SonicWall® SonicOS 6.5 Quick Configuration

SONICWALL®

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Part 1

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Using SonicWall Quick Configuration Guides

About the Quick Configuration Guides

IMPORTANT: The initial Setup Guides launched when setting up new SonicWall security appliances are different from the Quick Configuration guides displayed by clicking **Quick Configuration** from the SonicOS Management Interface. For information about the initial Setup Guides, see the *Getting Started Guide* for the new security appliance.

Quick Configuration provides easy-to-use configuration guides (wizards) to assist you with initial policy and security creation:

- Securing your internet connection
- Selecting initial ports assignment for PortShield (TZ Series and SOHO Series security appliances only)
- Providing public access to an external server
- Creating site-to-site VPN policies
- Configuring network settings and security features of the WAN radio interface (TZ W series and SOHO W series security appliances only)
- Configuring App Rules for security
- Configuring a WXA series appliance (for installing WXA appliances on SonicWall security appliances only)

Topics:

Configuring a Static IP Address with NAT Enabled

Using NAT to set up your SonicWall eliminates the need for public IP addresses for all computers on your LAN. It is a way to conserve IP addresses available from the pool of IPv4 addresses for the Internet. NAT also allows you to conceal the addressing scheme of your network. If you do not have enough individual IP addresses for all computers on your network, you can use NAT for your network configuration.

Essentially, NAT translates the IP addresses in one network into those for a different network. As a form of packet filtering for security appliances, it protects a network from outside intrusion from hackers by replacing the internal (LAN) IP address on packets passing through a SonicWall with a “fake” one from a fixed pool of addresses. The actual IP addresses of computers on the LAN are hidden from outside view.

This section describes configuring the SonicWall network security appliance in the NAT mode. If you are assigned a single IP address by your ISP, follow the instructions below.

TIP: Be sure to have your network information, including your WAN IP address, subnet mask, and DNS settings, ready. This information is obtained from your ISP.

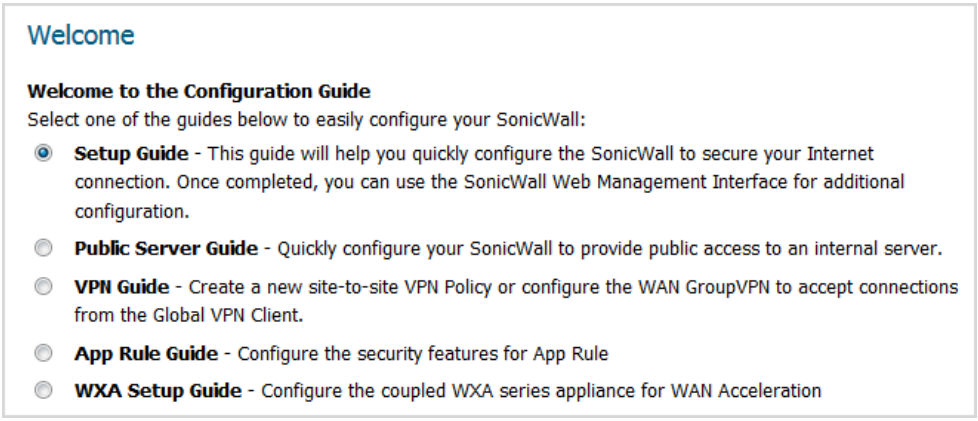
Launching the Guides

NOTE: An initial **Startup Guide** appears automatically when you first activate a TZ series or SOHO series security appliance. This guide is different from a Setup Guide. For further information, see the *Getting Started Guide* for your TZ series or SOHO series security appliance.

A **Setup Guide** appears automatically when you first activate an NS*a* series, NSA series, or SM series security appliance.

To launch a SonicWall Configuration Guide any time other than initial start up, click **Quick Configuration** on the top of any page of the Quick Configuration management interface. The **Welcome** page displays.

NOTE: The PortShield Guide appears only for TZ series and SOHO series security appliances, and the Wireless Guide appears only for TZ W series and SOHO series security appliances. Other guides, such as the App Rule Guide, require a valid license to display.



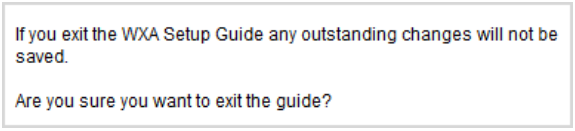
From this page, you select one of these Guides:

- Using the Setup Guide on page 9
- Using the PortShield Interface Guide on page 36 (this guide is available only for TZ series and SOHO series security appliances)
- Using the Public Server Guide on page 40
- Using the VPN Guide on page 46
- Using the Wireless Guide (Wireless Platforms only) on page 57 (this guide is available only for wireless security appliances)
- Using the App Rule Guide on page 71
- Using the WXA Setup Guide on page 80 (use this guide only when installing a WXA appliance on a SonicWall security appliance)

Navigating through the Guides

You move forwards and backwards through the guides by clicking the **NEXT** and **BACK** buttons respectively. The titles of the pages appear at the top of the guide. As you complete steps and progress through a guide, the color of the completed page title changes color and a checkmark appears next to the title.

You can exit a guide at any time by clicking the **EXIT GUIDE** button. If you exit before completing the configuration, a popup dialog displays requesting confirmation of exiting without saving any settings:



Click **OK** to exit the guide, **Cancel** to continue the configuration.

Part 2

Guides

- Using the Setup Guide
- Using the PortShield Interface Guide
- Using the Public Server Guide
- Using the VPN Guide
- Using the Wireless Guide (Wireless Platforms only)
- Using the App Rule Guide
- Using the WXA Setup Guide

2

Using the Setup Guide

Setup Guide

NOTE: An Initial **Startup Guide** appears when you first activate your TZ series or SOHO series security appliance. This guide is described in the *Getting Started Guide* for your TZ series or SOHO series security appliance.

The first time you log into your NS*a* series, NSA Series, or SuperMassive series security appliance, an initial **Setup Guide** is launched automatically. For all NS*a* series, SuperMassive series, NSA series, TZ series, and SOHO series security appliances, you can launch the **Setup Guide** at any time from the management interface, by clicking **QUICK CONFIGURATION** at the top of the SonicOS Management Interface.

TIP: You can also configure all your WAN and network settings from the **MANAGE** view of the SonicWall Management Interface

The **Setup Guide** helps you configure these settings:

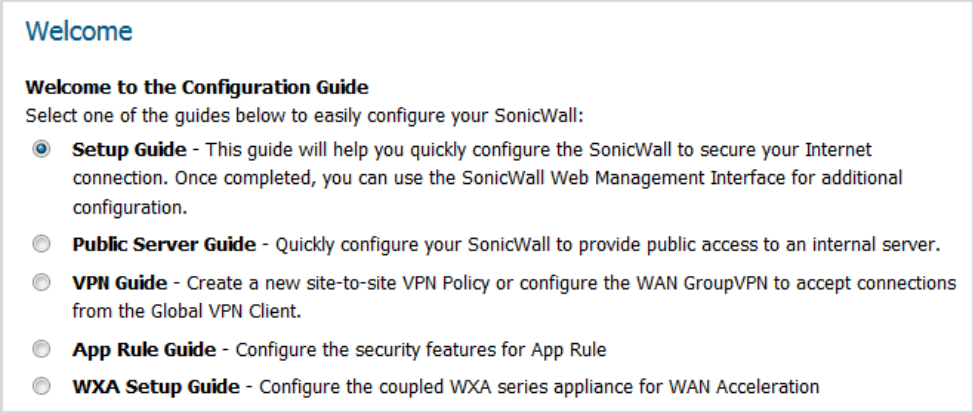
- Deployment Scenario (wireless security appliances only)
- Administrator password and time zone
- Type of modular device
- WAN networking mode and WAN network configuration
- LAN network configuration
- LAN DHCP settings
- Ports assignment (TZ series and SOHO series security appliances only)

Topics:

Accessing the Setup Guide

To configure settings with the Setup Guide:

1 Click **QUICK CONFIGURATION** at the top of the SonicOS management interface. The **Welcome** page displays.

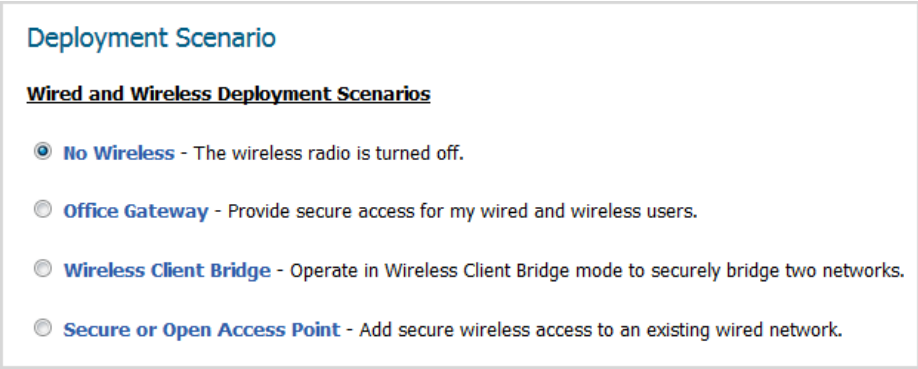


2 Select **Setup Guide**. This option is selected by default.

3 Click **NEXT**. If you have a:

- Wireless appliance, the **Deployment Scenario** page displays; see Deployment Scenario (Wireless Platforms only) on page 10.
- Wired appliance, the **Change Administrator Password** page displays; see Change Administrator Password on page 11.

Deployment Scenario (Wireless Platforms only)



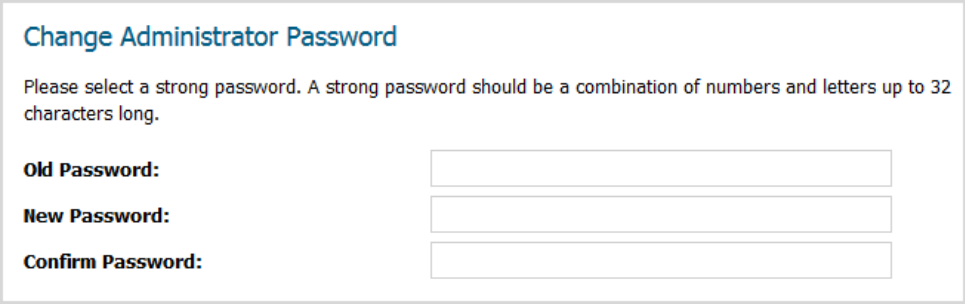
1 Select a deployment scenarios:

> **NOTE:** The pages that are displayed for configuration change with the type of deployment you select.

No Wireless (default)	The wireless radio is turned off.
Office Gateway	Provides secure access for both wired and wireless users.
Wireless Client Bridge	Operates in Wireless Client Bridge mode to securely bridge two networks.
Secure or Open Access Point	Adds secure wireless access to an existing wired network.

2 Click **NEXT**. The Change Administrator Password page displays.

Change Administrator Password



> **IMPORTANT:** Each security appliance comes with a default username of **admin** and a default password of **password**. You cannot change the default username, but it is highly recommended that you change the password.

1 Enter the old password in the **Old Password** field.

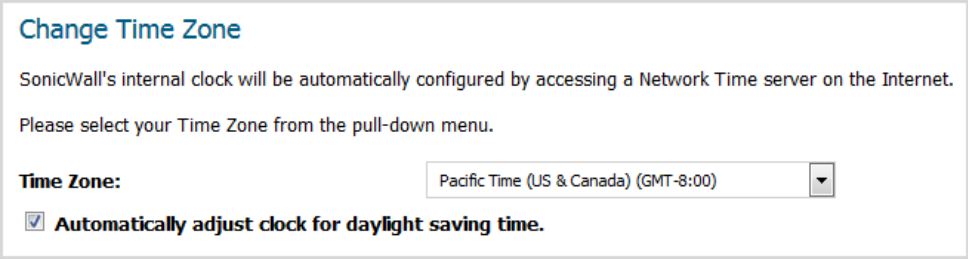
> **NOTE:** When you subsequently access the **Setup Guide**, this field is dimmed with the old password masked.

2 Enter a new password in the **New Password** and **Confirm New Password** fields.

> **IMPORTANT:** Enter a strong password that cannot be easily guessed by others. A strong password should have at least one uppercase letter, one lowercase letter, one number, and one special character. For example `MyP@ssw0rd`.

3 Click **NEXT**. The Time Zone page displays.

Time Zone



1 Select the appropriate time zone from **Time Zone**. The SonicWall's internal clock is set automatically to the correct time for this time zone by a Network Time Server on the Internet.

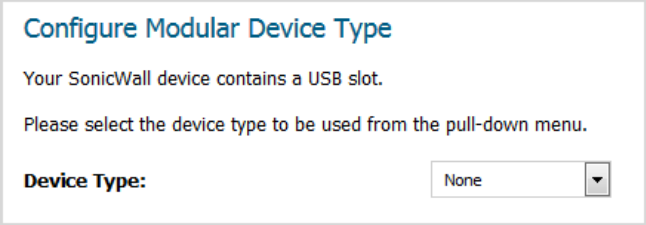
2 Optionally, select **Automatically adjust clock for daylight savings time**. This is selected by default.

3 Click **NEXT**.

4 The page that is displayed depends on the type of security appliance you have and, if a wireless security appliance, the deployment you selected:

- Non-wired security appliance that contains a USB slot, the Configure Modular Device Type page displays.
- Non-wired security appliance that contains a 3G/4G/LTE device, the Configure 3G/4G/LTE page displays.
- Wired security appliance or this deployment selected for a wireless security appliance: **No Wireless**, **Office Gateway**, or **Secure or Open Access Point**, the Configure Modular Device Type page displays.
- Wired security appliance with this deployment selected: **Wireless Client Bridge**, the LAN Settings page displays.

Configure Modular Device Type



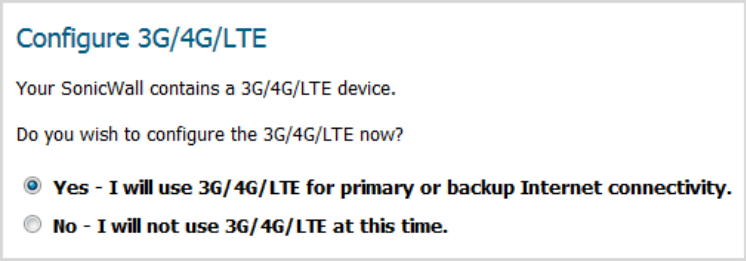
1 Select a device type from the **Device Type** drop-down menu:

- **None** (default)
- **3G/4G/LTE/Mobile**
- **Analog Modem**

2 Click **NEXT**. The page that displays next depends on your device type selection:

This device type	Displays this page	Go to
None	WAN Network Mode	WAN Network Mode on page 17.
3G/4G/LTE/Mobile	Configure 3G/4G/LTE	Configure 3G/4G/LTE on page 13.
Analog Modem	Configure Modem	Configure Modem on page 15

Configure 3G/4G/LTE



1 Specify how to configure the 3G/4G device:

- For primary or backup internet connectivity, select **Yes – I will use 3G/4G for primary or backup internet connectivity**. This is the default.
- If the device is not used at this time, select **No – I will not use 3G/4G at this time**.

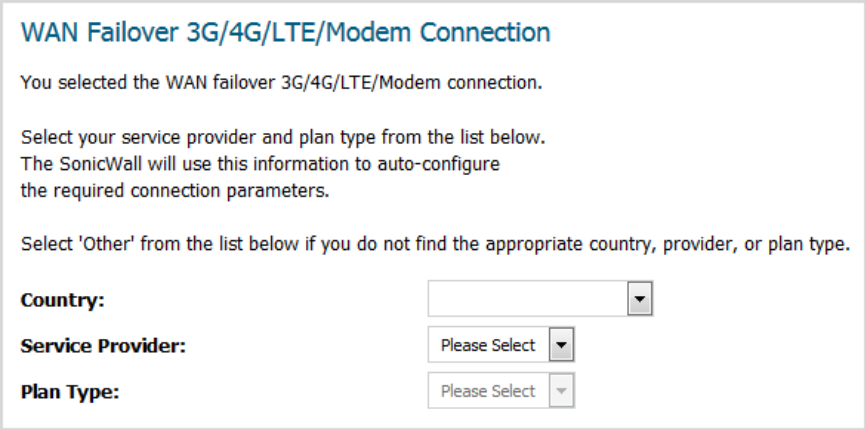
2 Click **NEXT**.

3 If you selected:

- **Yes** – The **3G/4G Modem > WAN Failover 3G/4G/LTE/Modem Connection** page displays. Go to WAN Failover 3G/4G/LTE/Modem Connection (page 1) on page 13.
- **No** – The **WAN Network Mode** page displays; go to WAN Network Mode on page 17.

WAN Failover 3G/4G/LTE/Modem Connection (page 1)

NOTE: You must complete this page to continue configuring your security appliance.



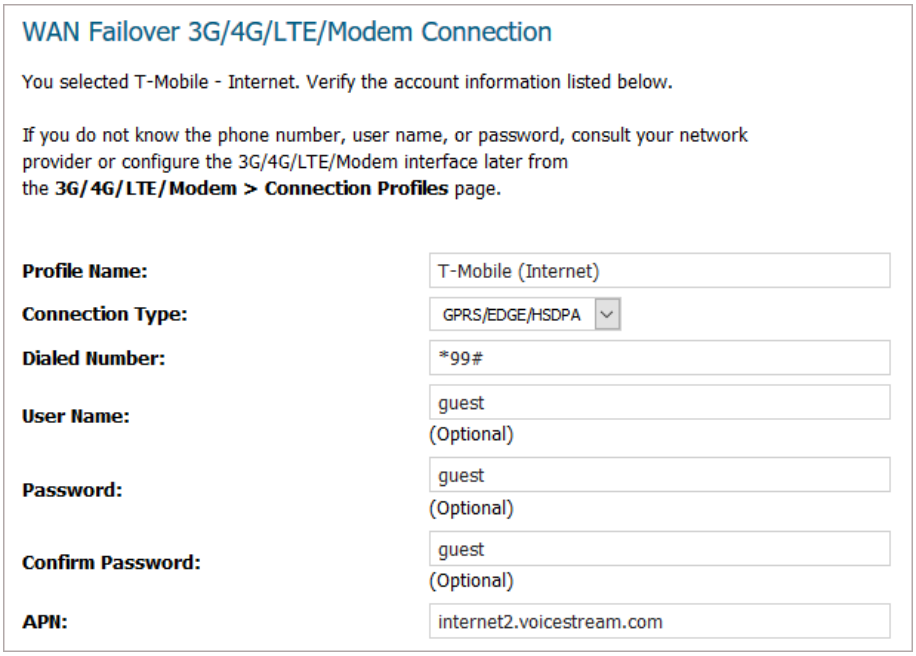
1 Select your country from **Country**.

2 Select your service provider from **Service Provide**. Options depend on the **Country** you selected.

3 Select your plan type from **Plan Type**. Options depend on the **Service Provider** you selected.

4 Click **NEXT**. The second **WAN Failover 3G/4G/Modem Connection** page displays with the options populated according to your choices for country, service provider, and plan type.

WAN Failover 3G/4G/LTE/Modem Connection (page 2)



NOTE: If you selected **Other** for **Country**, **Plan Type** or **Service Provider**, the second page is not populated with information and you must enter the required information. Go to WAN Failover 3G/4G/LTE/Modem Connection (page 2—Other) on page 14.

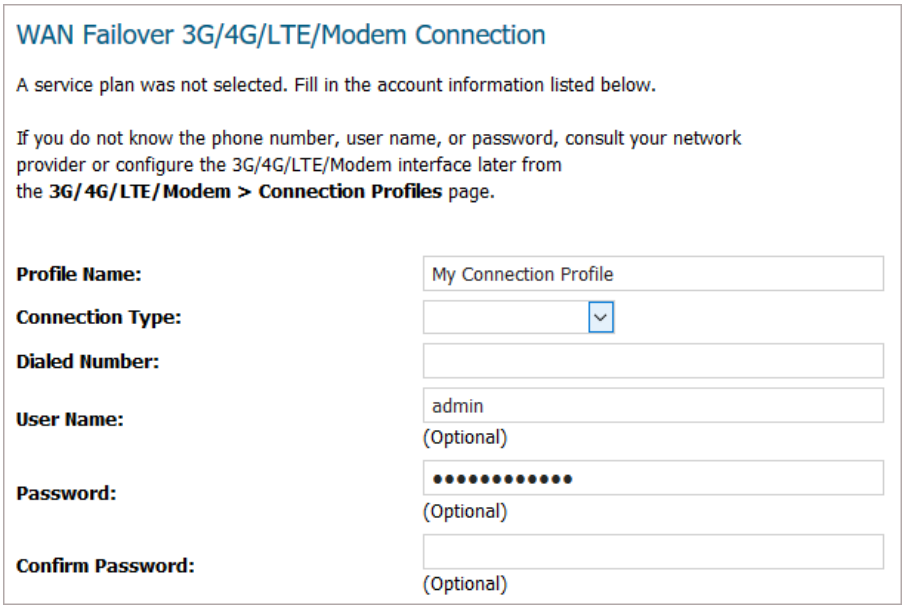
1 Verify the displayed information.

2 If any optional settings have not been populated, enter them now.

3 Click **NEXT**. The **WAN Network Mode** dialog displays.

4 Go to WAN Network Mode on page 17.

WAN Failover 3G/4G/LTE/Modem Connection (page 2—Other)



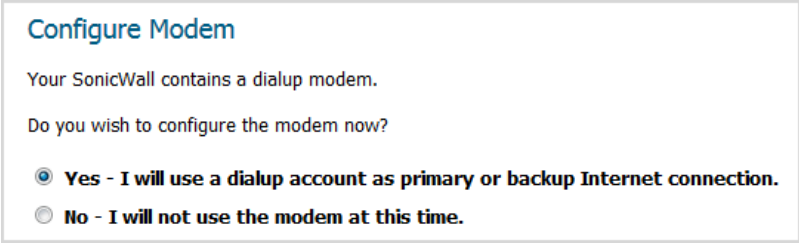
1 If you selected **Other** for **Country**, **Service Provider**, or **Plan Type**, the second page is not populated with information, and you must provide the required information:

- **Profile Name** – Enter a friendly name for the profile in this field; the default is **My Connection Profile**.
- **Connection Type** – Select the connection type from the drop-down menu.
- **Dialed Number** – Enter the dialup number the appliance uses to connect to the internet in this field.
- **User Name** (optional) – Enter your ISP user name in this field.
- **Password** (optional) – Enter your ISP password in this field.
- **Confirm Password** (optional) – Reenter your ISP password in this field.

2 Click **NEXT**. The **WAN Network Mode** page displays.

3 Go to WAN Network Mode on page 17.

Configure Modem



1 Specify how to configure the modem:

- For primary or backup internet connectivity, select **Yes – I will use a dialup account as primary or backup internet connection**. This option is selected by default.
- If the modem is not used at this time, select **No – I will not use the modem at this time**.

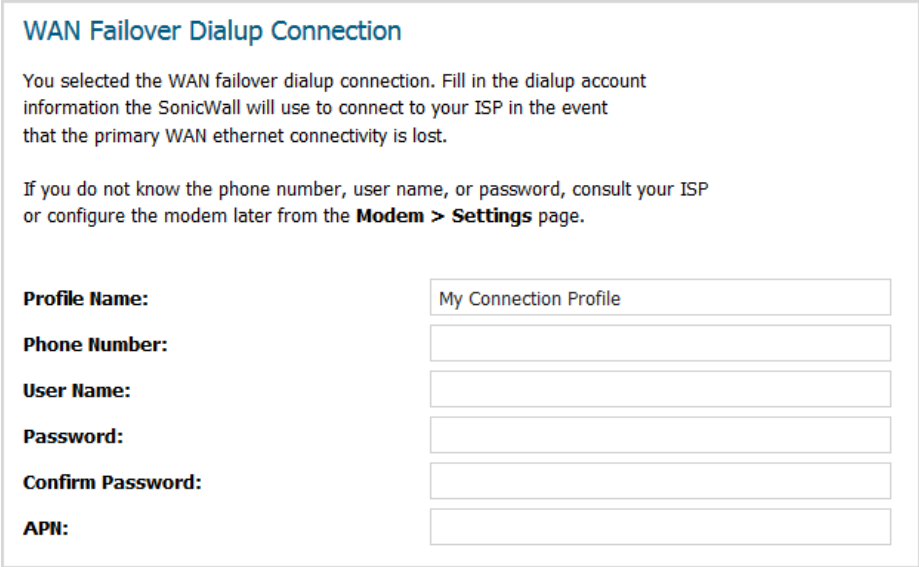
2 Click **NEXT**.

3 If you selected:

- **No** – The **WAN Network Mode** page displays; go to WAN Network Mode on page 17.
- **Yes** – The **WAN Failover Dialup Connection** page displays; go to WAN Failover Dialup Connection on page 16.

WAN Failover Dialup Connection

If you selected the WAN failover dialup connection, you must enter the dialup account information the SonicWall will use to connect to your ISP if the primary WAN ethernet connectivity is lost.



