the fiber network, disconnecting and reconnecting the power may be required. To avoid adversely affecting the operation of your Fios Router 'DO NOT' use the restore defaults options for "All ONT Defaults" or "All Device Defaults (router and ONT)" unless expressly instructed to do so by a Verizon support technician.

11.0e/ LAN CONNECTION FAILURE

To troubleshoot a LAN connection failure:

- Verify your Fios Router is properly installed, LAN connections are correct, and that the Fios Router and communicating network devices are all powered on.
- Confirm that the computer and Fios Router are both on the same network segment.

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TROUBLESHOOTING TIPS

If unsure, let the computer get the IP address automatically by initiating the DHCP function, then verify the computer is using an IP address within the default range of 192.168.1.2 through 192.168.1.254.

If the computer is not using an IP address within the correct IP range, it will not connect to your Fios Router.

- Verify the subnet mask address is set to 255.255.255.0.

11.0f/ TIMEOUT ERROR OCCURS WHEN ENTERING THE URL OR IP ADDRESS

Verify the following:

- All computers are working properly.
- IP settings are correct.
- Fios Router is on and connected properly.
- Fios Router settings are the same as the computer.

For connections experiencing lag or a slow response:

- Check for other devices on the network utilizing large portions of the bandwidth and if possible temporarily stop their current utilization and recheck the connection.
- If lag still exists clear the cache on the computer and if still needed unplug the Ethernet cable or disable the wireless connection to the computer experiencing the slow connection and then reconnect or enable the wireless connection and try the connection again.

In rare cases you may also need to:

- Unplug the Ethernet cable to Fios Router and restart the Fios Router, wait 1-2 mins. and reinsert the Ethernet cable.
- Under limited circumstances you may elect to use a port forwarding configuration on the router, based on the application you are using (refer to the Port Forwarding section or Verizon's support online help for more details).

11.0g/ FRONT UNIFIED BUTTON

The front panel's Unified Button allows quick access to the Wi-Fi Protected Setup (WPS) feature and handset paging/paring mode. In addition, the Unified Button a provides a visual display of the Fios Router's current condition. Refer to the chart below for details.

Condition Status	LED Color	BHR5
Normal	WHITE	Normal Operation (solid) Router is booting (fast blink) ONT is booting (slow blink)
	BLUE	Pairing Mode (slow blink) Paging Mode (fast blink)
	GREY	Wi-Fi has been turned off
Issue(s)	YELLOW	No internet Connection (slow blink)
	RED	Hardware/System Failure detected (solid) Overheating (fast blink)
Mode Changed	GREEN	Device is set to Router only mode (ONT/DECT disabled)
	OFF	Device is set to ONT only mode (Router off) or Fiber cable is not connected, dirty or possibly damaged.

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FREQUENTLY ASKED QUESTIONS

11.0h/ REAR LIGHTED INDICATORS

Flash Speed

- **Slow flash** – Two times per second
- **Fast flash** – Four times per second

WAN Ethernet

- **Unlit** – Indicates no Ethernet link
- **Solid green** – Indicates a network link
- **Fast flash green** – Indicates network activity. The traffic can be in either direction.

LAN Ethernet – Upper LED

- **Unlit** – Indicates no 1 Gbps link
- **Solid green** – Indicates 1 Gbps link
- **Fast flash green** – Indicates LAN activity. The traffic can be in either direction.

LAN Ethernet – Lower LED

- **Unlit** – Indicates no 10/100 Mbps link
- **Solid green** – Indicates 10/100 Mbps link
- **Fast flash green** – Indicates LAN activity. The traffic can be in either direction.

GPON

- **Solid green** – System ON
- **Slow blink green** – Booting/Updating System
- **Slow flash red** – Warning. Error in the provisioning process will trigger an alarm and cause a warning condition.
- **Solid red** – Hardware failure detected

NTWK

- **Off** – Fiber not connected
- **Solid green** – ONT is synced with the OLT
- **Slow blink green** – Attempting OLT sync
- **Slow flash red** – Not provisioned/connection error
- **Solid red** – Hardware failure detected

MGMT

- **Solid green** – ONT is ranged, recovered and communicating with the EMS/Mgmt
- **Slow blink green** – ONT is in the ranging process
- **Slow flash red** – ONT/EMS not provisioned (rouge device)
- **Solid red** – Provisioned and cannot connect to the EMS/OLT

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FREQUENTLY ASKED QUESTIONS

VOICE

- **Solid green** – Voice service active/provisioned
- **Slow blink green** – Off hook condition(line in use)
- **Slow flash red** – Warning/Booting/Updating
- **Solid red** – Critical Issue

11.1/ FREQUENTLY ASKED QUESTIONS

11.1a/ I'VE RUN OUT OF ETHERNET PORTS ON MY FIOS ROUTER. HOW DO I ADD MORE COMPUTERS OR DEVICES?

Plugging in an Ethernet hub or switch expands the number of ports on your Fios Router.

- Run a straight-through Ethernet cable from the Uplink port of the new hub to the Fios Router.

Use a crossover cable if there is no Uplink port/switch on your hub, use a crossover cable.

- Remove an existing device from the yellow Ethernet port on your Fios Router and use that port.

11.1b/ HOW DO I CHANGE THE PASSWORD ON MY FIOS ROUTER GUI?

To change the password:

1. On the Main screen, select **Advanced**, then select **Users**.

2. In the Users page, select **Admin**. The User Settings page displays.
3. In the **General** section, change the password.

11.1c/ IS THE WIRELESS OPTION ON BY DEFAULT ON MY FIOS ROUTER?

Yes, your Fios Router's wireless option is activated out of the box.

11.1d/ IS THE WIRELESS SECURITY ON BY DEFAULT WHEN THE WIRELESS OPTION IS ACTIVATED?

Yes, with the unique WPA2 (Wi-Fi Protected Access II) key that is printed on the sticker on the side of your Fios Router.

11.1e/ WHICH CONNECTION SPEEDS DOES MY FIOS ROUTER SUPPORT?

The Ethernet WAN Internet connection supports 10/100/1000 Mbps. The LAN Ethernet connections support 10/100/1000 Mbps. The 802.11ac wireless connection supports up to 1300 Mbps and the 802.11n supports up to 450 Mbps, depending on signal quality.

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FREQUENTLY ASKED QUESTIONS

11.1f/ ARE MY FIOS ROUTER'S ETHERNET PORTS AUTO-SENSING?

Yes. Either a straight-through or crossover Ethernet cable can be used.

11.1g/ CAN I USE AN OLDER WIRELESS DEVICE TO CONNECT TO MY FIOS ROUTER?

Yes, your Fios Router can interface with 802.11b, g, n, or ac devices. Your Fios Router can be setup to handle only n wireless cards, g wireless cards, b wireless cards, or any combination of the three.

11.1h/ CAN MY WIRELESS SIGNAL PASS THROUGH FLOORS, WALLS, AND GLASS?

The physical environment surrounding your Fios Router can have a varying effect on signal strength and quality. The denser the object, such as a concrete wall compared to a plaster wall, the greater the interference. Concrete or metal-reinforced structures experience a higher degree of signal loss than those made of wood, plaster, or glass.

11.1i/ HOW DO I LOCATE THE IP ADDRESS THAT MY COMPUTER IS USING?

In Windows 7 or Windows 10, click the **Windows** button and select **Control Panel**, then click **View Network Status and Tasks**. In the next window, click **Local Area Connection**. In the Local Area Network Connection Status window, click **Details**.

On Mac OS X, open **System Preferences** and click the **Network** icon. The IP address displays near the top of the screen.

11.1j/ I USED DHCP TO CONFIGURE MY NETWORK. DO I NEED TO RESTART MY COMPUTER TO REFRESH MY IP ADDRESS?

No. In Windows 7, Windows 10 and OSX, unplug the Ethernet cable or wireless card, then plug it back in.

11.1k/ I CANNOT ACCESS MY FIOS ROUTER GUI. WHAT SHOULD I DO?

If you cannot access the GUI, verify the computer connected to your Fios Router is set up to dynamically receive an IP address.

11.1l/ I HAVE A FTP OR WEB SERVER ON MY NETWORK. HOW CAN I MAKE IT AVAILABLE TO USERS ON THE INTERNET?

For a web server, enable port forwarding for port 80 to the IP address of the server. Also, set up the web server to receive that port. Configuring the server to use a static IP address is recommended.

For a FTP server, enable port forwarding for port 21 to the IP address of the server. Also, set up the web server to receive

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that port. Configuring the server to use a static IP address is recommended.

11.1n/ HOW MANY COMPUTERS CAN BE CONNECTED THROUGH MY FIOS ROUTER?

Your Fios Router is capable of 254 connections, but we recommend having no more than 45 connections. As the number of connections increase, the available speed for each computer decreases.

12/

SPECIFICATIONS

12.0 General Specifications

12.1 LED Indicators

12.2 Environmental Parameters

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GENERAL SPECIFICATIONS

The specifications for your Fios-G2100 are as follows.

This includes standards, cabling types and environmental parameters.