1 Enter the following settings:

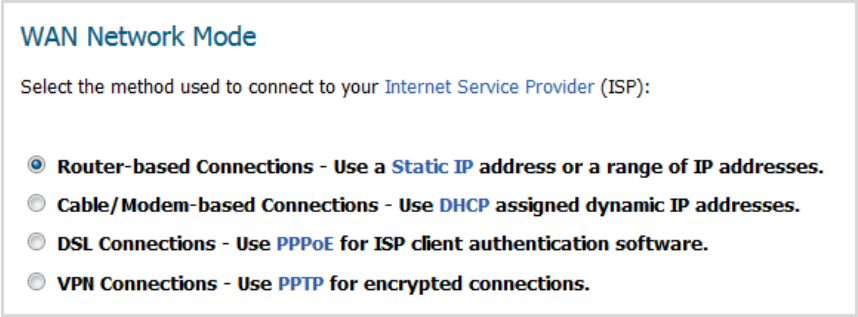
> **TIP:** If you do not know the phone number, user name, password or other settings, consult your ISP and configure the modem later from the **MANAGE | Connectivity > 3G/4G/Modem > Base Settings** page.

Profile Name	A friendly name for the profile; the default is **My Connection Profile**.
Phone Number	The phone number used for dialup.
User Name	Your ISP user name.
Password	Your ISP password.
Confirm Password	Reenter your ISP password.
APN	Your ISP Access Point Name.

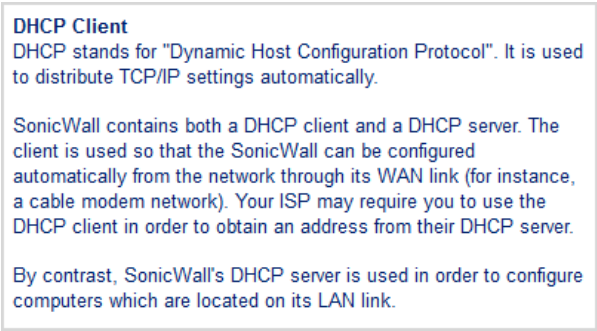
2 Click **NEXT**. The **WAN Network Mode** page displays.

3 Go to WAN Network Mode on page 17.

WAN Network Mode



TIP: If you click on the protocol name, a popup displays that describes the protocol and why you would use it. For example, if you click on **DHCP**, a description of DHCP displays:



1 Select the WAN network mode:

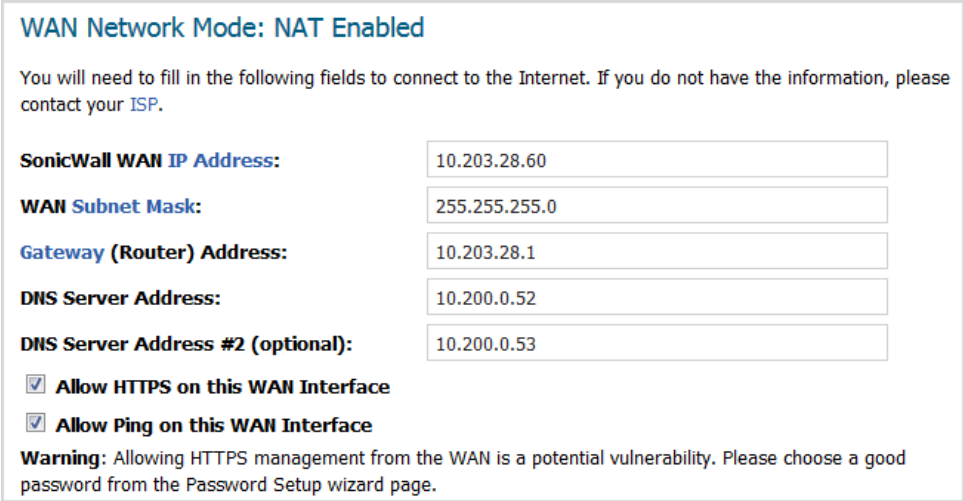
Router-based Connections – Use a Static IP address or a range of IP addresses.	An IP address is a number that identifies each device on your network. An IP address consists of four numbers, separated by periods, ranging from 0 to 254 in value. Examples of IP addresses are `192.168.168.1`, `10.0.0.1`, or `216.217.36.130`. This is the default for SonicWall security appliances. This option is selected by default. Every IP address on your network must be unique. Therefore, do not assign your SonicWall an IP address that is used by another device on your network.
Cable/Modem-based Connections – Use DHCP assigned dynamic IP addresses.	DHCP stands for Dynamic Host Configuration Protocol. It is used to distribute TCP/IP settings automatically. SonicWall security appliances contain both a DHCP client and a DHCP server. The client is used so that the SonicWall can be configured automatically from the network through its WAN link (for instance, a cable modem network). Your ISP may require you to use the DHCP client to obtain an address from their DHCP server.
DSL Connections — Use PPPoE for ISP client authentication software.	Point-to-Point Protocol over Ethernet (PPPoE) is a widely-deployed solution to manage DSL and cable broadband services. PPPoE requires username and password authentication to connect to the Internet.
VPN Connections – Use PPTP for encrypted connections.	Point-to-Point Tunneling Protocol (PPTP) is used to tunnel Point to Point Protocol (PPP) through an IP network. PPTP requires Server IP address, user name and password authentication to connect to the Internet.

2 Click **NEXT**. What displays next depends on your WAN network mode selection.

3 If you selected:

- **Router-based Connections**, go to WAN Network Mode: NAT Enabled on page 18
- **Cable/Modem-based Connections**, go to WAN Network Mode: NAT with DHCP Client on page 19.
- **DSL Connections**, go to WAN Network Mode – NAT with PPPoE Client on page 20.
- **VPN Connections**, go to WAN Network Mode: NAT with PPTP Client on page 21.

WAN Network Mode: NAT Enabled



1 The address settings have been populated based on your system. Verify they are correct.

> **NOTE:** If you are unsure of this information, contact your internet service provider (ISP). Clicking on the links in the option/mask names displays a popup with a description of the address/mask.

SonicWall WAN IP Address	An IP address is a number that identifies each device on your network. An IP address consists of four numbers, separated by periods, ranging from 0 to 254 in value. Examples of IP addresses are `192.168.168.1`, `10.0.0.1`, or `216.217.36.130`. Every IP address on your network must be unique. Therefore, do not assign your SonicWall an IP address used by another device on your network.
WAN Subnet Mask	The subnet mask defines which IP addresses are located on your local network and which IP addresses are located on the Internet. For example, if you assign your computer the IP address `192.168.168.200` and the subnet mask `255.255.255.0`, then your computer assumes all `192.168.168.X` addresses are on the local network, and all other addresses are located on the Internet. The WAN Subnet Mask should be assigned by your ISP. If you do not know your WAN Subnet Mask, use the subnet mask assigned to your computer or contact your ISP.
Gateway Router Address	The WAN gateway (router) address is the IP address of the router that bridges your network to the Internet. The WAN router may be attached directly to the SonicWall appliance's WAN port or indirectly through a cable or DSL modem.

	The WAN Gateway (router) address must be in the same subnet as the SonicWall security appliance's WAN IP address. The WAN gateway (router) address often ends with the numbers `.1` or `.254`. So, if your WAN IP address is `216.0.36.128`, then your gateway might be `216.0.36.1` or `216.0.36.254`. If you do not know your gateway address, contact your ISP.
DNS Server Address	The DNS server address is the IP address of the DNS server.
DNS Server Address #2 (optional)	If there is a second DNS server address, enter it in this field.

2 To allow HTTPS, select **Allow HTTPS on this WAN Interface**. This option is selected by default.

CAUTION: **Allowing HTTPS management from the WAN creates a potential vulnerability. If you enable this setting, ensure you have entered a strong password either on the Password page of this Guide or through the Manage > System Setup > Appliance > Base Settings page.**

3 To allow ping, select **Allow Ping on this WAN Interface**. This option is selected by default.

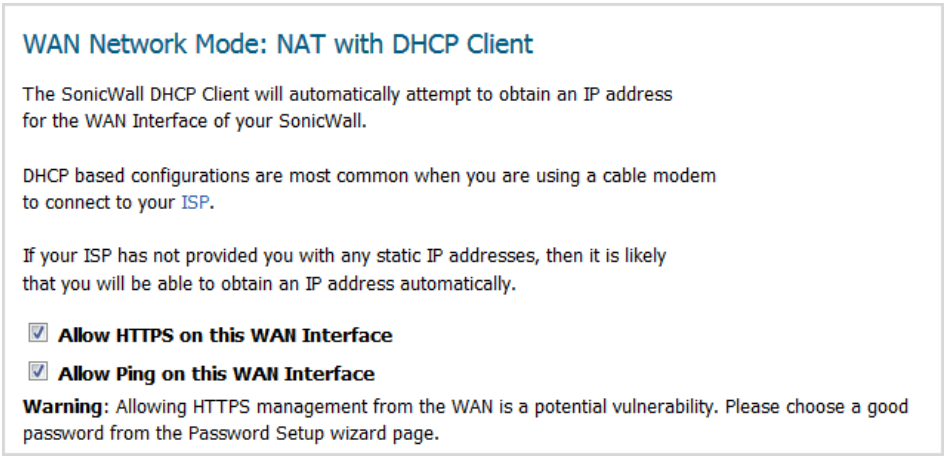
4 Click **NEXT**. The LAN Settings page displays.

5 Go to LAN Settings on page 22.

WAN Network Mode: NAT with DHCP Client

The SonicWall DHCP Client automatically attempts to obtain an IP address for the WAN Interface of your SonicWall.

DHCP-based configurations are most common when you are using a cable modem to connect to your ISP. If your ISP has not provided you with any static IP addresses, then it is likely that you will be able to obtain an IP address automatically.



1 To allow HTTPS, select **Allow HTTPS on this WAN Interface**. This option is selected by default.

CAUTION: **Allowing HTTPS management from the WAN creates a potential vulnerability. If you enable this setting, ensure you have entered a strong password either on the Password page of this Guide or through the Password Setup Guide.**

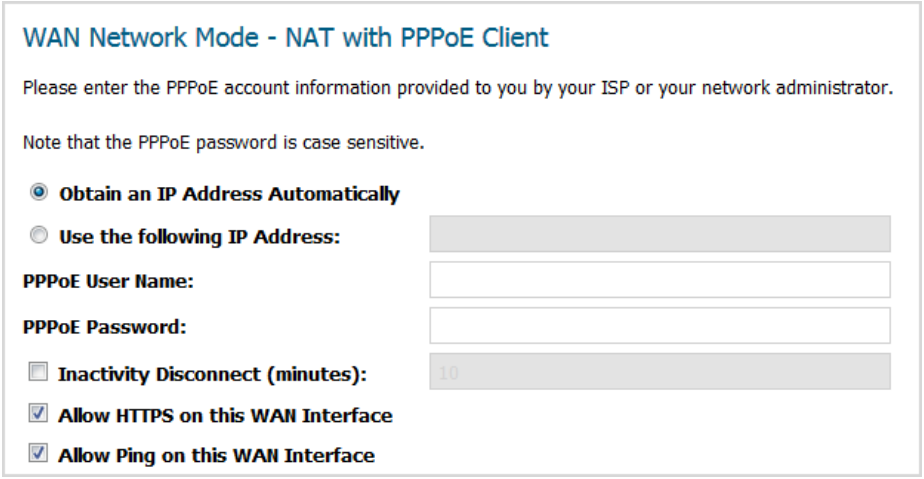
2 To allow ping, select **Allow Ping on this WAN Interface**. This option is selected by default..

3 Click **NEXT**. The **LAN Settings** page displays.

4 Go to LAN Settings on page 22.

WAN Network Mode – NAT with PPPoE Client

If you have DSL connections, you must provide PPPoE account information provided by your ISP or network administrator.



1 Choose how to obtain an IP address:

Automatically	Select **Obtain an IP Address Automatically**. This option is selected by default.	Go to Step 2.
Manually	Select **Use the following IP Address**. The field becomes active. Enter the PPPoE IP address in this field.	

2 Enter your PPPoE user name in the **PPPoE User Name** field.

3 Enter your PPPoE password in the **PPPoE Password** field.

> **NOTE:** The password is case sensitive. Enter a strong password that cannot be easily guessed by others. A strong password should have at least one uppercase letter, one lowercase letter, one number, and one special character. For example `MyP@ssw0rd`.

4 Optionally, to disconnect after a period of inactivity, select **Inactivity Disconnect (minutes)**. This option is not selected by default. When this option is selected, the field becomes active.

   a Enter the maximum inactivity time, in minutes, before disconnect in the **Inactivity Disconnect (minutes)** field; the default is **10**, the minimum is 0 (no time allowed), and he maximum is 999 minutes.

5 To allow HTTPS, select **Allow HTTPS on this WAN Interface**. This option is selected by default.

> CAUTION: **Allowing HTTPS management from the WAN creates a potential vulnerability. If you enable this setting, ensure you have entered a strong password either on the Password page of this Guide or through the Password Setup Guide.**

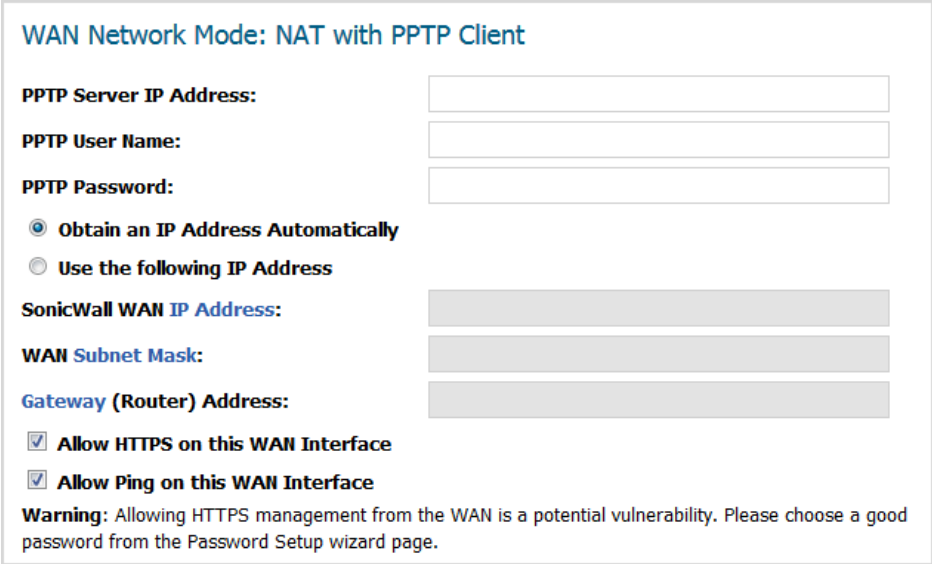
6 To allow ping, select **Allow Ping on this WAN Interface**. This option is selected by default.

7 Click **NEXT**. The **LAN Settings** page displays.

8 Go to LAN Settings on page 22.

WAN Network Mode: NAT with PPTP Client

NOTE: You must supply a PPTP server IP address, user name, and password to continue.



1 Enter the IP address of your PPTP server in the **PPTP Server IP Address** field.

An IP address is a number that identifies each device on your network. An IP address consists of four numbers, separated by periods, ranging from 0 to 254 in value. Examples of IP addresses are `192.168.168.1`, `10.0.0.1`, or `216.217.36.130`.

Every IP address on your network must be unique. Therefore, do not assign your SonicWall an IP address used by another device on your network.

2 Enter your PPTP server user name in the **PPTP User Name** field.

3 Enter your PPTP server password in the **PPTP Password** field.

4 Choose how to obtain an IP address:

- Automatically – Select **Obtain an IP Address Automatically**; this is the default. Go to Step 5.
- Manually – Select **Use the following IP Address**. The following fields become active.
  1) Enter the appliance's WAN address in the **SonicWall WAN IP Address** field.
  2) Enter the WAN subnet mask in the **WAN Subnet Mask** field.

     The subnet mask defines which IP addresses are located on your local network and which IP addresses are located on the Internet. For example, if you assign your computer the IP address `192.168.168.200` and the subnet mask `255.255.255.0`, then your computer believes that all `192.168.168.X` addresses are on the local network, and all other addresses are located on the Internet.

     The WAN subnet mask is assigned by your ISP. If you do not know your WAN Subnet Mask, use the subnet mask assigned to your computer or contact your ISP.
  3) Enter the Gateway (router) address in the **Gateway (Router) Address** field.

5 To allow HTTPS, select **Allow HTTPS on this WAN Interface**. This option is selected by default.

CAUTION: Allowing HTTPS management from the WAN creates a potential vulnerability. If you enable this setting, ensure you have entered a strong password either on the Password page of this Guide or through the Password Setup Guide.

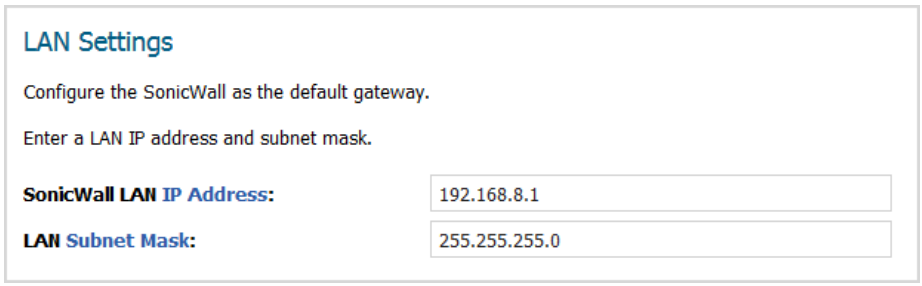
6 To allow ping, select **Allow Ping on this WAN Interface**. This option is selected by default.

7 Click **NEXT**. The **LAN Settings** page displays.

8 Go to LAN Settings on page 22.

LAN Settings

This page allows you to configure the SonicWall as the default gateway.



The **Setup Guide** populates the **LAN Settings** fields automatically, based on the supplied settings.

1 Verify the LAN IP Address and LAN subnet mask are correct.

SonicWall LAN IP Address	The IP address of the SonicWall LAN. Every IP address on your network must be unique. Therefore, do not assign your SonicWall an IP address that is used by another device on your network.
LAN Subnet Mask	The subnet mask defines which IP addresses are located on your local network and which IP addresses are located on the Internet. For example, if you assign your computer the IP address `192.168.168.200` and the subnet mask `255.255.255.0`, then your computer believes that all `192.168.168.X` addresses are on the local network, and all other addresses are located on the Internet. The LAN subnet mask defines the size of your local network. The LAN subnet mask `255.255.255.0` works for most networks.

2 Click **NEXT**. The LAN DHCP Settings page displays.

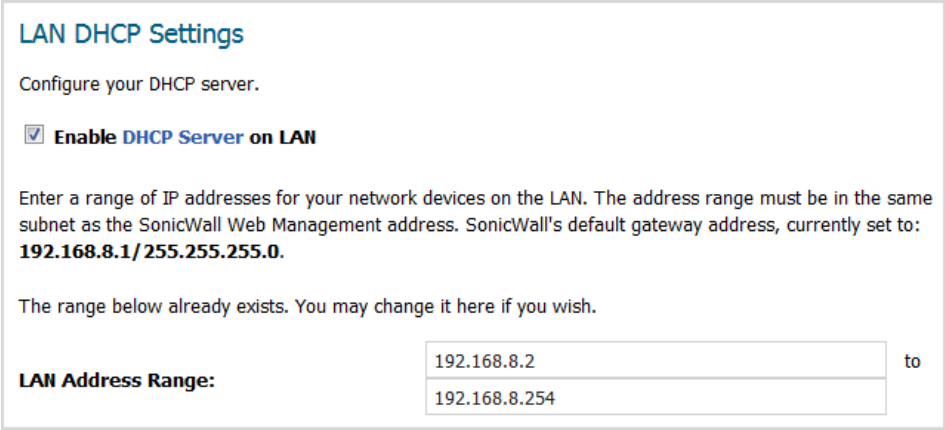
LAN DHCP Settings

DHCP (Dynamic Host Configuration Protocol) is used to distribute TCP/IP settings automatically. A DHCP server simplifies network address management and avoids the time-consuming task of configuring each computer's IP settings.

IMPORTANT: SonicWall appliances contain both a DHCP client and a DHCP server. It is important not to get them confused:

- The server is used to configure computers which are located on inside interfaces. Its use is optional.
- By contrast, the client is used so that the SonicWall appliance can be configured automatically from the network through its WAN link (for instance, a cable modem network).

This page allows you to enable and configure your DHCP server.



1 Select **Enable DHCP Server on LAN**. This option is selected by default.

2 The **Setup Guide** populates the **LAN Address Range** fields automatically. Verify the addresses are correct.

   Enter a range of IP addresses for your network devices on the LAN. The address range must be in the same subnet as the SonicWall Web Management address. SonicWall's default gateway address is currently set according to the IP address(es) that have been configured.

3 Click **NEXT**. What is displayed next depends on whether the security appliance is wired or wireless.

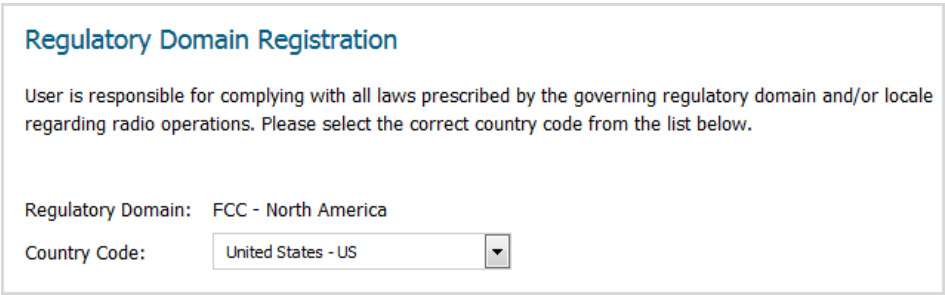
4 If your security appliance is:

Wired	Go to Configuration Summary on page 34
Wireless with a deployment scenario of **No Wireless**	Go to Ports Assignment on page 31
Wireless with any other deployment scenario	Go to Regulatory Domain Registration (Wireless Platforms only) on page 23

Regulatory Domain Registration (Wireless Platforms only)

IMPORTANT: You are responsible for complying with all laws prescribed by the governing regulatory domain and/or locale regarding radio operations.

NOTE: The regulatory domain is generated automatically from the **Country Code**.



1 Select a country from **Country Code**.

> **IMPORTANT:** For international (non USA or Japan) TZ Series wireless and SOHO series wireless security appliances, be sure to select the country code for the country in which the appliance will be deployed, even if you are not in that country. For security appliances deployed in the USA and Japan, the regulatory domain and country code are selected automatically and cannot be changed.

> **IMPORTANT:** If you select the country code for Canada, it cannot be changed except by contacting SonicWall Support.

2 Click **NEXT**. An information message about maintaining up-to-date wireless drivers on your client computers displays.

SonicWall recommends to maintain the wireless drivers on the client computers up-to-date for better wireless connectivity,comptability and performance.

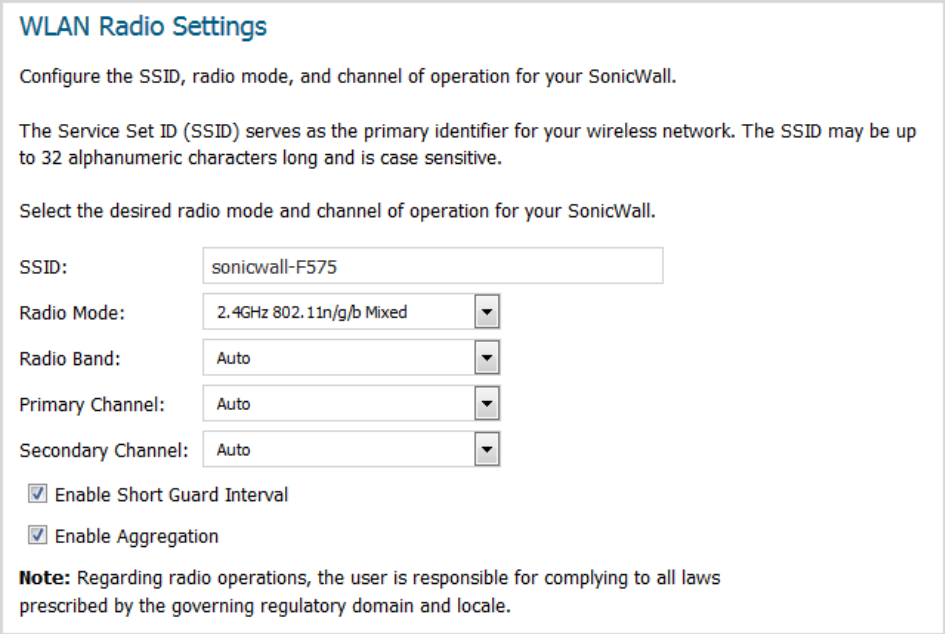
Please upgrade the wireless drivers on the client computers to the latest version before calling SonicWall Technical Support for any assistance on wireless connectivity and performance related issues.

Refer to the wireless card manufacturer instructions for upgrading the drivers to the latest version.

3 Click **OK**. The **WLAN Radio Settings** page displays. Go to WLAN Radio Settings (Wireless Platforms only) on page 24.

WLAN Radio Settings (Wireless Platforms only)

This page allows you to configure the SSID, radio mode, and channel of operation for your SonicWall.



1 Enter a SSID (Service Set ID) in the **SSID** field. The SSID serves as the primary identifier for your wireless network. You can specify up to 32 alphanumeric characters; the SSID is case sensitive. The appliance generates a default SSID of **sonicwall-** plus the last four characters of the BSSID (Broadcast Service Set ID); for example, `sonicwall` becomes `sonicwall-F2DS`.

2 Select your preferred radio mode from **Radio Mode**. The wireless security appliance supports the modes shown in Radio mode choices.

NOTE: The available options change depending on the mode selected. If the wireless radio is configured for a mode that:

- Supports 802.11n (except 5GHz 802.11n/a/ac Mixed), the following options are displayed: **Radio Band, Primary Channel, Secondary Channel**.
- Does not support 802.11n, only the **Channel** option is displayed.
- Supports 5GHz 802.11n/a/ac Mixed or 5GHz 802.11ac Only, the **Radio Band** and **Channel** options are displayed.

TIP: For optimal throughput speed solely for 802.11n clients, SonicWall recommends the **802.11n Only** radio mode. Use the **802.11n/b/g Mixed** radio mode for multiple wireless client authentication compatibility.

For optimal throughput speed solely for 802.11ac clients, SonicWall recommends the **802.11ac Only** radio mode. Use the **802.11ac/n/a Mixed** radio mode for multiple wireless client authentication compatibility.

Radio mode choices

2.4GHz	5Ghz	Definition
2.4GHz 802.11n Only	5GHz 802.11n Only	Allows only 802.11n clients access to your wireless network. 802.11a/ac/b/g clients are unable to connect under this restricted radio mode.
2.4GHz 802.11n/g/b Mixed This is the default.	5GHz 802.11n/a Mixed [a]	Supports 802.11a, 802.11b, 802.11g, and 802.11n clients simultaneously. If your wireless network comprises multiple types of clients, select this mode.
2.4GHz 802.11g Only		If your wireless network consists only of 802.11g clients, you might select this mode for increased 802.11g performance. You might also select this mode if you wish to prevent 802.11b clients from associating.
2.4GHz 802.11g/b Mixed		If your wireless network consists of both 802.11b and 802.11g clients, you might select this mode for increased performance.
	5GHz 802.11a Only	Select this mode if only 802.11a clients access your wireless network.
	5GHz 802.11n/a/ac Mixed	Supports 802.11a, 802.11ac, and 802.11n clients simultaneously. If your wireless network comprises multiple types of clients, select this mode.
	5GHz 802.11ac Only	Select this mode if only 802.11ac clients access your wireless network.

a. The 802.11n/a Mixed mode provides wireless connectivity for both 802.11n and 802.11a clients.

SonicWall recommends the 802.11n Only mode for optimal throughput solely for 802.11n clients. Use the 802.11n/a Mixed mode for multiple wireless client connectivity compatibility. Use the 802.11a Only mode for 802.11a wireless client connectivity compatibility.

3 If the mode you selected supports:

- **802.11a Only**, **802.11g only**, or **80211g/b Mixed**, go to Step 4
- **5GHz802.11ac Only** and **5GHz 802.11n/a/ac Mixed**, go to Step 6
- **802.11n Only** or **802.11n Mixed** (except for **5GHz 802.11n/a/ac Mixed**), go to Step 8

4 Only for 802.11a/g: Select the channel for the radio from **Channel**:

Auto	Allows the appliance to automatically detect and set the optimal channel for wireless operation based on signal strength and integrity. Use **Auto** unless you have a specific reason to use or avoid specific channels.
Specific channel	Select a single channel within the range of your regulatory domain. Selecting a specific a channel can also help with avoiding interference with other wireless networks in the area. **NOTE:** Available channels depend on the type of radio in the security appliance and your regulatory domain.

5 Go to Step 11.

6 For 802.11ac, the **Radio Band** and **Channel/Standard Channel** options display.

From **Radio Band**, select the radio band for the 802.11a or 802.11ac radio:

Auto	Allows the appliance to automatically detect and set the optimal channel for wireless operation based on signal strength and integrity. **NOTE:** **Channel** is set to **Auto** and cannot be changed.
Standard - 20 MHz Channel	Specifies that the 802.11ac radio uses only the standard 20 MHz channel. This is the default setting. When this option is selected, from **Channel**, select a single channel within the range of your regulatory domain. Selecting a specific a channel can also help with avoiding interference with other wireless networks in the area. **NOTE:** Available channels depend on the type of radio in the security appliance and your regulatory domain.
Wide - 40 MHz Channel	Specifies that the 802.11ac radio uses only the wide 40 MHz channel. When this option is selected, **Channel** is displayed. **NOTE:** Available channels depend on the type of radio in the security appliance and your regulatory domain.
Wide - 80 MHz Channel	Specifies that the 802.11n radio uses only the wide 80 MHz channel. When this option is selected, **Channel** is displayed. **NOTE:** Available channels depend on the type of radio in the security appliance and your regulatory domain.

7 Go to Step 11.

8 For 802.11n only or 802.11n mixed, the **Radio Band**, **Primary Channel**, and **Secondary Channel** settings are displayed:

From the **Radio Band** drop-down menu, select the band for the 802.11n or 802.11ac radio:

Auto	Allows the appliance to automatically detect and set the optimal channel for wireless operation based on signal strength and integrity. This is the default setting. **NOTE:** The **Primary Channel** and **Secondary Channel** options are set to **Auto** and cannot be changed.	
Standard - 20 MHz Channel	Specifies that the 802.11n radio will use only the standard 20 MHz channel. When this option is selected, **Channel** is displayed instead of the **Primary Channel** and **Secondary Channel** options.	
	Standard Channel	By default, this is set to **Auto**, which allows the security appliance to set the optimal channel based on signal strength and integrity. Optionally, you can select a single channel within the range of your regulatory domain. Selecting a specific a channel can also help with avoiding interference with other wireless networks in the area. **NOTE:** Available channels depend on the type of radio in the security appliance and your regulatory domain.
Wide - 40 MHz Channel	Specifies that the 802.11n radio uses only the wide 40 MHz channel. When this option is selected, the **Primary Channel** and **Secondary Channel** options are displayed:	
	Primary Channel	By default, this is set to **Channel 36 (5180MHz)**. Optionally, you can specify a specific another channel or **Auto**. **NOTE:** Available channels depend on the type of radio in the security appliance and your regulatory domain.
	Secondary Channel	This option is set to **Auto** regardless of the primary channel setting.

9 Optionally, select the **Enable Short Guard Interval** checkbox to specify a short guard interval of 400ns as opposed to the standard guard interval of 800ns. This option is not selected by default.

> **NOTE:** This option is not available if **5GHz 802.11g/b Mixed**, **5GHz 802.11a Only**, or **2.4GHz 802.11g Only** mode is selected.

A guard interval is a set amount of time between transmissions that is designed to ensure distinct transmissions do not interfere with one another. The guard interval introduces immunity to propagation delays, echoes, and reflections. An AP identifies any signal content received inside this interval as unwanted inter-symbol interference, and rejects that data. The guard interval is a pause in transmission intended to avoid data loss from interference or multipath delays.

The 802.11n standard specifies two guard intervals: 400ns (short) and 800ns (long). Enabling a short guard interval can decrease network overhead by reducing unnecessary idle time on each AP. A short guard interval of 400 nanoseconds (ns) will work in most office environments as distances between points of reflection, as well as between clients, are short. Most reflections will be received quickly. The shorter the guard interval, the more efficiency there is in the channel usage, but a shorter guard interval also increases the risk of interference

Some outdoor deployments, may, however, require a longer guard interval. The need for a long guard interval of 800 ns becomes more important as areas become larger, such as in warehouses and in outdoor environments, as reflections and echoes become more likely to continue after the short guard interval would be over.

10 Optionally, to enable 802.11n frame aggregation, which combines multiple frames to reduce overhead and increase throughput, select **Enable Aggregation**.

> **NOTE:** This option is not available if **5GHz 802.11g/b Mixed**, **5GHz 802.11a Only**, or **2.4GHz 802.11g Only** mode is selected.

Data over wireless networks are sent as a stream of packets known as data frames. Frame aggregation takes these packets and combines them into fewer, larger packets, thereby allowing an increase in overall performance. Frame aggregation was added to the 802.11n specification to allow for an additional increase in performance. Frame aggregation is a feature that only 802.11ac and 802.11n clients can take advantage of as legacy systems are not able to understand the new format of the larger packets.

> **TIP:** The **Enable Short Guard Interval** and **Enable aggregation** options can slightly improve throughput. They both function best in optimum network conditions where users have strong signals with little interference. In networks that experience less than optimum conditions (interference, weak signals, and so on), these options may introduce transmission errors that eliminate any efficiency gains in throughput.

11 Click **NEXT**. The **WLAN Security Settings** page displays.

WLAN Security Settings (Wireless Platforms only)

This page allows you to configure the WLAN security settings for your SonicWall security appliance. For more information about these settings, see *SonicOS 6.5 Connectivity*.

1 choose a security mode:

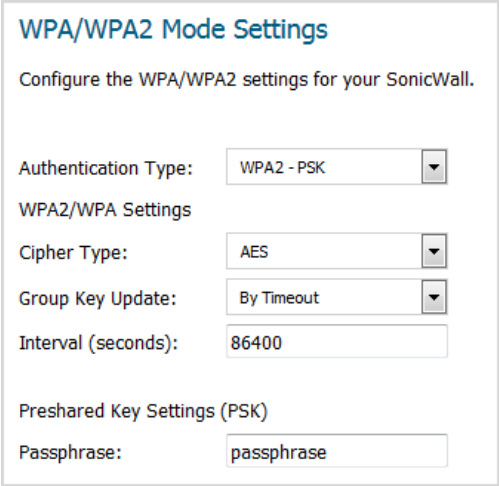
WPA/WPA2-AUTO Mode	Wi-Fi Protected Access (WPA) mode is the security wireless protocol based on the 802.11i standard. It is the recommended protocol if your wireless clients support WPA/WPA protocol also. This option is selected by default.
Connectivity (default)	This mode allows unrestrained wireless access to the device. CAUTION: **This mode does not offer encryption or access controls.**

2 Click **NEXT**. The next page depends on your selection:

This option	Displays the	Go to
WPA/WPA2 Mode	**WPA/WPA2 Mode Settings** page	WPA/WPA2 Mode Settings (Wireless Platforms only) on page 29
Connectivity	**WLAN VAP (Virtual Access Point) Settings** page	WLAN VAP (Virtual Access Point) Settings (Wireless Platforms only) on page 30

WPA/WPA2 Mode Settings (Wireless Platforms only)

This page allows you to configure the WPA/WPA2 settings for your SonicWall security appliance. For more information about these settings, see *SonicOS 6.5 Connectivity*.



1 From **Authentication Type**, select:

- **WPA2-PSK** (default)
- **WPA2-EAP**
- **WPA2-AUTO-PSK**
- **WPA2-AUTO-EAP**

Some options change depending on your selection.

2 From **Cipher Type**, select:

- **AES** (default)
- **TKIP**
- **Auto**

3 From **Group Key Update**, select:

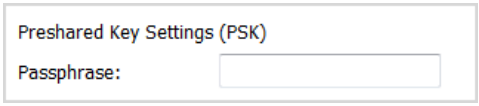
- **By Timeout** (default)
- **Disabled** - the **Interval (seconds)** field is not displayed as the Group Key Update is never timed out.

4 In the **Interval (seconds)** field, enter a valid timeout interval for the Group Key Update. The minimum is 30 seconds, the maximum is 2592000 seconds (30 days), and the default is **86400** seconds (24 hours).

5 Which options are displayed depend on the **Authentication Type** you selected:

If you selected	Go to
PSK	Step 6
AES	Step 8

6 In the **Passphrase** field, enter the password to be used.



7 Go to Step 11.

8 In the **Radius Server** fields, enter the IP address(es) of the RADIUS server(s).

Extensible Authentication Protocol Settings (EAP)

Radius Server 1 IP: Port:

Radius Server 1 Secret:

Radius Server 2 IP: Port:

Radius Server 2 Secret:

9 In the **Port** field(s), enter the port number(s) for the server port(s).

10 In the **Radius Server Secret** field(s), enter the password(s) for the Radius server(s).

11 Click **NEXT**. If you specified a:

- PSK passphrase, the WLAN VAP (Virtual Access Point) Settings (Wireless Platforms only) page displays.
- Radius server(s), a message about updating the security appliance access rule is displayed before the WLAN VAP (Virtual Access Point) Settings (Wireless Platforms only) page.

Firewall access rule will be updated for Radius Server in WAN interface automatically

WLAN VAP (Virtual Access Point) Settings (Wireless Platforms only)

One VAP SSID is created automatically by the Setup Guide. You can create up to six more VAP through this page.

WLAN VAP (Virtual Access Point) Settings

VAP SSID

You have already created 1 SSID: **sonicwall-F575**

Do you want to create another virtual access point?

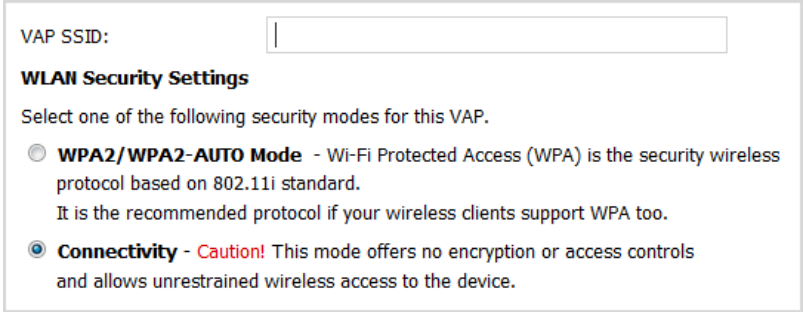
☐ Yes, I want to create another virtual access point.

Note: you can create up to seven virtual access points.

1 One VAP SSID is created automatically (see WLAN Radio Settings (Wireless Platforms only) on page 24). To:

- Skip creating more VAPs, go to Step 5.

- Create another VAP, select **Yes, I want to create another virtual access point**. More options display.



2 Enter a name for the VAP in the **VAP SSID** field.

3 Select a security mode:

- **WPA3/WPA2-Auto Mode** – Wi-Fi Protected Access (WPA) mode is the security wireless protocol based on the 802.11i standard. It is the recommended protocol if your wireless clients support WPA/WPA protocol also.
- **Connectivity** (default) – This mode allows unrestrained wireless access to the device.

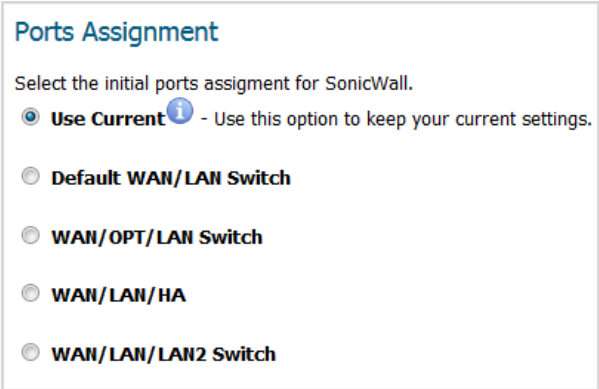
CAUTION: **This mode does not offer encryption or access controls.**

4 To specify up to six more VAPs, repeat Step 2 and Step 3.

5 Click **NEXT**. The Ports Assignment page displays.

Ports Assignment

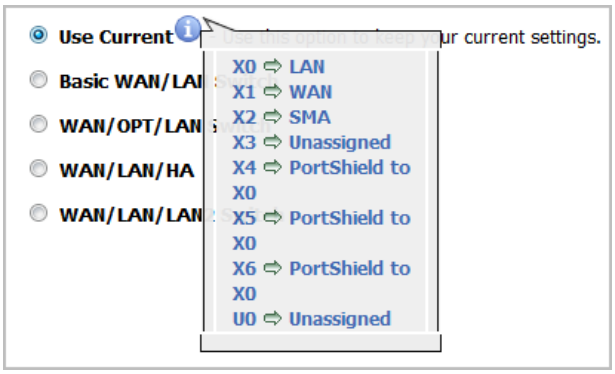
This page allows you to select initial port assignments.



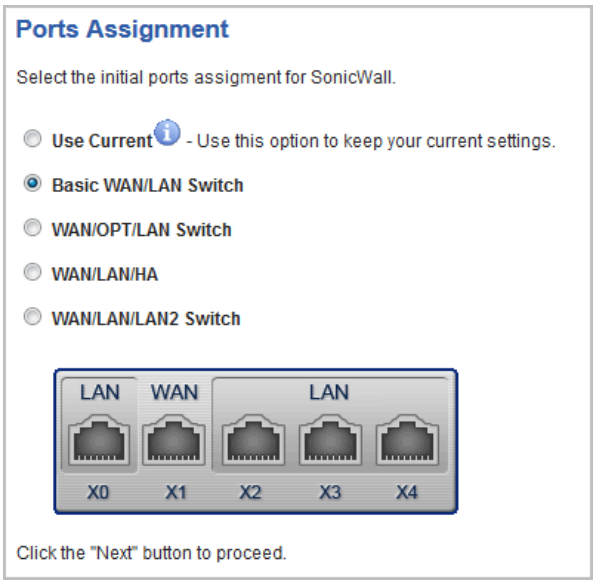
1 Select how ports are to be assigned:

- **Use Current** – This setting keeps your current settings. This option is selected by default.

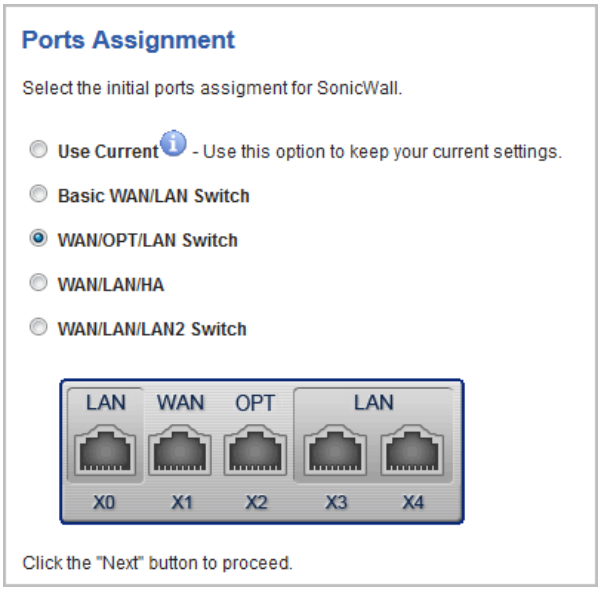
a) To see the current port settings, mouse over the **Information** icon. A popup tooltip displays the current port assignments:



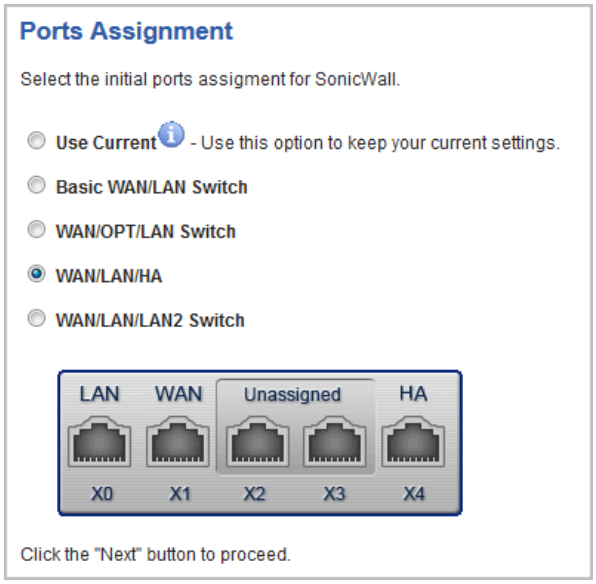
- **Default WAN/LAN Switch** – This option displays the port configuration at the bottom of the page:



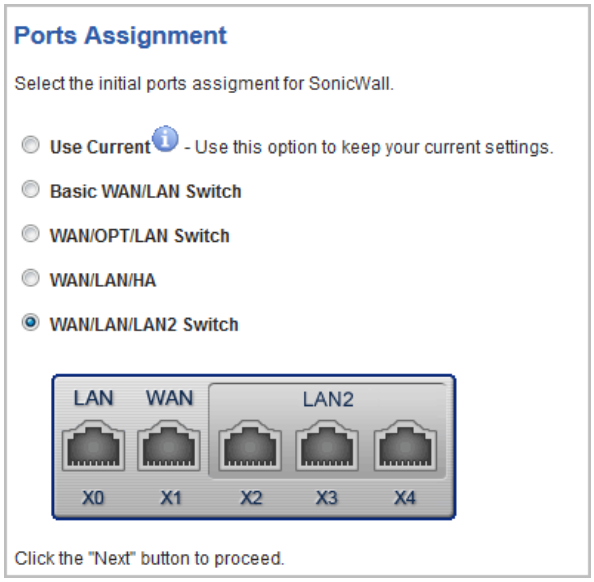
- **WAN/OPT/LAN Switch** – This option displays the port configuration at the bottom of the page:



- **WAN/LAN/HA** – This option displays the port configuration at the bottom of the page:

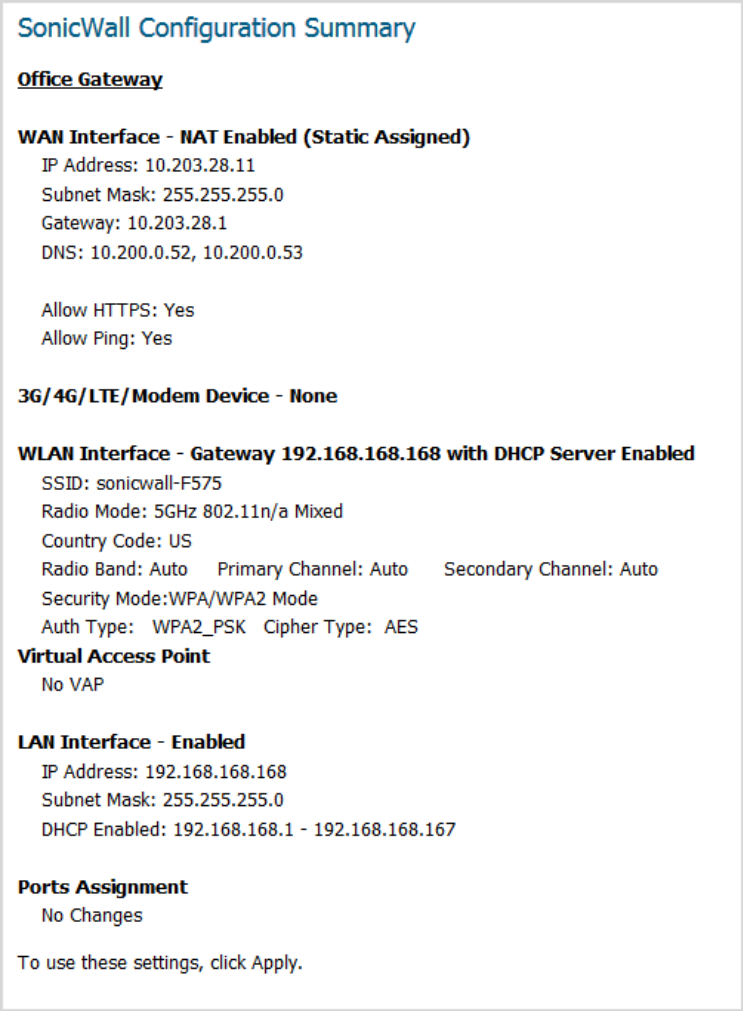


- **WAN/LAN/LAN2 Switch** – This option displays the port configuration at the bottom of the page:



2 Click **NEXT**. The **Summary** page displays.

Configuration Summary


SonicWall Configuration Summary

Office Gateway

WAN Interface - NAT Enabled (Static Assigned)
IP Address: 10.203.28.11
Subnet Mask: 255.255.255.0
Gateway: 10.203.28.1
DNS: 10.200.0.52, 10.200.0.53

Allow HTTPS: Yes
Allow Ping: Yes

3G/4G/LTE/Modem Device - None

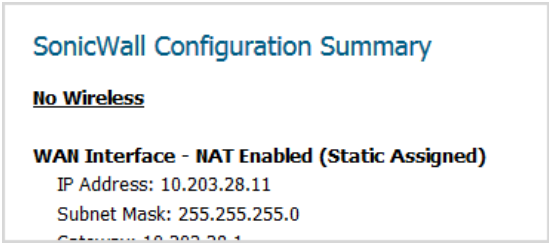
WLAN Interface - Gateway 192.168.168.168 with DHCP Server Enabled
SSID: sonicwall-F575
Radio Mode: 5GHz 802.11n/a Mixed
Country Code: US
Radio Band: Auto Primary Channel: Auto Secondary Channel: Auto
Security Mode:WPA/WPA2 Mode
Auth Type: WPA2_PSK Cipher Type: AES
Virtual Access Point
No VAP

LAN Interface - Enabled
IP Address: 192.168.168.168
Subnet Mask: 255.255.255.0
DHCP Enabled: 192.168.168.1 - 192.168.168.167

Ports Assignment
No Changes

To use these settings, click Apply.