Note: The specifications listed in this chapter are subject to change without notice.

12.0/ GENERAL SPECIFICATIONS

Model Number:	**Model: Fios-G2100**
Standards:	**IEEE 802.3x, 802.3u** **IEEE 802.11b/g/n/ac**
IP:	**IP versions 4 and 6**
Fiber:	**Fiber WAN: 1350 – 1675 MHz and 975 - 1025 MHz**
Speed:	**Wired WAN Ethernet: 10/100/1000 Mbps auto-sensing** **Wired LAN Ethernet: 10/100/1000 Mbps auto-sensing**
Wireless LAN:	**802.11b – up to 11 Mbps** **802.11g – up to 54 Mbps** **802.11n – up to 450 Mbps** **802.11ac – up to 1773 Mbps**

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GENERAL SPECIFICATIONS, LED INDICATORS AND ENVIRONMENTAL PARAMETERS

Cabling Type:	**Ethernet 10BaseT: UTP/STP Category 3 or 5** **Ethernet 100BaseT: UTP/STP Category 5** **Ethernet 1000BaseT: UTP/STP Category 5e** **Telco SC Fiber Optic** **Telco UTP Category 3 (voice-grade with RJ11 connector)**
Firewall:	**ICSA certified**

12.1/ LED INDICATORS

Front Panel:	**Unified Button**
Rear Panel:	**GPON, Mgmt, Voice, Ntwk, WAN Ethernet and LAN Ethernet [4]**

12.2/ ENVIRONMENTAL PARAMETERS

DIMENSIONS AND WEIGHT

Fios-G2100: (unit only)	**Size: 3.34” wide x 9.8” high x 9.25” deep** **Weight: 1.56 lbs / 0.71 kg**
Complete System: (inc. packaging)	**Size: 10.16” wide x 3.78” high x 10.35” deep** **Weight: 2.63 lbs / 1.19 kg**

Power:	**External, 19V DC, 3.0A**
Certifications:	**FCC, UL 60950-1**
Operating Temperature:	**-5° C to 40° C (23° F to 104° F)**
Storage Temperature:	**-20° C to 85° C (-4° F to 185° F)**
Operating Humidity:	**10% to 85% (non-condensing)**
Storage Humidity:	**10% to 90% (non-condensing)**

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13/ NOTICES

13.0 Regulatory Compliance Notices

This chapter lists various compliance and modification notices, as well as the NEBS requirements and GPL.

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REGULATORY COMPLIANCE NOTICES

13.0/ REGULATORY COMPLIANCE NOTICES

13.0a/ CLASS B EQUIPMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the 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 implementing one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment to an outlet on a circuit different from the one to which the receiver is connected
- Consult the dealer or an experienced radio or television technician for help

13.0b/ MODIFICATIONS

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Verizon may void the user's authority to operate the equipment.

Declaration of conformity for products marked with the FCC logo – United States only.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference
- This device must accept any interference received, including interference that may cause unwanted operation

Note: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 24 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

For operation within the 5.15 ~ 5.25 GHz frequency range, this device is restricted to indoor environments. This device meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

For questions regarding your product or the FCC declaration, contact:

Verizon

One Verizon Way
Basking Ridge, NJ 07920

Attn: FCC declaration
1-800-VERIZON (1-800-837-4966)
www.verizon.com/support

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REGULATORY COMPLIANCE NOTICES

Caution: The Broadband Home Router must be installed inside the home. The Router is not designed for exterior installation.

13.0c/ GENERAL PUBLIC LICENSE

This product contains certain software that is covered by open source licensing requirements. Copies of the licenses and a downloadable copy of the source code for the open source software that is used in this product are available on the following website:

http://verizon.com/opensource/

All open source software contained in this product is distributed WITHOUT ANY WARRANTY. All such software is subject to the copyrights of the authors and to the terms of the applicable licenses included in the download.

You may also obtain a copy of the source code for the open source software used in this product for a period of three years after your receipt of the product by sending a check for $10, payable to VERIZON, to the address below:

Verizon
One Verizon Way
Basking Ridge, NJ 07920
Attn: Legal, Open Source Requests

Note: This information is provided for those who wish to edit or otherwise change such programs. You do not need a copy of any of such open source software source code to install or operate the device.

13.0d/ CLASS 1 LASER PRODUCT

This Product Complies with 21CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

Verizon
One Verizon Way
Basking Ridge, NJ 07920
1-800-VERIZON (1-800-837-4966)

Caution: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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01/

CHOICE. COUNTLESS REASONS. THAT'S POWERFUL.

Version: 1.3.2

fios by verizon