NOTE: What is displayed on the **SonicWall Configuration Summary** depends on the settings you entered. If you have configured a TZ Series wireless or SOHO series wireless appliance, but selected **No Wireless** on the **Deployment Scenario** page, **No Wireless** is displayed:

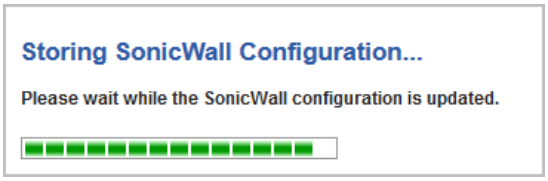

SonicWall Configuration Summary

No Wireless

WAN Interface - NAT Enabled (Static Assigned)
IP Address: 10.203.28.11
Subnet Mask: 255.255.255.0

3 Verify the configuration settings are what you want.

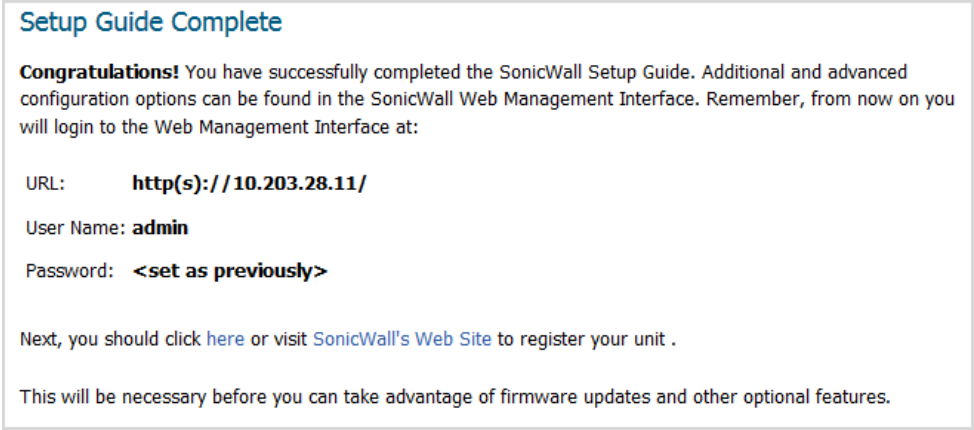
4 Click **APPLY**. A message displays indicating the configuration is being updated:


Storing SonicWall Configuration...

Please wait while the SonicWall configuration is updated.

After the configuration has updated, the **Setup Complete** page displays.

Setup Guide Complete



Setup Guide Complete

Congratulations! You have successfully completed the SonicWall Setup Guide. Additional and advanced configuration options can be found in the SonicWall Web Management Interface. Remember, from now on you will login to the Web Management Interface at:

URL: **http(s)://10.203.28.11/**

User Name: **admin**

Password: **<set as previously>**

Next, you should click here or visit SonicWall's Web Site to register your unit .

This will be necessary before you can take advantage of firmware updates and other optional features.

1 If you have not registered your appliance, you can do so now by clicking one of the two links in the sentence, **Next, you should click here or visit SonicWall's Web Site to register your unit**. The **Setup Guide** closes, and you are redirected to the appropriate location.

2 Click **CLOSE**.

3

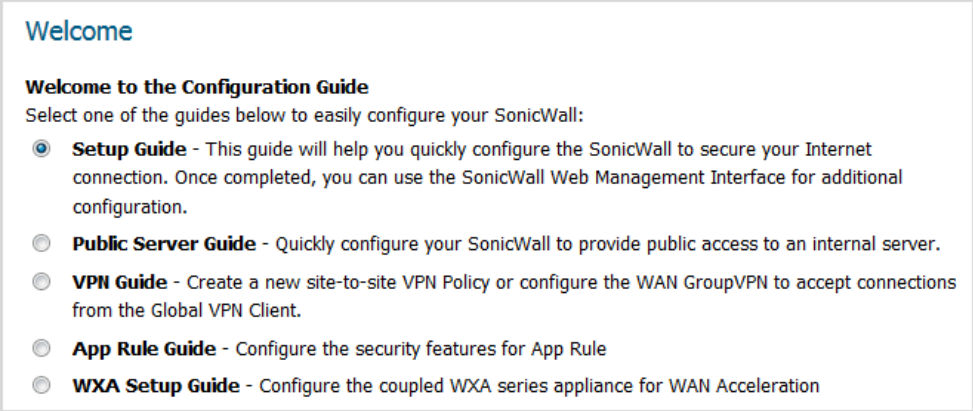
Using the PortShield Interface Guide

PortShield Interface Guide

You use the **PortShield Interface Guide** to select the initial ports assignment for an integrated managed LAN switch of the SonicWall TZ series or SOHO series security appliance.

To select the ports assignment:

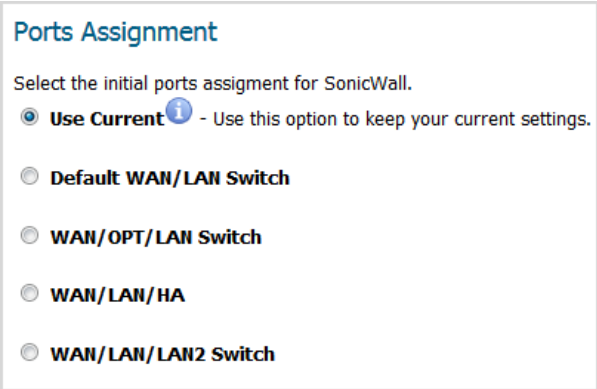
1 Click **QUICK CONFIGURATION** at the top of the SonicOS management interface. The **Quick Configuration Welcome** page displays.



NOTE: Which guides are available depends on the configuration of your system.

2 Select **PortShield Interface Guide**.

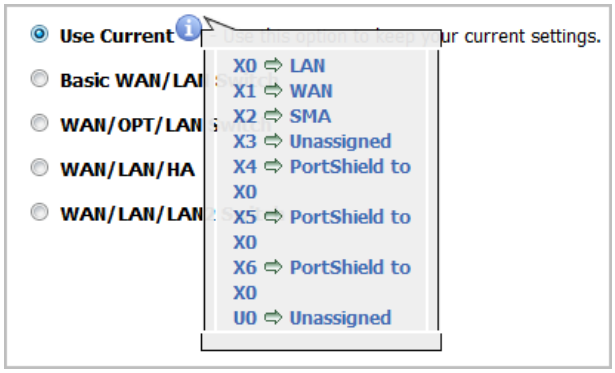
3 Click **NEXT**. The **Port Assignment** page displays.



1 Select how ports are to be assigned; the displayed graphics show interface port assignments:

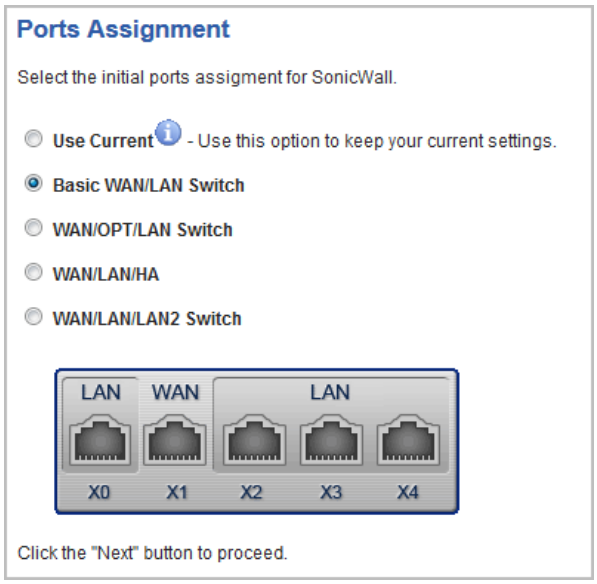
- **Use Current** – This setting keeps your current settings. This option is selected by default.

  To see the current port settings, mouse over the **Information** icon. A tooltip displays the current port assignments:

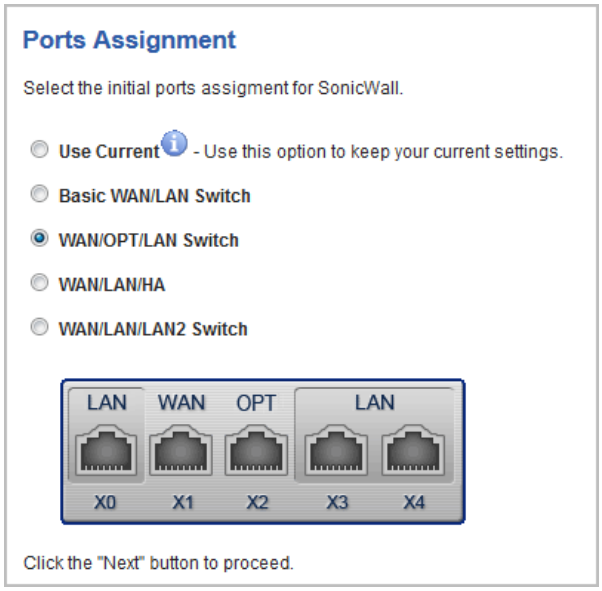


NOTE: The following options display the port configuration at the bottom of the page.

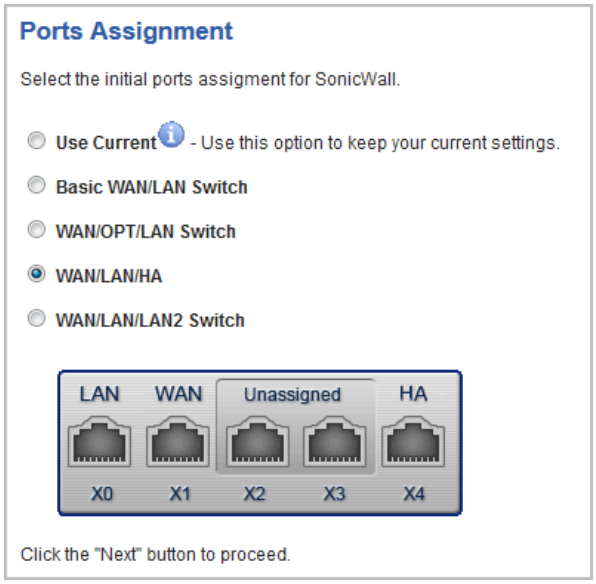
- **Basic WAN/LAN Switch**:



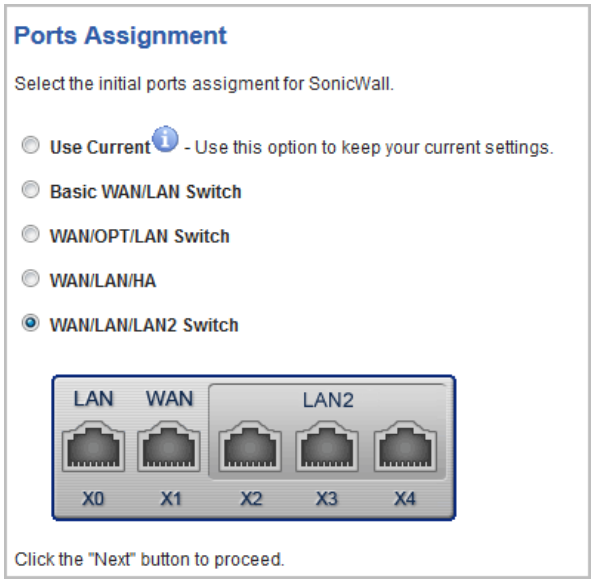
- **WAN/OPT/LAN Switch**:



- **WAN/LAN/HA**:

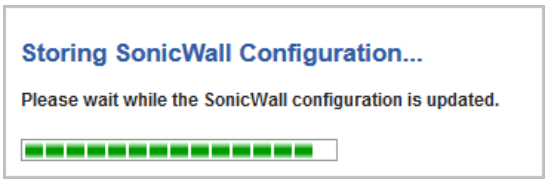


- **WAN/LAN/LAN2 Switch**:



2 Click **NEXT**. The **Summary** page displays a summary of the ports you assigned in the guide. Verify the settings; to modify any of them, click **BACK** to return to **Port Assignment** page.

3 Click **APPLY**. A message displays indicating the configuration is being updated:



After the configuration has updated, the **Complete** dialog displays.

4 Click **CLOSE**.

4

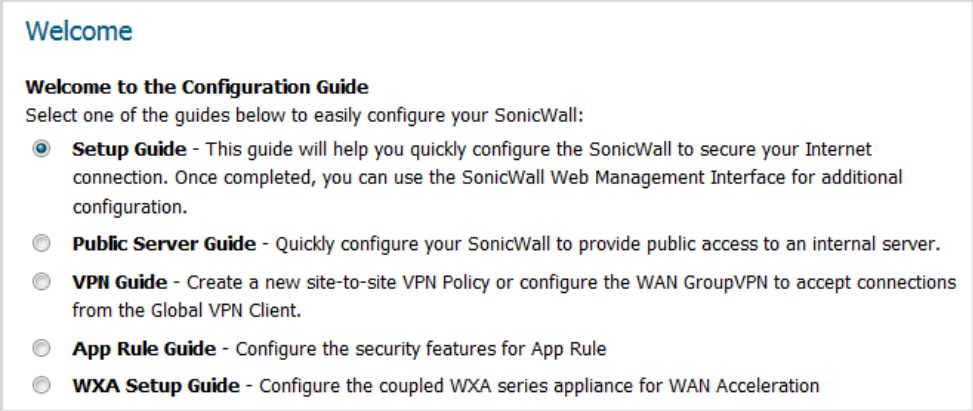
Using the Public Server Guide

Public Server Guide

You use the **Public Server Guide** walks you step by step through configuring the SonicOS security appliance to provide public access to an internal server.

To configure public access to an internal server:

1 Click **QUICK CONFIGURATION** on the top of the SonicOS management interface. The **Welcome** page displays.

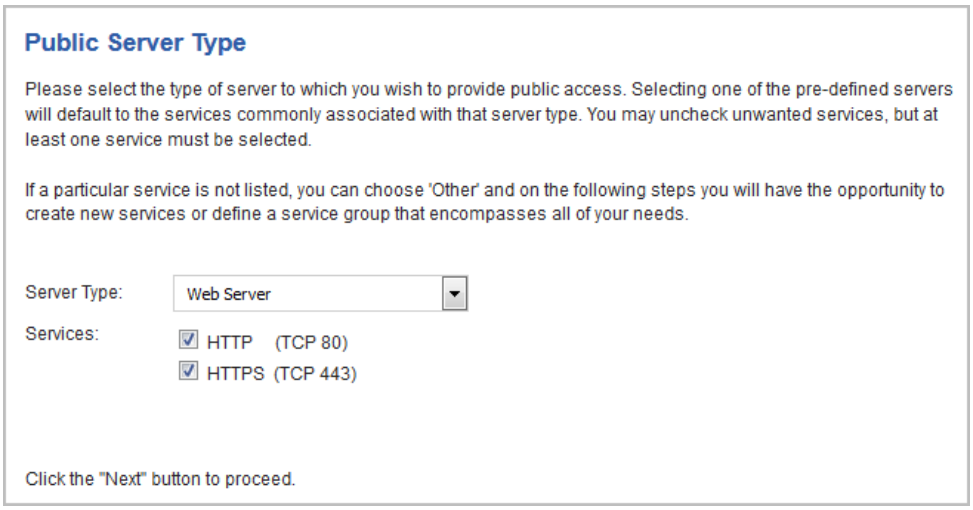


NOTE: Which guides are available depends on the configuration of your system.

2 Select **Public Server Guide**.

3 Click **NEXT**. The **Public Server Type** page displays.

Public Server Type

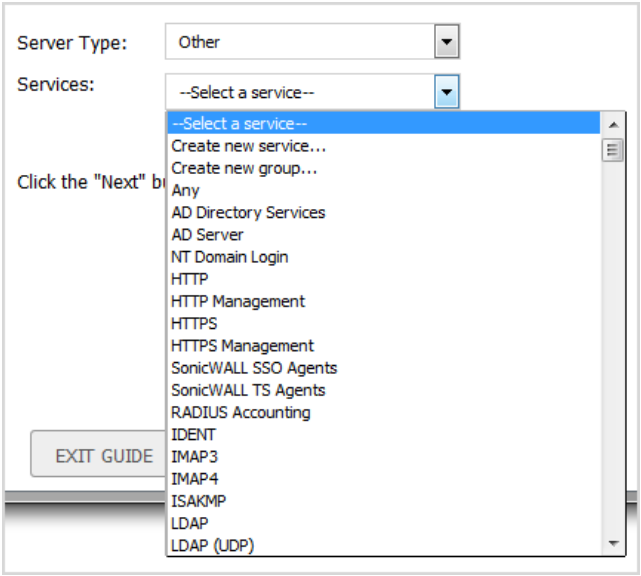


1 Select the server type from **Server Type**:

- **Web Server** (default)
- **FTP Server**
- **Mail Server**
- **Terminal Services Server**
- **Other**

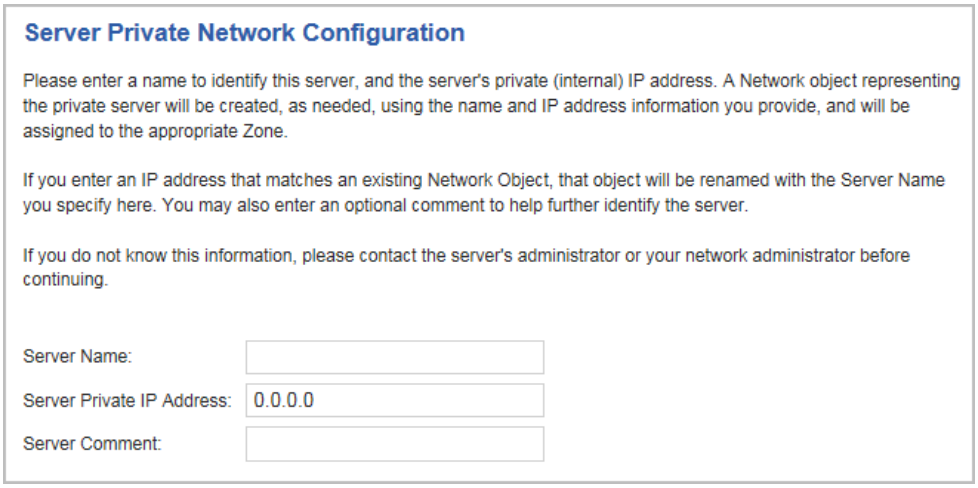
2 Select the services to use from the **Services** options. The choices depend on the server type. You can select more than one service except for **FTP Server** and **Other**. By default, all services are selected, except if **Other** is selected as a **Server Type**.

Server type	Choices
Web Server	• **HTTP (TCP 80)** • **HTTPS (TCP 443)** CAUTION: **Allowing HTTPS management from the WAN creates a potential vulnerability.**
FTP Server	• **FTP (TCP 21)**
Mail Server	• **SMTP (TCP 25)** • **POP3 (TCP 110)** • **IMAP (TCP 143)**
Terminal Services Server	• **Microsoft RDP (TCP 3389)** • **Citrix ICA (TCP 1494)**

Server type	Choices
Other	Select a service from the **Services** drop-down menu or create a new service or group. 

3 Click **NEXT**. The **Private Network** page displays.

Private Network



1 Enter a friendly name in the **Server Name** field.

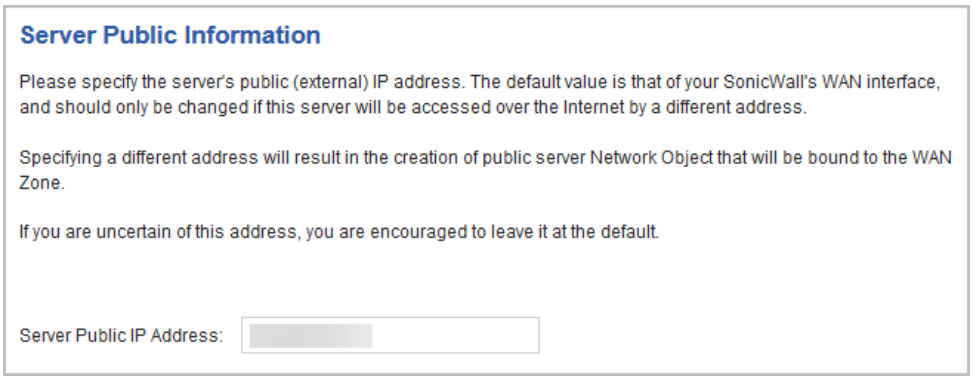
2 Enter the server's IP address in the **Server Private IP Address** field. Specify an IP address in the range of addresses assigned to the zone where you want to put this server. The **Public Server Guide** assigns the server automatically to the zone in which its IP address belongs.

> **NOTE:** If you enter an IP address that matches an existing Network Object, that object is renamed with the Server Name you specify here.

3 Optionally, enter a comment to further identify the public server in the **Server Comment** field.

4 Click **NEXT**. The **Server Public Information** page displays.

Server Public Information

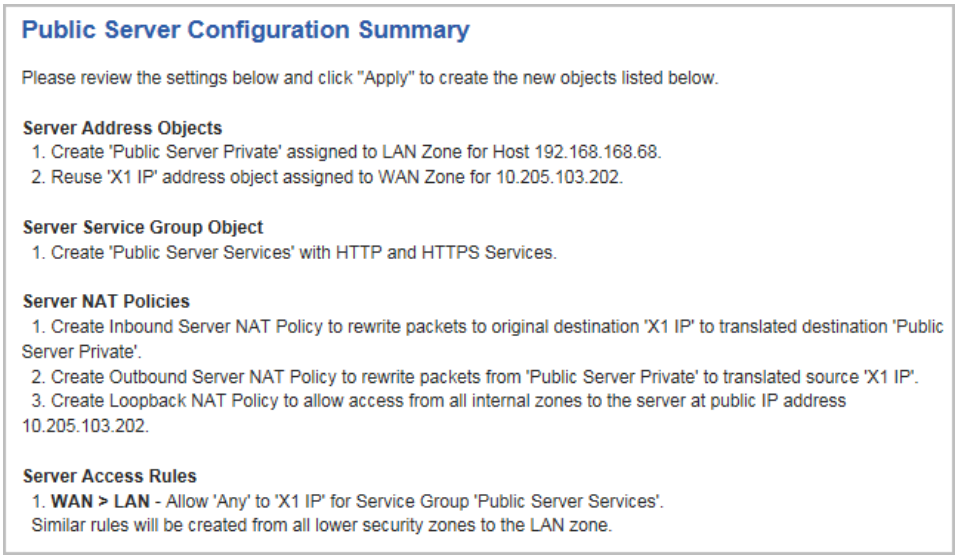


1 Specify the server's public (external) IP address in the **Server Public IP Address** field. The default value is that of your SonicWall security appliance's WAN public IP address.

> **IMPORTANT:** You should change the public IP address of this server only if it is accessed over the Internet by a different address.
>
> If you enter a different IP, the Public Server Guide creates an address object for that IP address and binds the address object to the WAN zone.
>
> If you are uncertain of this address, you are encouraged to leave it at the default.

2 Click **NEXT**. The **Summary** page displays.

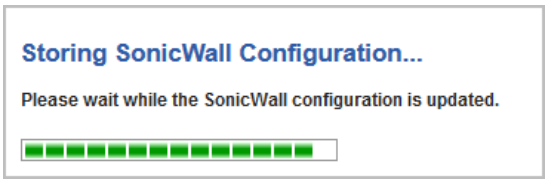
Public Server Configuration Summary



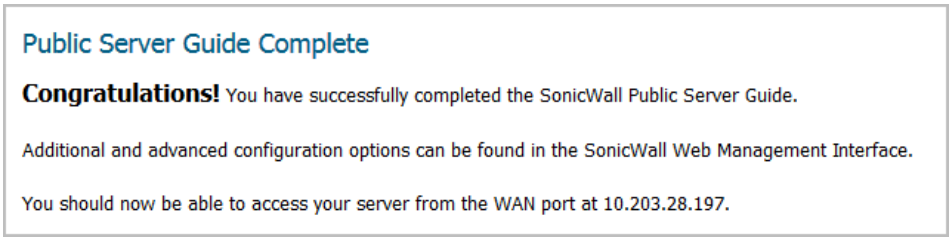
1 The **Summary** page displays a summary of the configuration you selected in the guide. Verify the settings; to modify any of them, click **Back** to return to the appropriate page.

For this object	The guide creates
Server Address Objects	The address object for the new server. Because the IP address of the server added in the example is in the IP address range assigned to the DMZ, the guide binds the address object to the DMZ zone. It gives the object a name of the name you specified for the server plus `_private`. If you specify an IP in the range of another zone, it will bind the address object to that zone. If you specify an IP address out of the range of any zone you have configured, the guide will bind the address object to the LAN zone. Because the server in the example used the default WAN IP address for the **Server Public IP Address**, the guide states that it will use the existing WAN address object when constructing policies between the new server and the WAN. If you specify another address, the server will create an object for that address bound to the WAN zone and assign the new address object a name of the name you specified for the server plus `_public`.
Server Service Group Object	A service group object for the services used by the new server. Because the server in the example is a Web server, the service group includes HTTP and HTTPS. This way, you have a convenient group to refer to when creating or editing access policies for this server.
Server NAT Policies	A NAT policy to translate the destination addresses of all incoming packets with one of the services in the new service group and addressed to the WAN address to the address of the new server. Therefore, in this example, if a packet with service type of HTTPS comes in addressed to the WAN interface (`10.0.93.43`), the NAT policy will translate its address to `172.22.2.44`. The guide also creates a Loopback NAT policy to translate HTTP and HTTPS traffic from inside your network addressed to the WAN IP address back to the address of the mail server.
Server Access Rules	An access policy allowing all mail traffic service traffic from the WAN zone to the DMZ.

2 Click **APPLY**. A message displays indicating the configuration is being updated:



After the configuration has updated, the **Public Server Guide Complete** page displays.



TIP: The new IP address used to access the new server, internally and externally, is displayed in the URL field of the **Congratulations** page.

3 Click **CLOSE** to close the guide.

5

Using the VPN Guide

VPN Guide

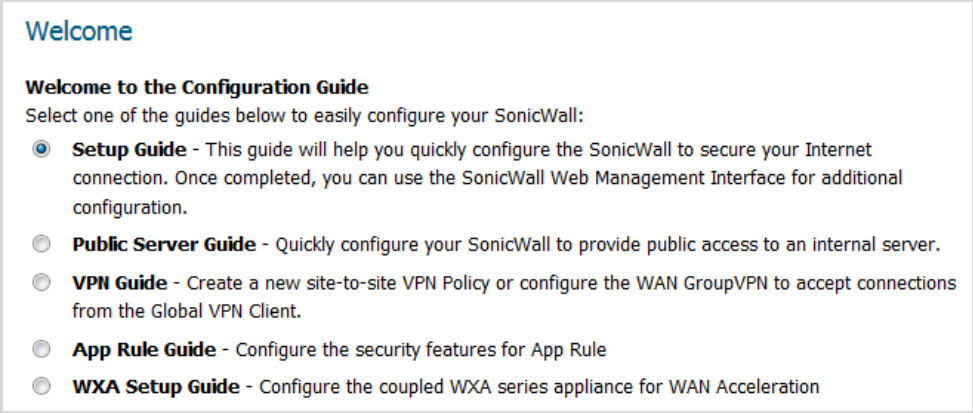
The **VPN Guide** walks you step-by-step through creating a new site-to-site VPN policy or configuring the WAN GroupVPN to accept connections from the Global VPN Client. After the configuration is completed, the guide creates the necessary VPN settings for the selected VPN policy. You can use the SonicWall Management Interface for optional advanced configuration options.

Topics:

Configuring a Site-to-Site VPN

To configure a site-to-site VPN:

1 Click **QUICK CONFIGURATION** at the top of the SonicOS management interface. The **Welcome** page displays.

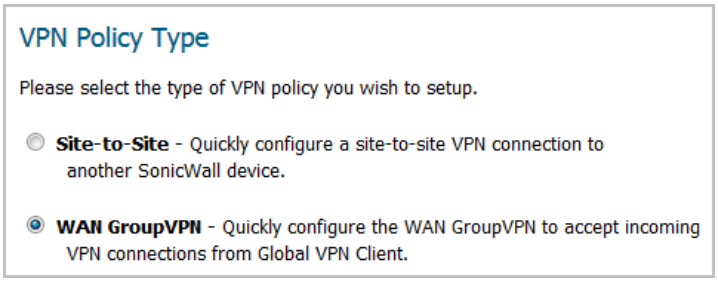


NOTE: Which guides are available depends on the configuration of your system.

2 Select **VPN Guide**.

3 Click **NEXT**. The **VPN Policy Type** page displays.

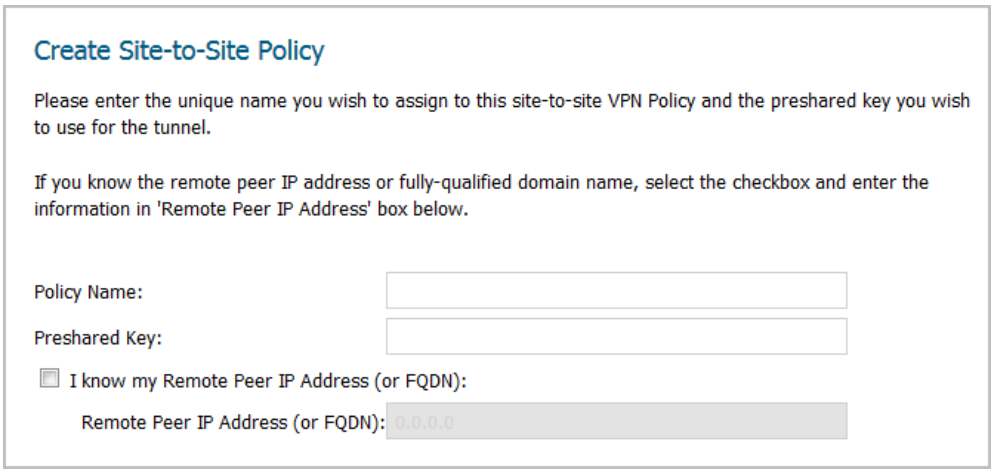
VPN Policy Type



1 Select **Site-to-Site**.

2 Click **NEXT**. The **Create Site-to-Site Policy** page displays.

Create Site-to-Site Policy



TIP: If you have created a policy already, Quick Configuration populates the fields.

1 In the **Policy Name** field, enter a name you can use to refer to the policy. For example, `Boston Office`.

2 In the **Preshared Key** field, enter a character string to use to authenticate traffic during IKE Phase 1 negotiation. You can use the default SonicWall-generated Preshared Key.

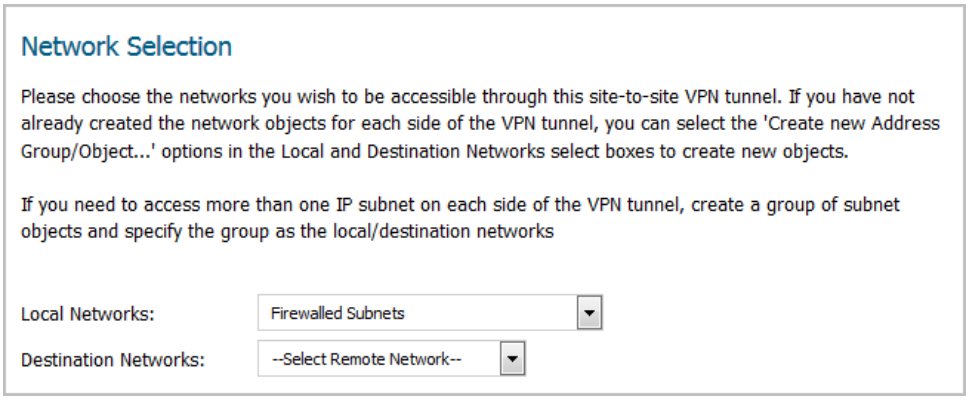
3 To have SonicWall can initiate the contact with the named remote peer, check **I know my Remote Peer IP Address (or FQDN)**. This option is not selected by default.

If you do not check this option, the peer must initiate contact to create a VPN tunnel and the security appliance uses aggressive mode for IKE negotiation.

4 If you checked **I know my Remote Peer IP Address (or FQDN)**, enter the IP address or Fully Qualified Domain Name (FQDN) of the remote peer in the **Remote Peer IP Address (or FQDN)** field; for example, `boston.yourcompany.com`. The default is **0.0.0.0**.

5 Click **NEXT**. The **Network Selection** page displays.

Network Selection



1 From **Local Networks**, select the local network resources protected by this SonicWall that you are connecting with this VPN. You can select any address object or group on the device, including networks, subnets, individual servers, and interface IP addresses. The default is **Firewalled Subnets**.

   If the object or group you want has not been created yet, select **Create new Address Object** or **Create new Address Group**. Create the new object or group in the dialog that pops up. Then select the new object or group.

   For how to create a new:

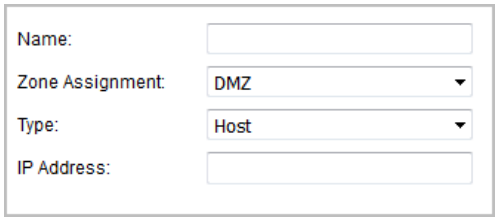
   - Address Object, see Creating an Address Object on page 48.
   - Address Group, see Creating an Address Group on page 49.

2 **From Destination Networks**, select the network resources on the destination end of the VPN Tunnel. If the object or group does not exist, select **Create new Address Object** or **Create new Address Group** (for more information, see Step 1).

3 Click **NEXT**. The **Security Settings** page displays.

Creating an Address Object

1 Select **Create new Address Object**. The **Add Address Object** dialog displays.

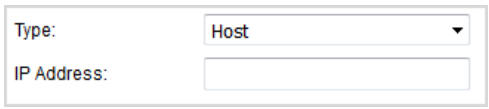


2 In the **Name** field, enter a name you can use to refer to the Address Object.

3 From **Zone Assignment**, select the zone to which the Address Object belongs, such as **VPN**. The default is **DMZ**.

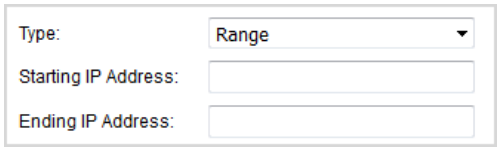
4 From **Type**, select the type of Address Object; the options change based on your choice:

   - **Host** (default)



   In **IP Address**, enter the IP address of the host.

- **Range**



Enter the starting and ending IP addresses in the **Starting IP Address** and **Ending IP Address** fields.

- **Network**

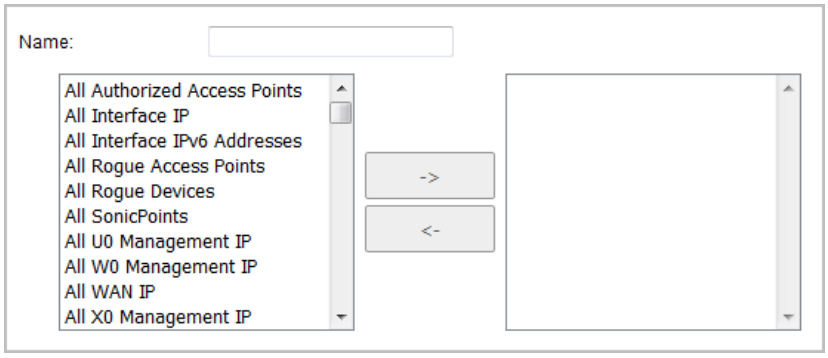
Enter the network IP address and netmask/prefix length in the **Network** and **Netmask/Prefix Length** fields.

5 Click **OK** to create the group and return to the **Network Selection** page.

6 From **Destination Networks**, select the newly created group.

Creating an Address Group

1 Select **Create new Address Group**. The **Add Address Object Group** dialog displays.



2 In the **Name** field, enter a name you can use to refer to the Address Group, such as **LAN Group**.

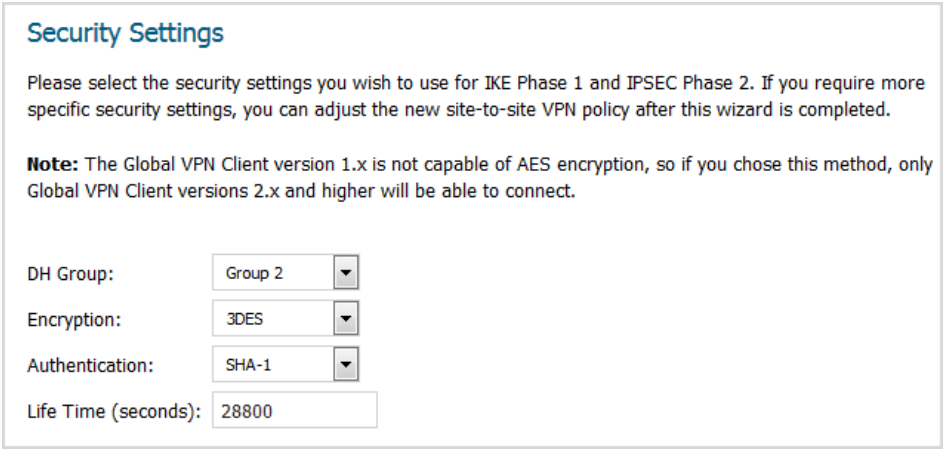
3 From the list on the left, select **LAN Subnets**.

4 Click the **Right Arrow** button.

5 Click **OK** to create the group and return to the **Network Selection** page.

6 From **Destination Networks**, select the newly created group.

Security Settings



1 In the **Security Settings** page, select the security settings for IKE Phase 1 and IPSEC Phase 2. If you require more specific security settings, you can adjust the site-to-site VPN policy after this guide is completed.

- You can use the default settings. Go to Step 6.
- Choose other security settings.

2 From **DH Group**, choose a Diffie-Hellman (DH or ECP) group for the numbers VPN uses during IKE negotiation to create the key pair. Each subsequent DH group uses larger numbers to start with. For DH group choices, see Diffie Hellman groups included in Suite B cryptography.

Diffie Hellman groups included in Suite B cryptography

Diffie-Hellman (DH)	Elliptic Curve Cryptography (ECP)
Group 1	**256-Bit Random ECP Group**
Group 2 (default)	**384-Bit Random ECP Group**
Group 5	**521-Bit Random ECP Group**
Group 14	**192-Bit Random ECP Group**
	224-Bit Random ECP Group

3 From **Encryption** choose the method for encrypting data through the VPN Tunnel. The methods are listed in order of security:

- **DES** – The least secure, but takes the least amount of time to encrypt and decrypt.
- **3DES** (default) – The VPN uses this for all data through the tunnel.

  IMPORTANT: The SonicWall Global VPN Client version 1.x is not capable of AES encryption, so if you chose an AES method, only SonicWall Global VPN Client versions 2.x and higher are able to connect.

- **AES-128**
- **AES-192**
- **AES-256** – The most secure, but takes the longest time to encrypt and decrypt.

4 From **Authentication** choose the hashing method for authenticating the key when it is exchanged during IKE negotiation:

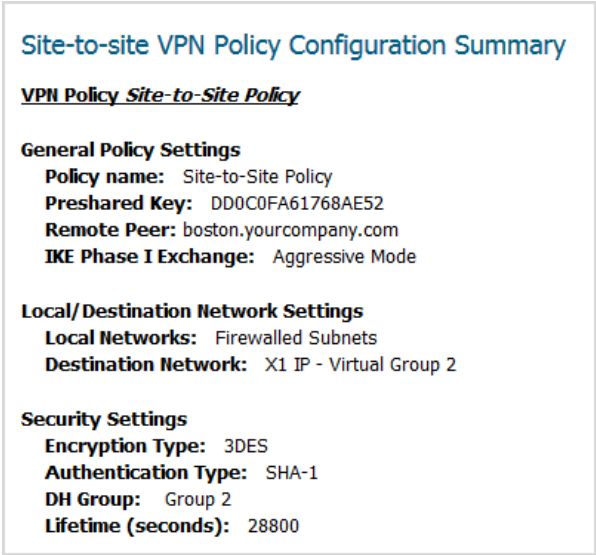
- **MD5**
- **SHA-1** (default)

- **SHA256**
- **SHA384**
- **SHA512**

5 In **Life Time (seconds)**, enter the length of time the VPN tunnel stays open before needing to re-authenticate. The default is **28800** seconds (eight hours), the maximum is 9999999 seconds (2777 hours), and the minimum is 120 seconds (2 minutes).

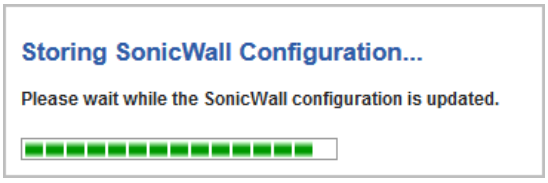
6 Click **Next**. The **Site-to-site Policy Configuration Summary** page displays.

Site-to-site Policy Configuration Summary

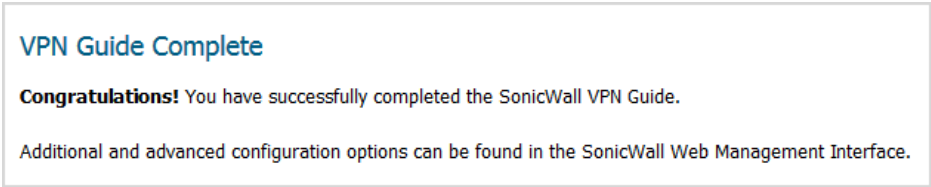


1 The **Site-to-site VPN Policy Configuration Summary** page displays the configuration defined using the VPN Guide. Verify the settings; to modify any of them, click **BACK** to return to the appropriate page.

2 Click **APPLY** to complete the guide and create your VPN policy. A **Storing SonicWall Configuration...** message displays before the **VPN Guide Complete** page displays.



VPN Guide Complete



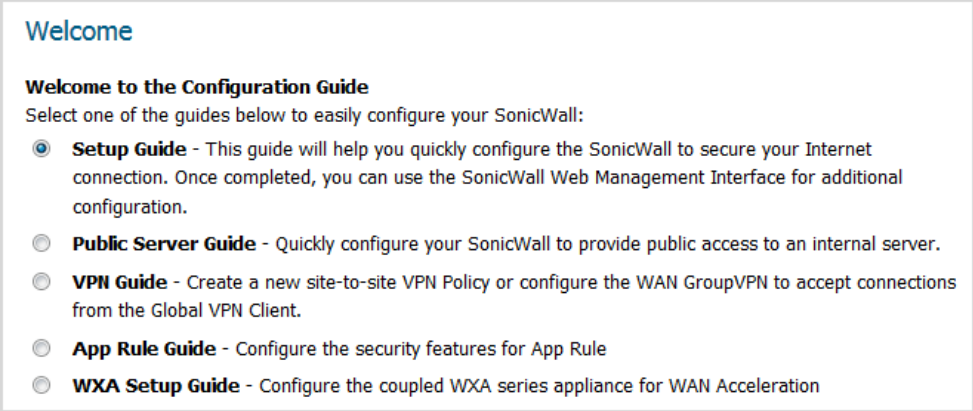
1 Click **CLOSE** to close the guide.

Creating a WAN GroupVPN

The VPN Guide allows you to quickly configure the WAN GroupVPN to accept incoming VPN connections from a Global VPN Client.

To create a WAN GroupVPN:

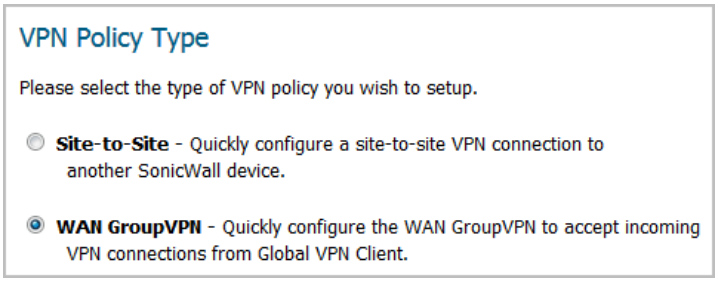
1 Click **QUICK CONFIGURATION** at the top of the SonicOS management interface. The **Welcome** page displays.



2 In the **Welcome** page, select **VPN Guide**.

3 Click **NEXT**. The **VPN Policy Type** page displays.

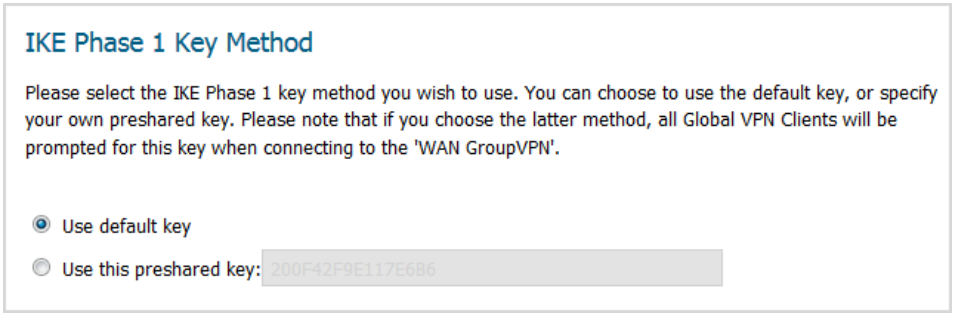
VPN Policy Type



1 Select **WAN GroupVPN**.

2 Click **NEXT**. The **IKE Phase 1 Key Method** page displays.

IKE Phase 1 Key Method



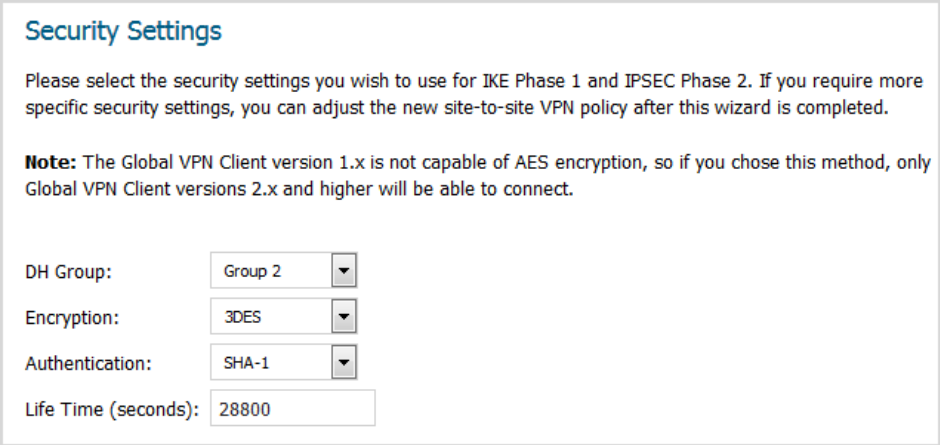
1 In the **IKE Phase 1 Key Method** page, you select the authentication key to use for this VPN policy:

- **Use default key**: – All Global VPN Clients automatically use the default key generated by the security appliance to authenticate with the SonicWall security appliance. This option is selected by default.
- **Use this preshared key**: You must distribute the key to every Global VPN Client because the user is prompted for this key when connecting to the WAN GroupVPN. Specify a custom preshared key in the **Use this preshared key** field; a default custom key is generated by the security appliance, such **ECE38B6AB8188A5D**,

  IMPORTANT: If you select **Use this preshared key** and leave the generated value as the custom key, you must still distribute the key to your Global VPN clients.

2 Click **NEXT**. The **Security Settings** page displays.

Security Settings



1 In the **Security Settings** page, you select the security settings for IKE Phase 1 and IPSEC Phase 2. If you require more specific security settings, you can adjust the WAN GroupVPN VPN policy after this guide is completed. You can:

- Use the default settings. Go to Step 6.
- Choose other security settings.

2 From **DH Group**, choose a Diffie-Hellman (DH or ECP) group for the numbers VPN uses during IKE negotiation to create the key pair. Each subsequent DH group uses larger numbers to start with. For choices, see Diffie Hellman groups included in Suite B cryptography.

3 From **Encryption** choose the method for encrypting data through the VPN Tunnel. The methods are listed in order of security:

- **DES** – The least secure, but takes the least amount of time to encrypt and decrypt.
- **3DES** (default) – The VPN uses this for all data through the tunnel.

  IMPORTANT: The SonicWall Global VPN Client version 1.x is not capable of AES encryption, so if you chose an AES method, only SonicWall Global VPN Client versions 2.x and higher are able to connect.

- **AES-128**
- **AES-192**
- **AES-256** – The most secure, but takes the longest time to encrypt and decrypt.

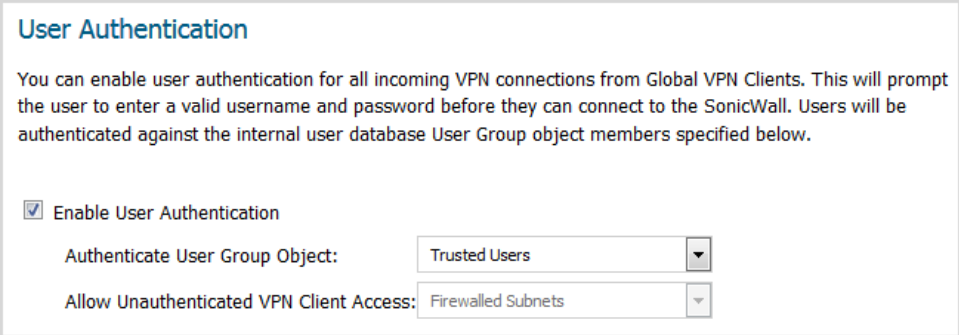
4 From **Authentication** choose the hashing method for authenticating the key when it is exchanged during IKE negotiation:

- **MD5**
- **SHA-1** (default)
- **SHA256**
- **SHA384**
- **SHA512**

5 In **Life Time (seconds)**, enter the length of time the VPN tunnel stays open before needing to re-authenticate. The default is **28800** seconds (eight hours), the maximum is 9999999 seconds (2777 hours), and the minimum is 120 seconds (2 minutes).

6 Click **NEXT**. The **User Authentication** page displays.

User Authentication



1 To require VPN Users to authenticate with the security appliance when they connect, select the **Enable User Authentication**; this option is selected by default.

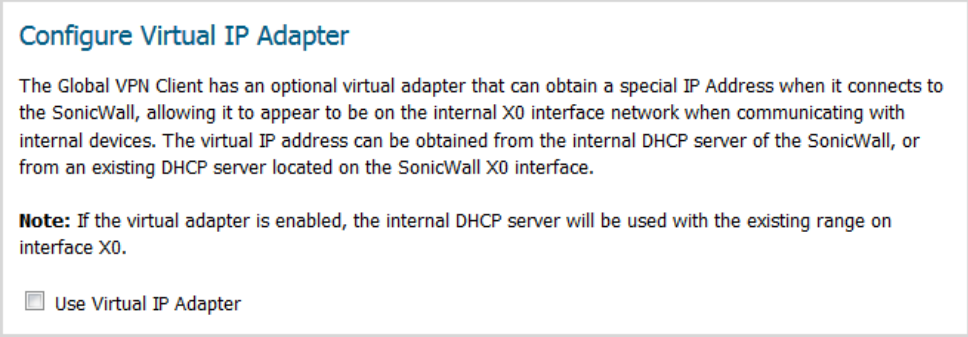
> **NOTE:** If you enable user authentication, the users must be entered in the SonicWall database for authentication. Users are entered into the SonicWall database on the **Users > Local & Groups** page. For further information, see the *SonicOS System Setup Guide*.

2 If you:

- Selected (enabled) **Enable User Authentication**, you must select the user group that contains the VPN users from **Authenticate User Group Object**.
- Deselected (disabled) **Enable User Authentication**, you must select an address object or address group from **Allow Unauthenticated VPN Client Access**. The default is **Firewalled Subnets**.

3 Click **NEXT**. The **Configure Virtual IP Adapter** page displays.

Configure Virtual IP Adapter



1 To use the SonicWall's internal DHCP server to assign each VPN client IP address from the LAN zone's IP range, select **User Virtual IP Adapter**. This option is not selected by default.

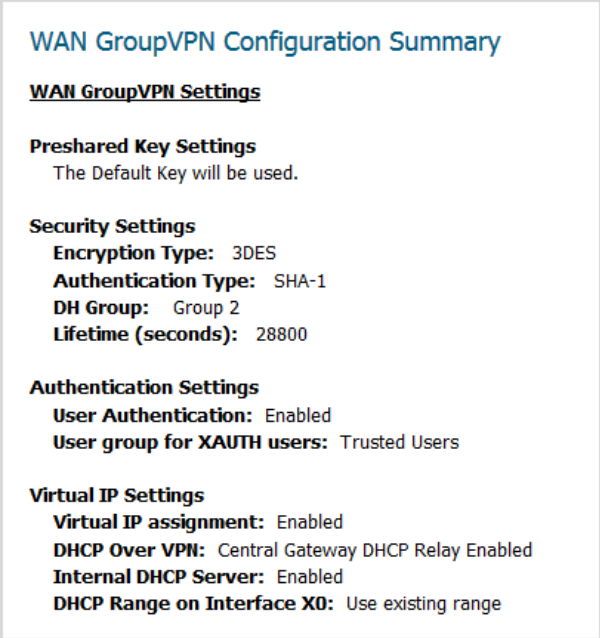
The Global VPN Client has an optional virtual adapter that can obtain a special IP Address when it connects to the security appliance. If this option is enabled, when a user connects, it appears that the user is on the internal X0 interface network when communicating with internal devices.

The virtual IP address can be obtained from the internal DHCP server of the security appliance or from an existing DHCP server located on the security appliance's X0 interface.

NOTE: If the virtual adapter is enabled, the internal DHCP server is used, and a new DHCP range is created on interface X0 for `192.168.168.1 –192.168.168.167`.

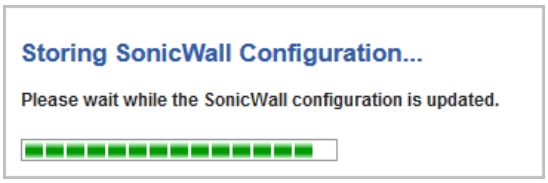
2 Click **NEXT**. The **WAN GroupVPN Configuration Summary** page displays.

WAN GroupVPN Configuration Summary

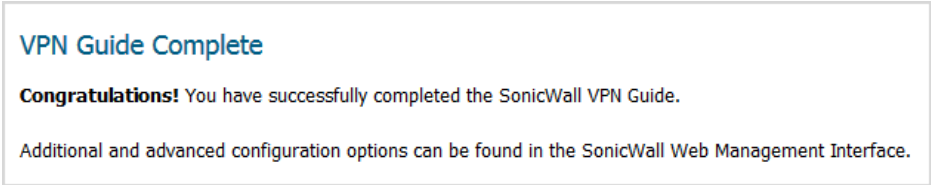


1 The **Configuration Summary** page details the settings you configured for the GroupVPN. Verify the settings; to modify any of the settings, click **BACK** to return to the appropriate page.

2 Click **APPLY** to complete the guide and create your GroupVPN. A **Storing SonicWall Configuration…** message displays before the **VPN Guide Complete** page displays.



VPN Guide Complete



1 Click **CLOSE** to close the guide.

Connecting the Global VPN Clients

Remote SonicWall Global VPN Clients install the Global VPN Client software. After the application is installed, they use a connection guide to setup their VPN connection. To configure the VPN connection, the client must have the following information:

- A public IP address (or domain name) of the WAN port for your SonicWall
- The shared secret if you selected a custom preshared secret in the VPN Guide.
- The authentication username and password.

6

Using the Wireless Guide (Wireless Platforms only)

Wireless Guide

The **Wireless Guide** steps you through configuring the network settings and security features of the WLAN radio interface.

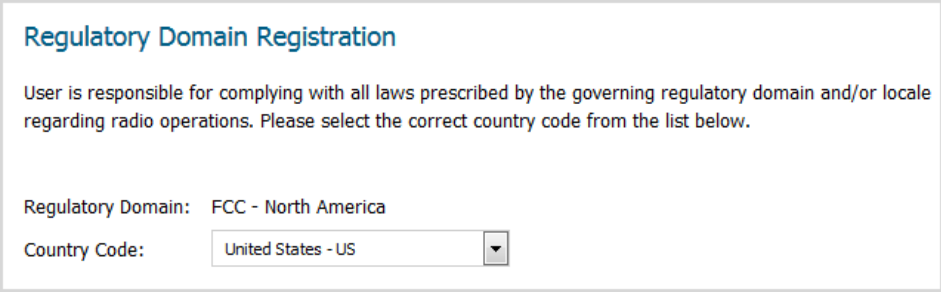
To configure network settings and security features:

1 Click **QUICK CONFIGURATION**. The **Guide Welcome** page displays.

2 Select **Wireless Guide**.

3 Click **NEXT**. The **Regulatory Domain Registration** page displays.

Regulatory Domain Registration



IMPORTANT: You are responsible for complying with all laws prescribed by the governing regulatory domain and/or locale regarding radio operations.

NOTE: The regulatory domain is generated automatically from the **Country Code**.

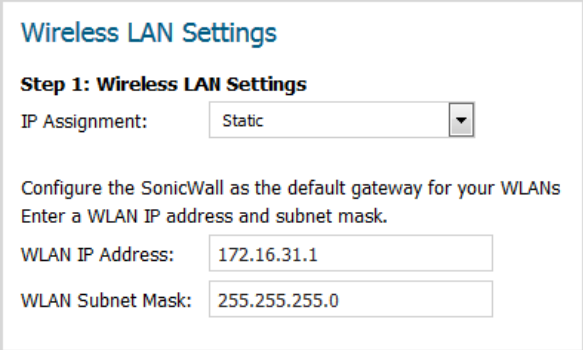
1 Select a country from **Country Code**.

IMPORTANT: For international (non USA or Japan) TZ series wireless and SOHO series wireless appliances, be sure to select the country code for the country in which the appliance will be deployed, even if you are not in that country. For appliances deployed in the USA and Japan, the regulatory domain and country code are selected automatically and cannot be changed.

IMPORTANT: If you select the country code for Canada, it cannot be changed except by contacting SonicWall Support.

2 Click **NEXT**. The **Wireless LAN Settings** page displays.

Wireless LAN Settings



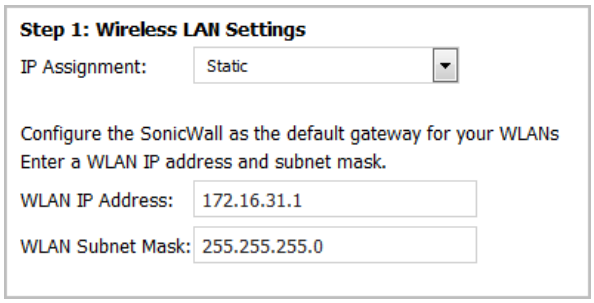
1 Select the type of IP assignment from **IP Assignment**:

- **Static** (default)
- **Layer 2 Bridged Mode**

NOTE: The options change according to which IP assignment you select.

2 If you chose:

- **Static**:

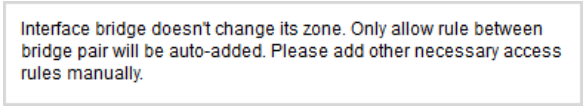


  a) Enter a WLAN IP address in the **WLAN IP Address** field. The default is **172.16.31.1**.

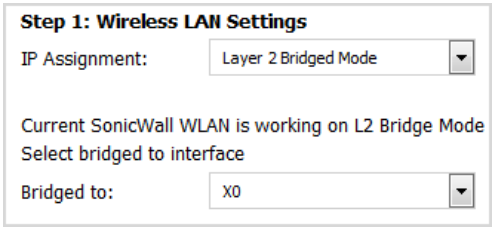
  b) Enter a WLAN subnet mask in the **WLAN Subnet Mask** field. The default is **255.255.255.0**.

  c) Go to Step 3.

- **Layer 2 Bridged Mode**, a message displays the zone of the interface bridge:

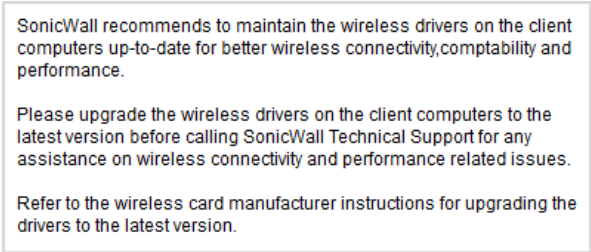


  a) Click **OK** on the message. The options change:



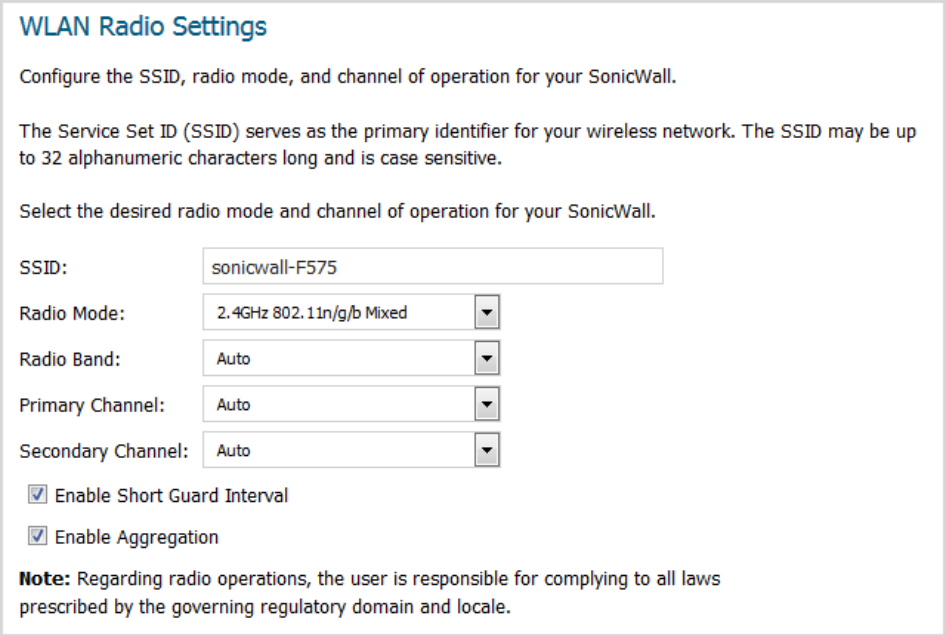
  b) Select a bridged-to interface from **Bridged to**. The default is **X0**.

3 Click **NEXT**. A message regarding keeping the wireless drivers on client computers up to date displays.



4 Click **OK**. The **WLAN Radio Settings** page displays.

WLAN Radio Settings



1 Enter a SSID (Service Set ID) in the **SSID** field. The SSID serves as the primary identifier for your wireless network. You can specify up to 32 alphanumeric characters; the SSID is case sensitive. The security appliance generates a default SSID of **sonicwall-** plus the last four characters of the BSSID (Broadcast Service Set ID); for example, `sonicwall-` becomes `sonicwall-F2DS`.

2 Select your preferred radio mode from **Radio Mode**. The wireless security appliance supports the modes shown in Radio Mode choices.

NOTE: The available options change depending on the mode selected. If the wireless radio is configured for a mode that:

- Supports 802.11n (except 5GHz 802.11n/a/ac Mixed), these options are displayed: **Radio Band, Primary Channel, Secondary Channel**.
- Does not support 802.11n, only the **Channel** option is displayed.
- Supports 5GHz 802.11n/a/ac Mixed or 5GHz 802.11ac Only, the **Radio Band** and **Channel** options are displayed.

TIP: For optimal throughput speed solely for 802.11n clients, SonicWall recommends the **802.11n Only** radio mode. Use the **802.11n/b/g Mixed** radio mode for multiple wireless client authentication compatibility.

For optimal throughput speed solely for 802.11ac clients, SonicWall recommends the **802.11ac Only** radio mode. Use the **802.11ac/n/a Mixed** radio mode for multiple wireless client authentication compatibility.

Radio Mode choices

2.4GHz	5Ghz	Definition
2.4GHz 802.11n/g/b Mixed (Default)	5GHz 802.11n/a Mixed	Supports 802.11a, 802.11b, 802.11g, and 802.11n clients simultaneously. If your wireless network comprises multiple types of clients, select this mode.
2.4GHz 802.11n Only	5GHz 802.11n Only	Allows only 802.11n clients access to your wireless network. 802.11a/ac/b/g clients are unable to connect under this restricted radio mode.
2.4GHz 802.11g Only		If your wireless network consists only of 802.11g clients, you might select this mode for increased 802.11g performance. You might also select this mode if you wish to prevent 802.11b clients from associating.
2.4GHz 802.11g/b Mixed		If your wireless network consists of both 802.11b and 802.11g clients, you might select this mode for increased performance.
	5GHz 802.11a Only	Select this mode if only 802.11a clients access your wireless network.
	5GHz 802.11n/a/ac Mixed	Supports 802.11a, 802.11ac, and 802.11n clients simultaneously. If your wireless network comprises multiple types of clients, select this mode.
	5GHz 802.11ac Only	Select this mode if only 802.11ac clients access your wireless network.

3 If the mode you selected supports:

This Radio Mode	Go to
2.4GHz 802.11n/g/b **2.4GHz 802.11g/b Mixed** **2.4GHz 802.11g Only** **5GHz 802.11a Only**	Step 4
5GHz 802.11ac Only **5GHz 802.11n/a/ac Mixed**	Step 6
2.4GHz 802.11n/g/b Mixed **2.4GHz 802.11n Only** **5GHz 802.11n Only**	Step 8

4 Select the channel for the radio from **Channel**:

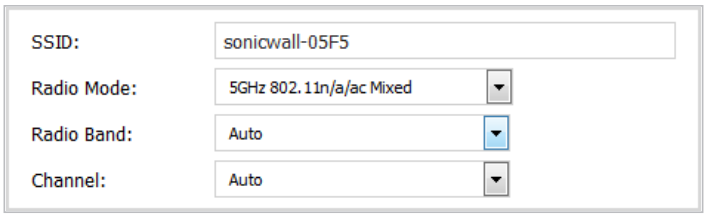
Auto (default) Allows the appliance to automatically detect and set the optimal channel for wireless operation based on signal strength and integrity. Use **Auto** unless you have a specific reason to use or avoid specific channels.

Specific channel	Select a single channel within the range of your regulatory domain. Selecting a specific a channel can also help with avoiding interference with other wireless networks in the area. **NOTE:** Available channels depend on the **Radio Mode** you selected, the type of radio in the security appliance, and the channels available in your country.

5 Go to Step 9.

6 The **Radio Band** and **Channel** options display.

NOTE: All examples use FCC channels.



From **Radio Band**, select the radio band for the 802.11a or 802.11ac radio:

- **Auto** - Allows the appliance to automatically detect and set the optimal channel for wireless operation based on signal strength and integrity. This is the default setting.
  - **Channel** is set to **Auto** and cannot be changed.
- **Standard - 20 MHz Channel** - Specifies that the 802.11ac radio uses only the standard 20 MHz channel.
  a) When this option is selected, from **Channel**, select a single channel within the range of your regulatory domain. Selecting a specific a channel can also help with avoiding interference with other wireless networks in the area. The default channel is **Auto**.
- **Wide - 40 MHz Channel** - Specifies that the 802.11ac radio uses only the wide 40 MHz channel. When this option is selected, **Channel** is displayed. The default channel is **Auto**.
- **Wide - 80 MHz Channel** - Specifies that the 802.11n radio uses only the wide 80 MHz channel. When this option is selected, **Channel** is displayed. The default channel is **Auto**.

7 Go to Step 9.

8 The **Radio Band**, **Primary Channel**, and **Secondary Channel** settings display:

From **Radio Band**, select the band for the 802.11n or 802.11ac radio:

- **Auto** - Allows the appliance to automatically detect and set the optimal channel for wireless operation based on signal strength and integrity. This is the default setting.
  - **Primary Channel** and **Secondary Channel** are set to **Auto** and cannot be changed.
- **Standard - 20 MHz Channel** - Specifies that the 802.11n radio uses only the standard 20 MHz channel. When this option is selected, **Standard Channel** is displayed instead of **Primary Channel** and **Secondary Channel**.

- **Standard Channel** - By default, this is set to **Auto**, which allows the security appliance to set the optimal channel based on signal strength and integrity. Optionally, you can select a single channel within the range of your regulatory domain. Selecting a specific a channel can also help with avoiding interference with other wireless networks in the area.

- **Wide - 40 MHz Channel** - Specifies that the 802.11n radio uses only the wide 40 MHz channel. When this option is selected, **Primary Channel** and **Secondary Channel** are displayed:
  - **Primary Channel** - By default, this is set to **Auto**. Optionally, you can specify a specific another channel.
  - **Secondary Channel** - The setting for this option is determined by the **Primary Channel** setting and cannot be changed:

9 Optionally, select **Enable Short Guard Interval** to specify a short guard interval of 400ns as opposed to the standard guard interval of 800ns. This option is selected by default.

> **NOTE:** This option is not available if one of these modes is selected:
> - **2.4GHz 802.11g/b Mixed**
> - **2.4GHz 802.11g Only**
> - **5GHz 802.11a Only**

A **guard interval** is a set amount of time between transmissions that is designed to ensure distinct transmissions do not interfere with one another. The guard interval introduces immunity to propagation delays, echoes, and reflections. An AP identifies any signal content received inside this interval as unwanted inter-symbol interference, and rejects that data. The guard interval is a pause in transmission intended to avoid data loss from interference or multipath delays.

The 802.11n standard specifies two guard intervals: 400ns (short) and 800ns (long). Enabling a short guard interval can decrease network overhead by reducing unnecessary idle time on each AP. A short guard interval of 400 nanoseconds (ns) will work in most office environments as distances between points of reflection, as well as between clients, are short. Most reflections will be received quickly. The shorter the guard interval, the more efficiency there is in the channel usage, but a shorter guard interval also increases the risk of interference

Some outdoor deployments, may, however, require a longer guard interval. The need for a long guard interval of 800 ns becomes more important as areas become larger, such as in warehouses and in outdoor environments, as reflections and echoes become more likely to continue after the short guard interval would be over.

10 Optionally, to enable 802.11n frame aggregation, which combines multiple frames to reduce overhead and increase throughput, select **Enable Aggregation**. This option is selected by default.

> **NOTE:** This option is not available if one of these modes is selected:
> - **2.4GHz 802.11g/b Mixed**
> - **2.4GHz 802.11g Only**
> - **5GHz 802.11a Only**

Data over wireless networks are sent as a stream of packets known as data frames. Frame aggregation takes these packets and combines them into fewer, larger packets, thereby allowing an increase in overall performance. Frame aggregation was added to the 802.11n specification to allow for an additional increase in performance. Frame aggregation is a feature that only 802.11ac and 802.11n clients can take advantage of as legacy systems are not able to understand the new format of the larger packets.

> **TIP:** The **Enable Short Guard Interval** and **Enable aggregation** options can slightly improve throughput. They both function best in optimum network conditions where users have strong signals with little interference. In networks that experience less than optimum conditions (interference, weak signals, and so on), these options may introduce transmission errors that eliminate any efficiency gains in throughput.

11 Click **NEXT**. The **WLAN Security Settings** page displays.

WLAN Security Settings

1 Choose a security mode:

- **WPA/WPA2 Mode** – Wi-Fi Protected Access (WPA) mode is the security wireless protocol based on the 802.11i standard. It is the recommended protocol if your wireless clients support WPA/WPA protocol also.
- **Connectivity** – This mode allows unrestrained wireless access to the device. This option is selected by default.

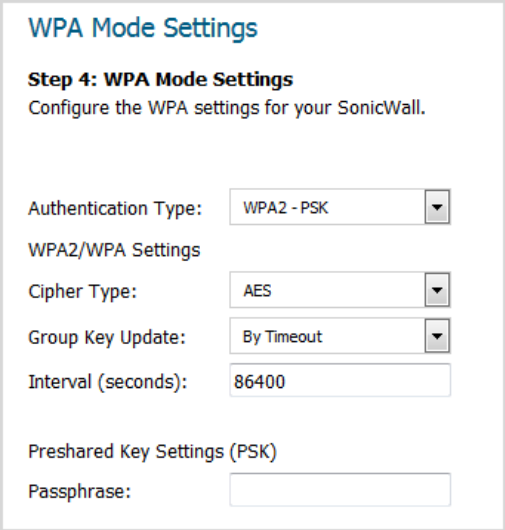
CAUTION: **This mode does not offer encryption or access controls allows unrestrained wireless access to the security appliance.**

2 Click **NEXT**. What page displays depends on the security mode you selected.

3 If you selected:

- **WPA/WPA2Mode**, the **WPA Mode Settings** page displays. Go to WPA Mode Settings on page 65.
- **Connectivity**, the **WLAN VAP (Virtual Access Point) Settings** page displays. Go to WLAN VAP (Virtual Access Point) Settings on page 66.

WPA Mode Settings



NOTE: For a description of the various authentication types, cipher types, and shared keys, see *SonicOS 6.5 Connectivity*.

1 From **Authentication Type**, select the encryption mode. The options that display depend on the mode you select.

- **WPA2-PSK** (default)
- **WPA2-EAP**
- **WPA2-AUTO-PSK**
- **WPA2-AUTO-EAP**

2 From **Cipher Type**, select:

- **AES** (default)
- **TKIP**
- **Auto**

3 From **Group Key Update**select either:

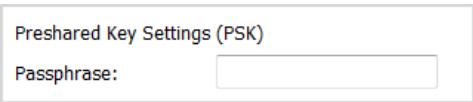
- **By Timeout** (default)
- **Disabled**; the Interval field does not display.

4 In the **Interval (seconds)** field, enter the time until timeout. The default is **86400** seconds (24 hours), the minimum is 30 seconds, and the maximum is 2592000 seconds (30 days).

5 If you selected:

- PSK mode, go to Step 6.
- EAP mode, go to Step 9.

6 A **Passphrase** field displays.

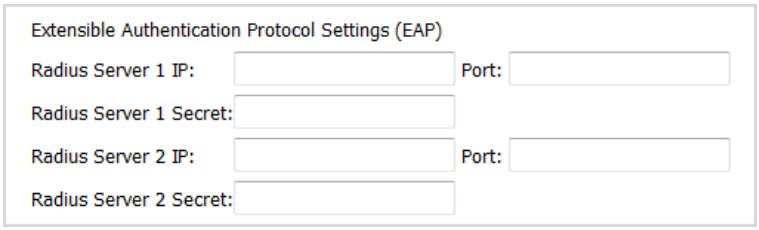


Enter the passphrase from which the key is generated.

7 Click **NEXT**. The **WLAN VAP (Virtual Access Point Settings** page displays.

8 Go to WLAN VAP (Virtual Access Point) Settings on page 66.

9 The **Passphrase** field is replaced by the **Extensible Authentication Protocol Settings (EAP)** fields.



10 In the **Radius Server 1 IP** and **Port** fields, enter the IP address and port number for your primary RADIUS server.

11 In the **Radius Server 1 Secret** field, enter the password for access to Radius Server

12 Optionally, in the **Radius Server 2 IP** and **Port** fields, enter the IP address and port number for your secondary RADIUS server, if you have one.

13 Optionally, in the **Radius Server 2 Secret** field, enter the password for access to Radius Server

14 Click **NEXT**. If you selected an EAP mode, a message about updating the security appliance access rule is displayed.

15 Click **OK**. The **WLAN VAP (Virtual Access Point) Settings** page displays.

WLAN VAP (Virtual Access Point) Settings

1 If you:

- Do not want to create a WLAN VAP, go to Step 2.
- Want to create a WLAN VAP, go to WLAN VAP (Virtual Access Point) Settings — VAP SSID on page 67

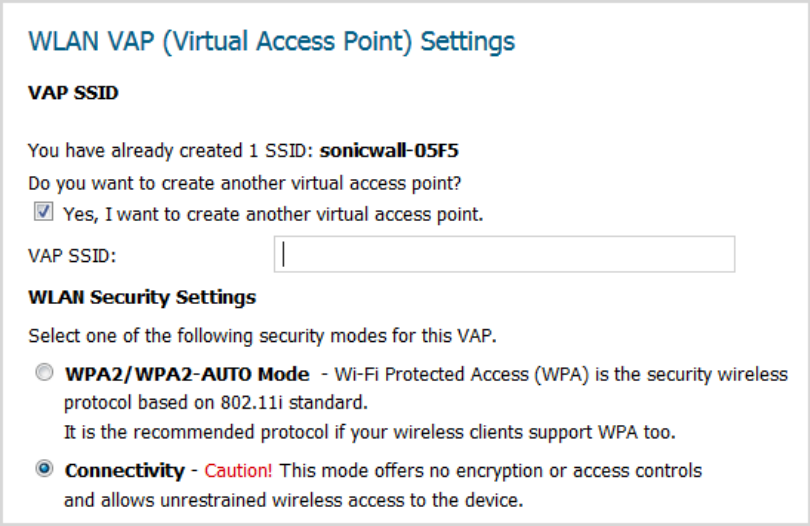
2 Click **NEXT**. The **Wireless Configuration Summary** page displays.

3 Go to Wireless Configuration Summary on page 70.

WLAN VAP (Virtual Access Point) Settings — VAP SSID

One VAP SSID is created automatically and it's SSID is displayed; more may have been added during setup. You can create up to six VAP SSIDs for a total of seven VAP SSIDs.

1 Select **Yes, I want to create another virtual access point**. More options display.



2 Enter an ID for the VAP in the **VAP SSID** field.

3 Choose a security mode for the VAP:

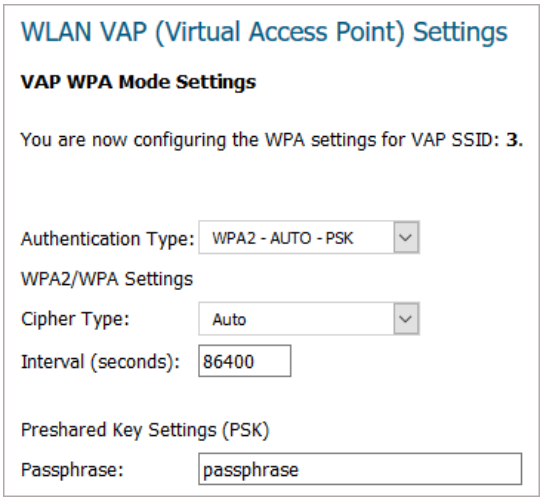
- **WPA/WPA2-AUTO Mode** – Wi-Fi Protected Access (WPA) mode is the security wireless protocol based on the 802.11i standard. It is the recommended protocol if your wireless clients support WPA/WPA protocol also.
- **Connectivity** (default) – This mode allows unrestrained wireless access to the security appliance.

CAUTION: **This mode does not offer encryption or access controls and allows unrestrained wireless access to the security appliance.**

4 Click **NEXT**. If you chose:

- **WPA/WPA2-AUTO Mode**, the **WLAN VAP (Virtual Access Point) Settings > VAP WPA Mode Settings** page displays. Go to WLAN VAP (Virtual Access Point) Settings — VAP WPA Mode Settings on page 68.
- **Connectivity**, the **WLAN VAP (Virtual Access Point) Settings > WLAN Subnet and Zone** page displays. Go to WLAN VAP (Virtual Access Point) Settings > WLAN Subnet and Zone on page 69.

WLAN VAP (Virtual Access Point) Settings — VAP WPA Mode Settings



1 From **Authentication Type**, select:

- **WPA2 - PSK**
- **WPA2 - EAP**
- **WPA2- AUTO - PSK** (default)
- **WPA2- AUTO - EAP**

2 From **Cipher Type**, select:

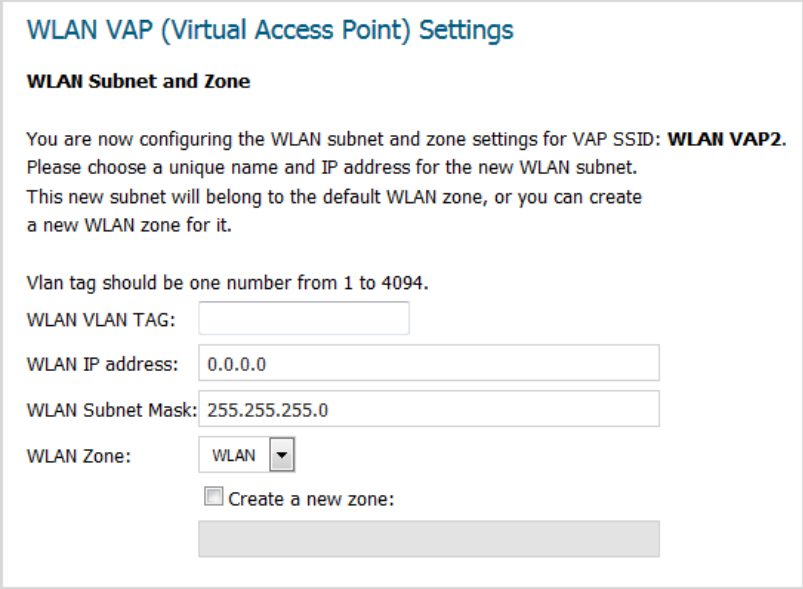
- **AES**
- **TKIP**
- **Auto** (default)

3 In the **Interval (seconds)** field, enter the time until timeout. The default is **86400** seconds (24 hours), the minimum is 30 seconds, and the maximum is 2592000 seconds (30 days).

4 In the **Passphrase** field, enter the Preshared Key (PSK).

5 Click **NEXT**. The **WLAN VAP (Virtual Access Point) Settings > WLAN Subnet and Zone** page displays. Go to WLAN VAP (Virtual Access Point) Settings > WLAN Subnet and Zone on page 69.

WLAN VAP (Virtual Access Point) Settings > WLAN Subnet and Zone



1 Enter a unique VLAN tag in the **WLAN VLAN TAG** field. The tag should be one number from 1 to 4094.

2 Enter a unique IP address in the **WLAN IP address** field.

3 Enter the WLAN subnet mask in the **WLAN Subnet Mask** field.

4 Either:

- Select a zone from **WLAN Zone**. The default is **WLAN**.
- Optionally, create a new zone:

  a) Click **Create a new zone**.

  a) Enter the name of the new zone in the **Create a new zone** field.

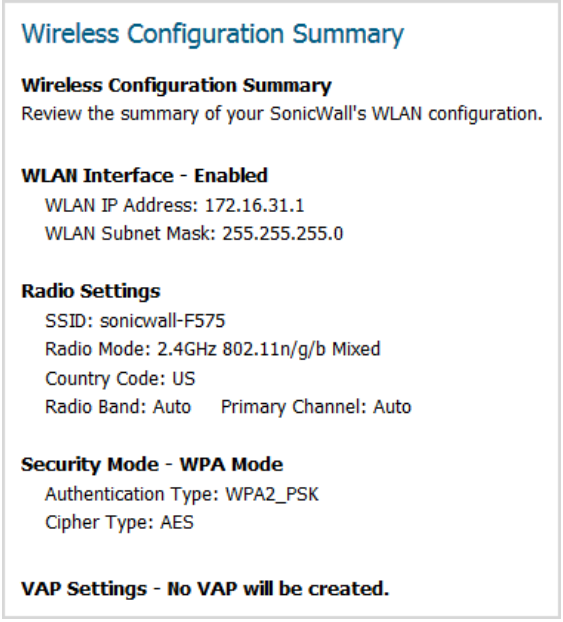
  This new zone is used instead of any zone specified from **WLAN Zone**, which is dimmed.

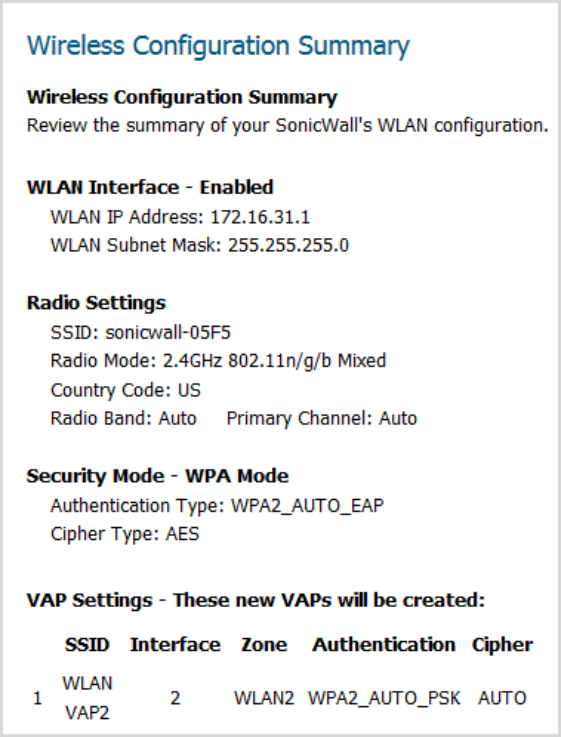
5 Click **NEXT**. The **WLAN VAP (Virtual Access Point) Settings** page displays again.

6 To:

- Create another WLAN VAP, repeat the steps in WLAN VAP (Virtual Access Point) Settings on page 66.
- Continue without creating another WLAN VAP, click **NEXT**. The **Wireless Configuration Summary** page displays.

Wireless Configuration Summary





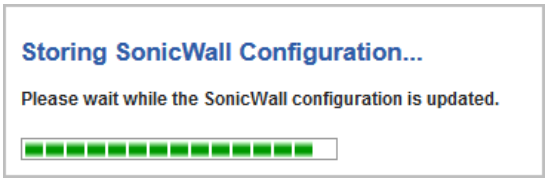
1 Verify the settings are correct.

   a To correct any setting, click **BACK** until you reach the appropriate page.

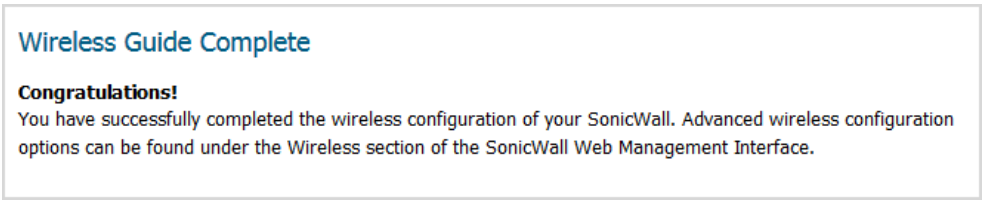
   b Make the changes.

   c Click **NEXT** until you reach the **Wireless Configuration Summary** page.

2 Click **APPLY**. A message displays indicating the configuration is being updated:



After the configuration has updated, the **Wireless Guide Complete** page displays.



3 Click **FINISH**.

7

Using the App Rule Guide

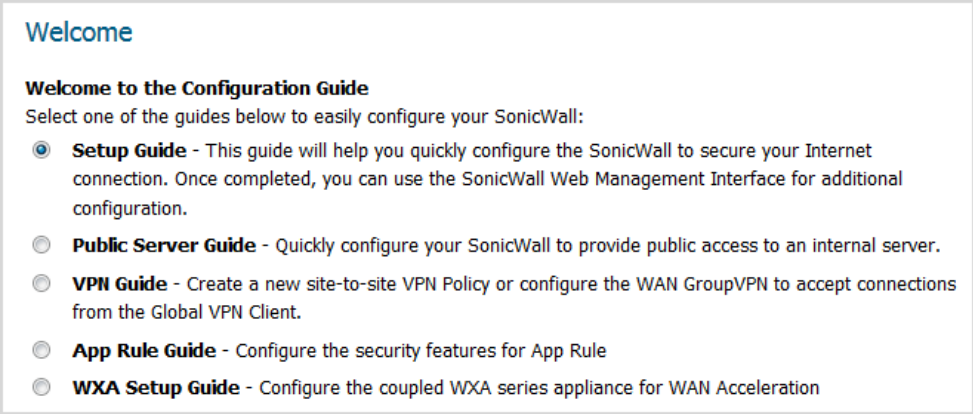
App Rule Guide

The **App Rule Guide** provides safe configuration of App Rules for many common use cases, but not for everything. If at any time during the guide you are unable to find the options that you need, you can click **Exit Guide** and proceed using manual configuration.

NOTE: When configuring manually, you must remember to configure all components, including match objects, actions, email address objects if required, and finally, a policy that references them.

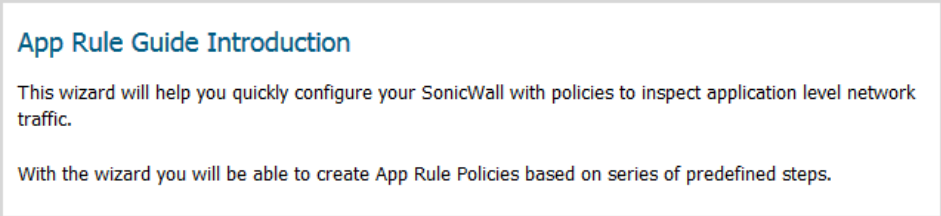
To configure app rules:

1 Click **QUICK CONFIGURATION** on the top of the SonicOS Management Interface. The **Welcome** page displays.



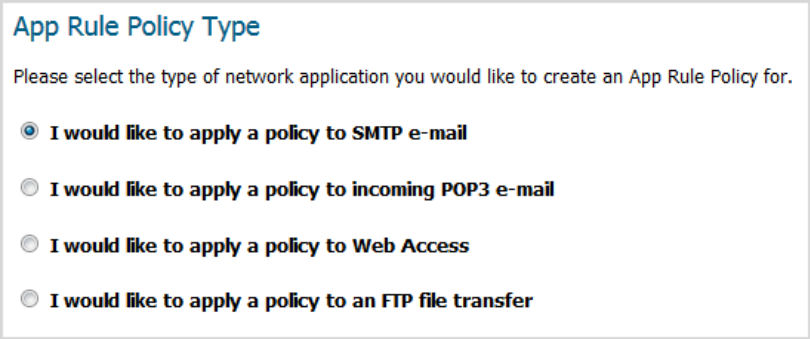
2 Select **App Rule Guide**.

3 Click **NEXT**. The **App Rule Guide Introduction** page displays.



4 Click **NEXT**. The **App Rule Policy Type** page displays.

App Rule Policy Type



1 Choose the type of network application to configure:

- **I would like to apply a policy to SMTP e-mail** (default)
- **I would like to apply a policy to incoming POP3 e-mail**
- **I would like to apply a policy to Web Access**
- **I would like to apply a policy to an FTP file transfer**

2 Click **NEXT**.

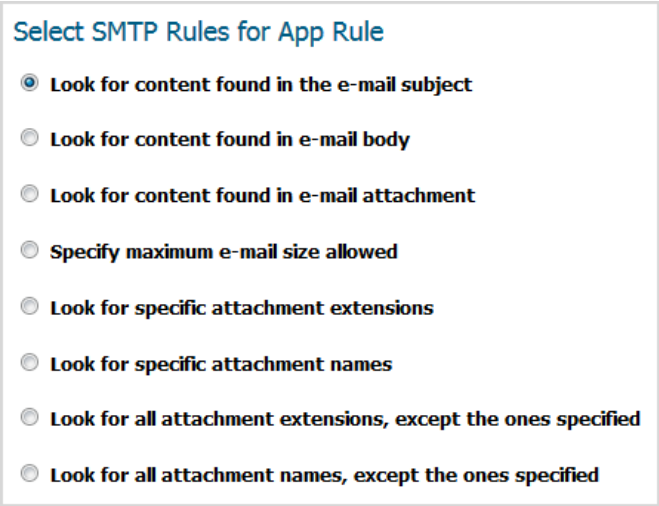
3 The next page varies depending on your choice of policy type. If you chose **I would like to apply a policy to**:

- **SMTP email**, go to Select SMTP/POP3 Rule for App Rule on page 72.
- **POP3 email**, go to Select SMTP/POP3 Rule for App Rule on page 72
- **Web Access**, go to Select Web Access Rule for App Rule on page 73
- **FTP file transfer**, go to Select FTP Rule for App Rule on page 74

Select SMTP/POP3 Rule for App Rule

TIP: The POP3 rules are a subset of the SMTP rules.

Select SMTP Rules for App Rule



Select Pop3 Rules for App Rule

1 From the choices supplied (see SMTP and POP3 rules for Application Firewall), choose the type of rule.

SMTP and POP3 rules for Application Firewall

Rule	SMTP	POP3
Look for content found in the e-mail subject	✓ (default)	✓
Look for content found in the email body	✓	
Look for content found in the email attachment	✓	
Specify maximum e-mail size allowed	✓	
Look for specific attachment extensions	✓	✓ (default)
Look for specific attachment names	✓	✓
Look for all attachment extensions, except the ones specified	✓	✓
Look for all attachment names, except the ones specified	✓	✓

2 Click **NEXT**.

3 The next page varies depending on your choice of rules. If you chose:

- All SMTP and POP3 policy rule types *except* **Specify maximum e-mail size allowed**, go to App Rule Object Keywords and Policy Direction on page 75.
- **Specify maximum e-mail size allowed**, go to App Rule Object Email Size on page 76.

Select Web Access Rule for App Rule

1 Choose the rule to govern web access:

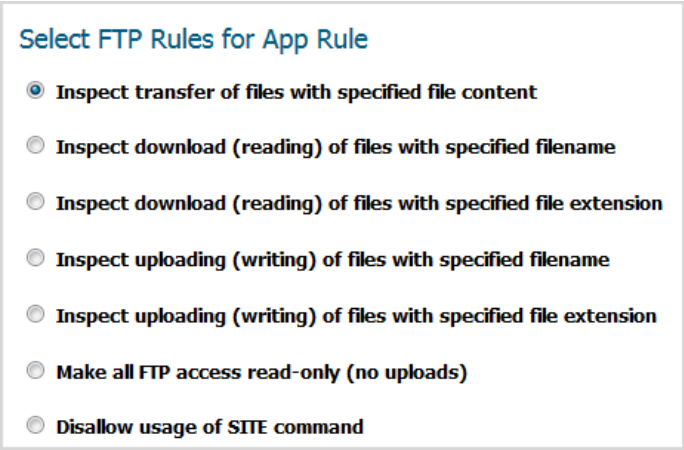
- **Look for download of files with specific file extensions**
- **Look for access to specific URIs**
- **Look for usage of certain web browsers**
- **Look for usage of any web browsers, except the ones specified**
- **Look for attachment name uploaded to a web mail account**
- **Look for attachment extension uploaded to a web mail account**

2 Click **NEXT**.

3 The page that displays depends of the rule selected:

- For **Look for usage of certain web browsers** and **Look for usage of any web browser, except the ones specified** rules, the **App Rule Object Settings** page displays; go to App Rule Action Type on page 77.
- For all other rules, the **App Rule Object Keywords and Policy Direction** page displays; go to App Rule Object Keywords and Policy Direction on page 75.

Select FTP Rule for App Rule



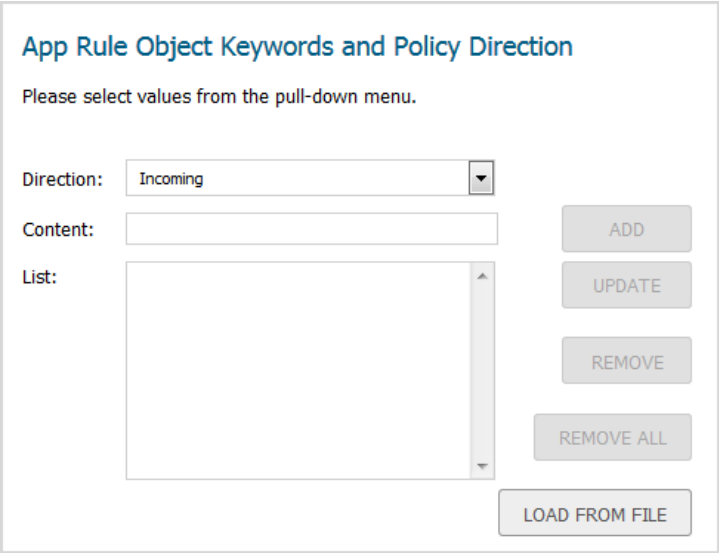
1 Choose the FTP filename, extension, or content from the choices supplied:

- **Inspect transfer of files with specified file content**
- **Inspect download (reading) of files with specified filename**
- **Inspect download (reading) of files with specified file extension**
- **Inspect uploading (writing) of files with specified filename**
- **Inspect uploading (writing) of files with specified file extension**
- **Make all FTP access read-only (no uploads)**
- **Disallow usage of SITE command**

2 Click **NEXT**.

3 Go to App Rule Object Keywords and Policy Direction on page 75.

App Rule Object Keywords and Policy Direction



1 From **Direction**, select the traffic direction to scan:

- **Incoming** (default)
- **Outgoing**
- **Both**

2 If you chose:

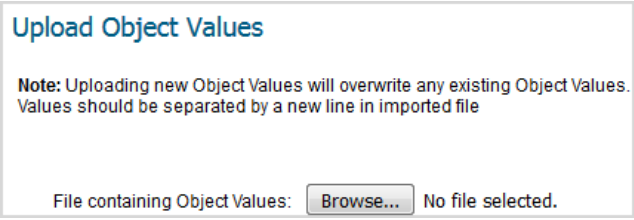
- One of these two FTP App Rule types, go to Step 3:
  - **Make all FTP access read-only (no uploads)**
  - **Disallow usage of SITE command**
- Any other App Rule type, do one of the following:

  NOTE: If you selected a SMTP or POP3 rule with the words **except the ones specified**, content that you enter here are the only content that does not cause the action to occur.

  - Manually add content:
    a) In the **Content** field, type or paste a text or hexadecimal representation of the content to match.
    b) Click **ADD**.
    c) Repeat Step a and Step b until all content is added to the **List** field.
  - Import keywords from a predefined text file that contains a list of content values:

  NOTE: The values must be one per line in the file.

    a) Click **Load From File**. The **Upload Object Values** dialog displays.



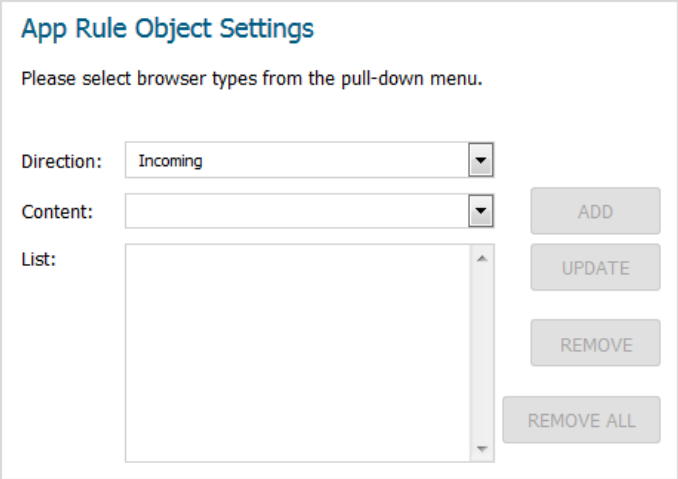
b) Select the file containing the object values.

c) Click **UPLOAD**.

3 Click **NEXT**. The **App Rule Action Type** page displays.

4 Go to App Rule Action Type on page 77.

App Rule Object Settings



1 From **Direction**, select the traffic direction to scan:

- **Incoming** (default)
- **Outgoing**
- **Both**

2 In the **Content** field, type or paste a text or hexadecimal representation of the content to match.

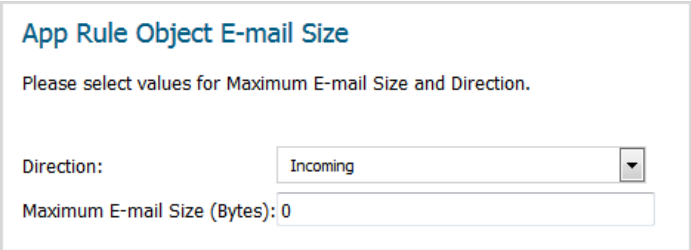
3 Click **ADD**.

4 Repeat Step 2 and Step 3 until all content is added to the **List** field.

5 Click **NEXT**. The **App Rule Action Type** page displays.

6 Go to App Rule Action Type on page 77.

App Rule Object Email Size



1 From **Direction**, select the traffic direction to scan.

- **Incoming** (default)
- **Outgoing**
- **Both**

2 in the **Maximum Email Size (Bytes)** field, enter the maximum number of bytes for an email message. The minimum and default size is **0** bytes, and the maximum is 1410065407 bytes.

3 Click **NEXT**.

4 Go to App Rule Action Type on page 77.

App Rule Action Type

The options available on this page depend on the policy type you specify: SMTP, POP3, Web Access, or FTP file transfer.

1 From the choices supplied, select the action to be performed; see App Rule actions.

NOTE: Not all action types/settings are available for each access rule.

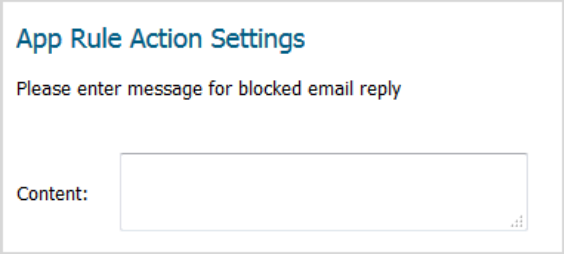
App Rule actions

Action type/setting	SMTP	POP3	Web Access	FTP
Blocking Action —				
block and send custom email reply	✓ [a]			
block without sending email reply	✓			
disable attachment and add custom text		✓ [a]		
custom block page			✓ [a]	
redirect to new location			✓	
Reset Connection			✓	✓ [a]
Add Block Message				✓
Add Email Banner (append text at then end of email)	✓			
Log Only	✓	✓	✓	✓
Bypass DPI	✓	✓	✓	✓

a. Default

2 Click **NEXT**. Go to App Rule Action Settings on page 78.

App Rule Action Settings

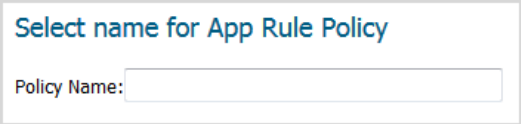


1 In the **Content** field, enter the text for the error message, email message, URI redirect, custom block page, or banner page, depending on the settings you selected on the previous pages.

2 Click **NEXT**.

3 Go to Select name for App Rule Policy on page 78.

Select name for App Rule Policy

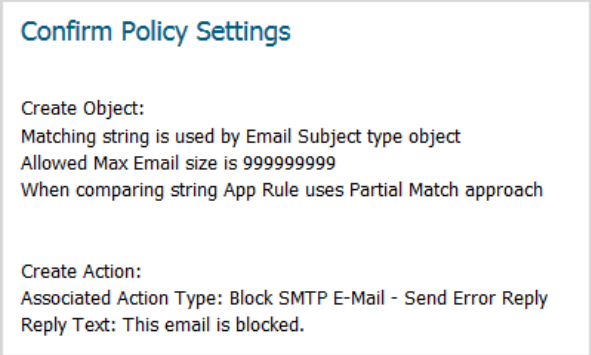


1 Enter a meaningful in the **Policy Name** field.

2 Click **NEXT**.

3 Go to Confirm Policy Settings on page 78.

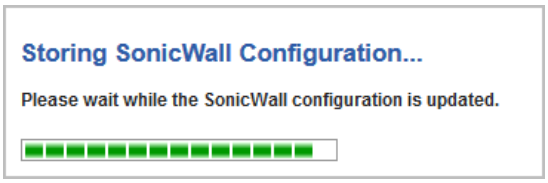
Confirm Policy Settings



1 Verify the settings are correct.

> **NOTE:** To correct any setting, click **Back** until you reach the page containing the setting to be changed.

2 Click **APPLY**. The **Storing SonicWall Configuration** message displays.



After the configuration has updated, the **App Rule Policy Complete** page displays.

3 Click **CLOSE**.

8

Using the WXA Setup Guide

WXA Setup Guide

NS*a* series, SuperMassive series, and NSA series appliances use one or more WXA series appliances in a cluster to provide WAN Acceleration. Each WXA uses a range of components to accelerate TCP connections across the WAN, remote file sharing operations, and web browsing. The **WXA Setup Guide** steps you through the initial setup and configuration of the SonicWall security appliance so that, when coupled with a cluster of WXAs, it can deliver WAN Acceleration to local users.

TZ series and SOHO series appliances support a single connected WXA series appliance to provide WAN Acceleration. They do not support WXA clustering.

Consider the following before using the **WXA Setup Guide**:

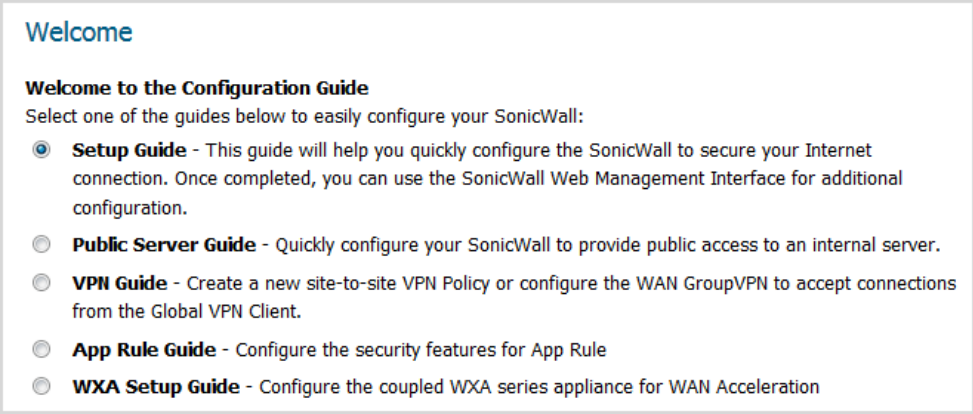
- The SonicWall security appliance must be setup, configured, and licensed.
- Except for the Web Cache, the **Guide** assumes traffic to be accelerated is over site-to-site VPNs. The WXA series appliance, therefore, must not be set up in a routing or layer 2 bridge mode. Although this configuration can be used with the WXA series appliance, it is not supported by the **WXA Setup Guide**. Only site-to-site Virtual Private Networks (VPN) are compatible with this **Guide**.
- IPv6 is not supported. Traffic passing through and accelerated by the WXA series appliance must use IPv4.
- Using the **WXA Setup Guide** overwrites any existing configuration.
- The WXA series appliance should not be powered up before using this the **WXA Setup Guide**. You will be directed to power up the appliance as you are guided through the **WXA Setup Guide**.

To configure the WXA appliance:

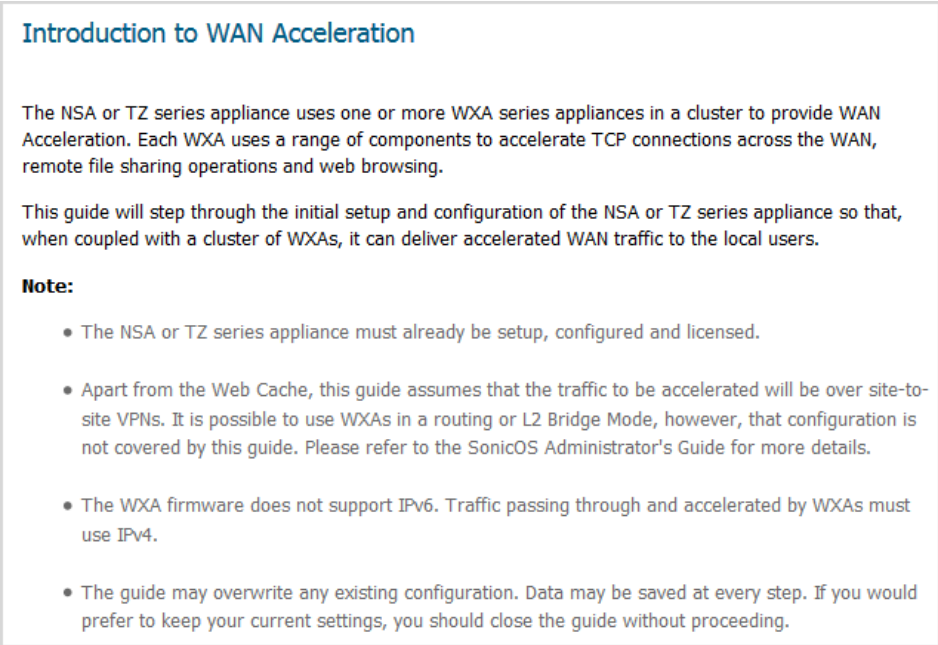
Getting Started

To configure the coupled WXA series appliance for WAN Acceleration:

1 Click **QUICK CONFIGURATION** at the top of the SonicOS management interface. The **Welcome** page of the **Setup Guide** displays.



2 Click **NEXT**. The **Introduction to WAN Acceleration** page displays.

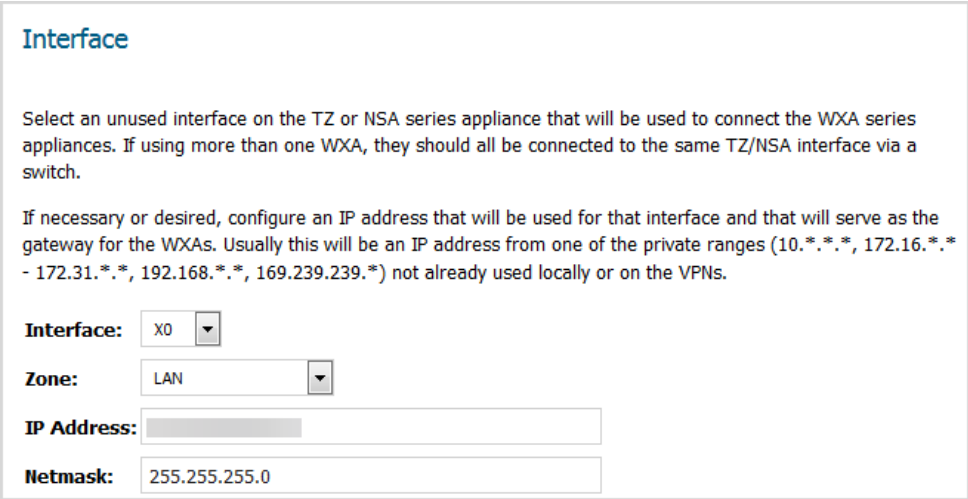


3 Click **NEXT**. The **Interface** page displays.

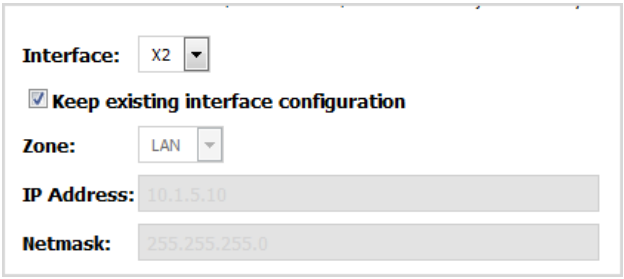
Interface Page

The **Interface** page guides you though the process of configuring the interface on the SonicWall security appliance to which the WXA series appliance is connecting.

To configure an interface:



TIP: If the interface has previously been configured, the **Keep existing interface configuration option** displays and is selected by default.



If the settings:

- Are OK, ensure the option is checked and go to Step 8.
- Should be changed, deselect the option.

4 From **Interface**, select interface used to connect the WXA series appliance. The default is **X0**.

5 From **Zone**, select the desired zone. The default is **LAN**.

6 Enter the desired IP address in the **IP Address** field. This IP address is usually from one of the private ranges not already used locally or on the VPNs.

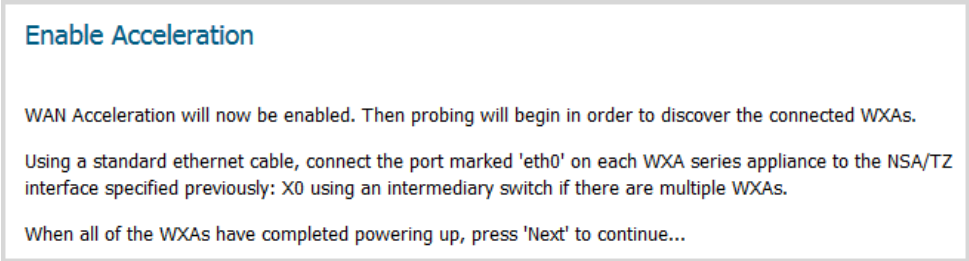
7 Enter the desired netmask in the **Netmask** text field. The default is `255.255.255.0`.

8 Click **NEXT**. The **Enable Acceleration** page displays.

NOTE: Clicking **NEXT** saves the changes and overwrites existing values.

Enable Acceleration Page

The **Enable Acceleration** page guides you through the process of connecting the WXA series appliance to the security appliance.



1 Connect the appliance.

2 Power up the appliance.

3 Finish the reboot.

4 When all the WXA appliances have powered up, click **NEXT** to continue.

The **Enable Acceleration** page displays a message about probing for WXA appliances.

NOTE: For virtual WXAs (WXA 5000 Virtual Appliance and WXA 500 Live CD), a license is required. At this stage, if the security appliance does not have a license for WAN Acceleration, a License page displays.

1 Enter the proper licensing information.

2 Click **NEXT** to continue.

When the probing is finished, the **Groups** page displays.

Groups Page

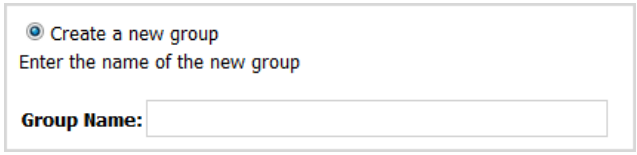
WXA appliances connected to a security appliance are organized into groups. A group of WXAs accelerate traffic and file sharing operations on one or more of the configured VPNs. Settings for the individual acceleration components are specified and applied across the whole group of WXA appliances.

The **Groups** page allows you to configure a group, allocate WXA appliances to that group, and specify the acceleration settings before assigning the group to govern the acceleration on one or more VPNs.

To select a WXA group:

1 Choose:

- A group. Go to Step 3
- **Create a new group**. The **Groups** page changes.



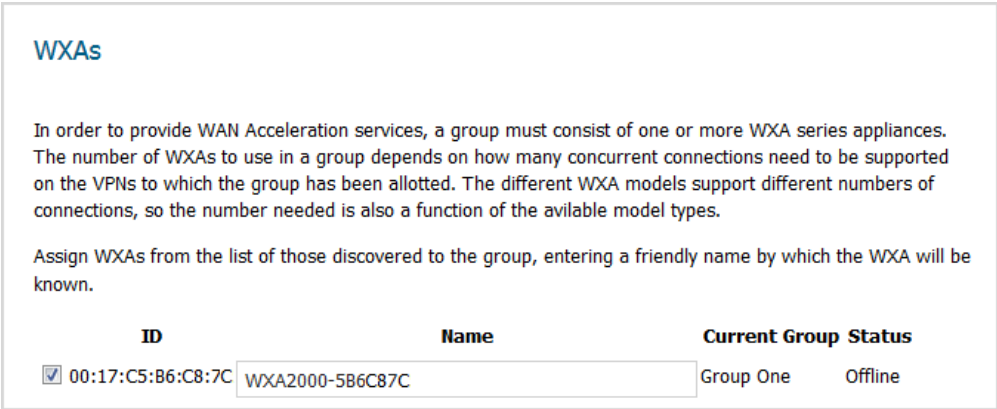
2 Enter the name of the new group in the **Group Name** field.

3 Click **NEXT**. the **WXAs** page displays.

WXAs Page

To provide WAN Acceleration services, a WXA group must consist of one or more WXA series appliances. The number of WXAs in a group depends on how many concurrent connections need to be supported on the VPNs to which the group has been allotted. The different WXA models support different numbers of connections, so the number needed is also a function of the available model types.

The WXAs page displays the WXAs found.



1 If you haven't already done so, power up the WXA appliances that are in the WXA group.

2 Click **Refresh List of WXAs**.

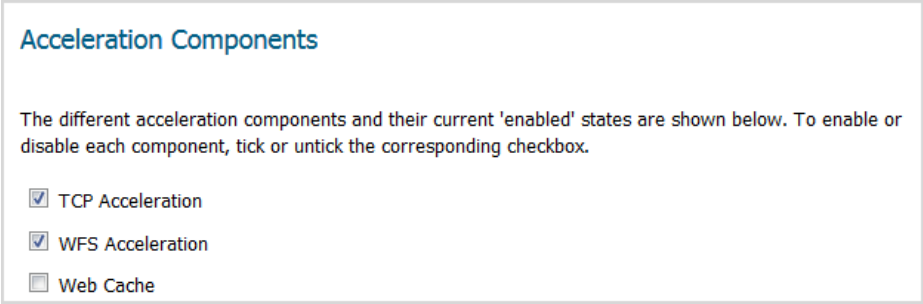
3 Select the WXA appliance(s) for the group.

> **NOTE:** If you select a WXA appliance that is already a member of the group, a warning message is displayed:
>
> You have chosen to include one or more WXAs that were previously assigned to other groups. This may affect traffic going through the firewall.
>
> Are you sure you want to continue?
>
> Click **OK** to continue, **Cancel** to discard.

4 Click **NEXT**. The **Acceleration Components** page displays.

Acceleration Components

The **Acceleration Components** page enables or disables the individual components of the WAN Acceleration service:



1 Select or deselect the option(s) for the desired acceleration components:

> **NOTE:** If a component was previously enabled, its checkbox is selected automatically.

- **TCP Acceleration** – This option is selected by default.
- **WFS Acceleration** – This option is not selected by default.

  > **NOTE:** If you select **WFS Acceleration**, the **WFS for Signed SMB Setup Guide** launches automatically after you complete the **WXA Setup Guide**.

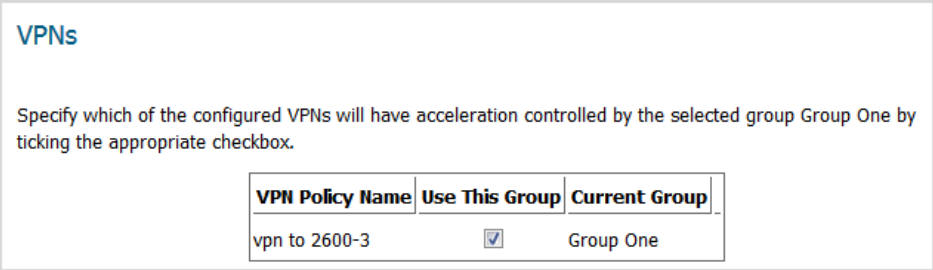
- **Web Cache** – This option is not selected by default.

2 Click **NEXT** to continue. If you selected:

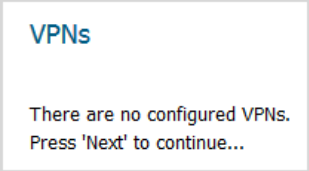
- **TCP Acceleration** and/or **WFS Acceleration**, the **VPNs** page displays. go to VPNs Page on page 86.
- **Web Cache** only, the **Done** page displays; go to Done Page on page 87.

VPNs Page

The **VPNs** page displays a list of all the IPv4 VPNs. If acceleration is already permitted on a VPN, the checkbox next to the VPN policy name is checked.



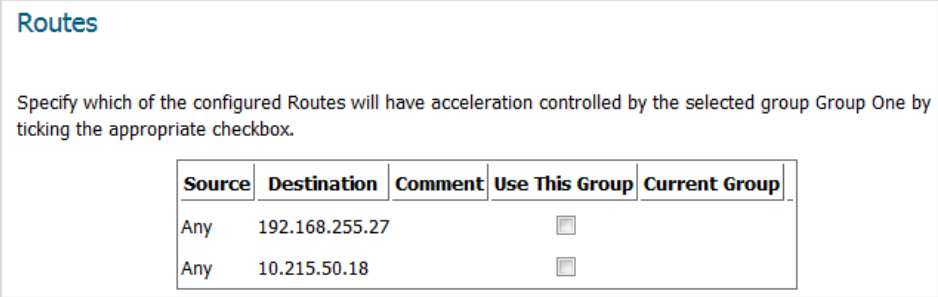
NOTE: If VPNs have not been configured, this page displays:



1 Select the VPN policy name(s) for the policies you want to permit acceleration.

2 Click **NEXT**. The **Routes** page displays.

Routes Page



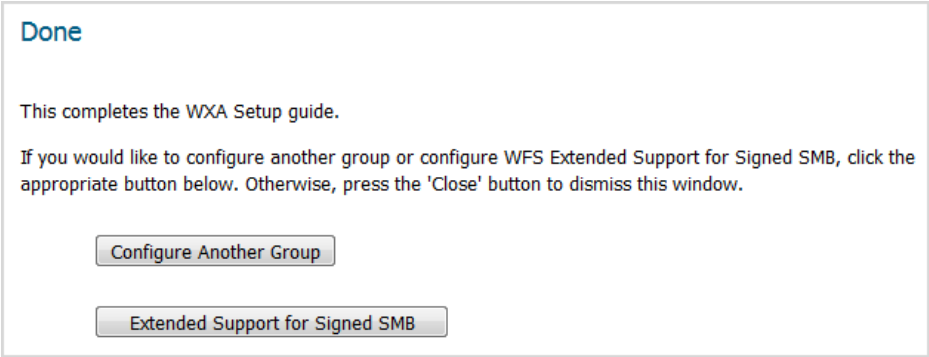
NOTE: If routes have not been configured, the **Routes** page displays a message to that effect:

1 Select the route to use.

2 Click **NEXT**. The **Done** page displays.

Done Page

The **Done** page confirms that you have successfully completed the **WXA Setup Guide**.



1 To:

- Configure another WXA group, click **Configure Another Group**. The **Groups** page displays.
  1) Repeat the steps in the Groups Page on page 83 through the Done Page on page 87.
- Configure extended support for signed SMB, click **Extended Support for Signed SMB**. The **WFS Extended Support for Signed SMB Setup Guide** displays. See WFS for Signed SMB Setup Guide on page 87.
- Exit the **WXA Setup Guide**, click **CLOSE**.

WFS for Signed SMB Setup Guide

Extended Support for Signed SMB traffic is handled by a single WXA and is configured outside the groups settings used elsewhere in WXA Clustering. The **WFS for Signed SMB Setup Guide** steps you through selecting a WXA series appliance and configuring it on the Windows Domain so users can fully benefit from the extra functionality of the WFS Acceleration module on networks that support signed SMB. After the WXA series appliance has joined the domain, you can configure the shares on the remote servers that you would like to be included in the WFS Acceleration process.

IMPORTANT: It is strongly recommended that you configure the WXA series appliances at the sites where the file servers are located before configuring the WXA series appliances at the branch sites requiring remote access to the shares.

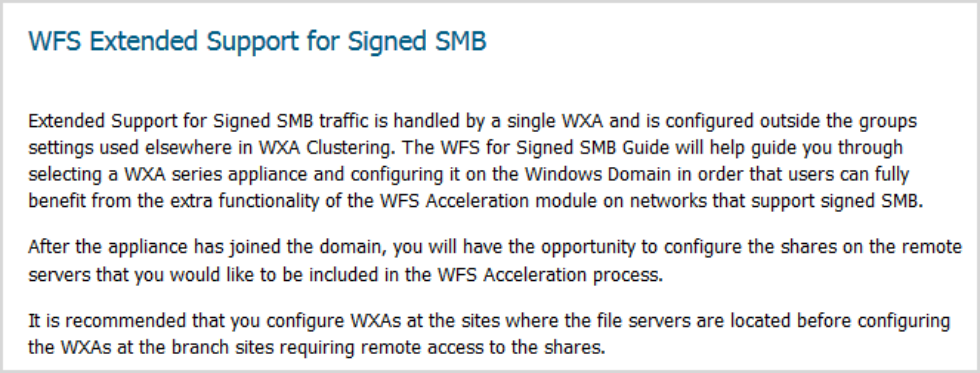
TIP: You can configure extended support for signed SMB acceleration at a later date from the **MANAGE | System Setup > WAN Acceleration** page.

Topics:

- Add Domain Records on page 94
- Done Page on page 95

To configure the coupled WXA series appliance for WAN Acceleration:

1 Click the **Extended Support for Signed SMB** button on the **Done** page of the **WXA Setup Guide**. The **Introduction** page displays.



2 Click **NEXT**. The **Select the Dedicated WXA** page displays.

Select the Dedicated WXA

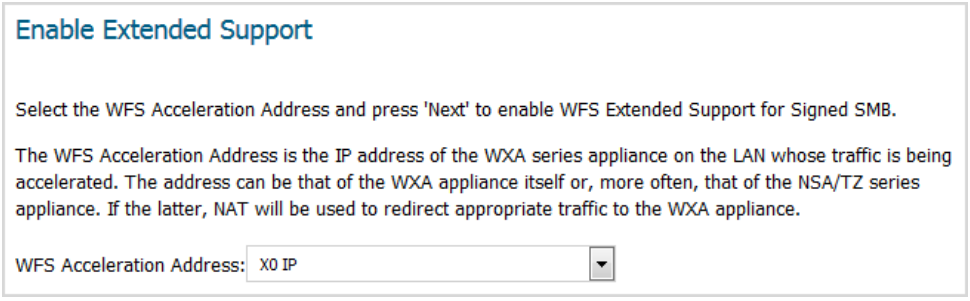
The **Select the Dedicated WXA** page allows you to select the WXA series appliance to be used to accelerate the Signed SMB traffic on the network. The WXA series appliance can be part of a group or one devoted solely to WFS acceleration.

1 From **Dedicated WXA**, select the IP address of the WXA series appliance on the LAN.

2 Click the **NEXT** button. The **Select the Enable Extended Support** page displays.

Enable Extended Support

This page allows you to select the WFS acceleration address of the WXA series appliance on the LAN whose traffic is being accelerated. The address can be the IP address of the WXA appliance itself or, more often, that of the NSA or TZ series appliance. If the latter, NAT is used to redirect appropriate traffic to the WXA appliance.



1 From **WFS Acceleration Address**, select the WFS acceleration address.

2 Click **NEXT** to enable WFS Extended Support for Signed SMB. A message about initializing the domain displays before the **Domain Details** page.

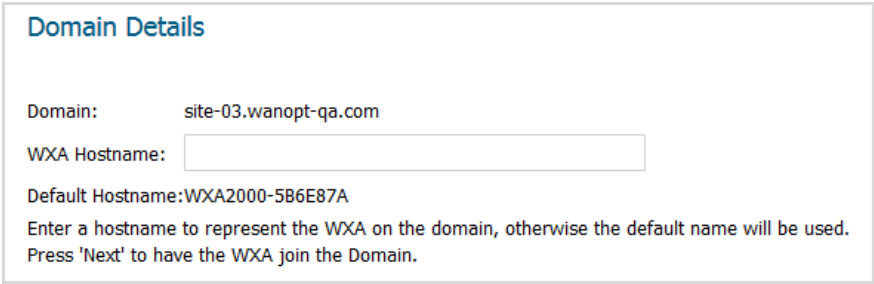
Domain Details

The **Domain Details** page displays information the **Guide** has determined about the local domain:

- Domain
- WXA Hostname
- Default Hostname

  NOTE: If the Default Hostname has been configured as the WXA Hostname, only the WXA Hostname displays.

- Whether the WXA appliance has joined the domain (status)

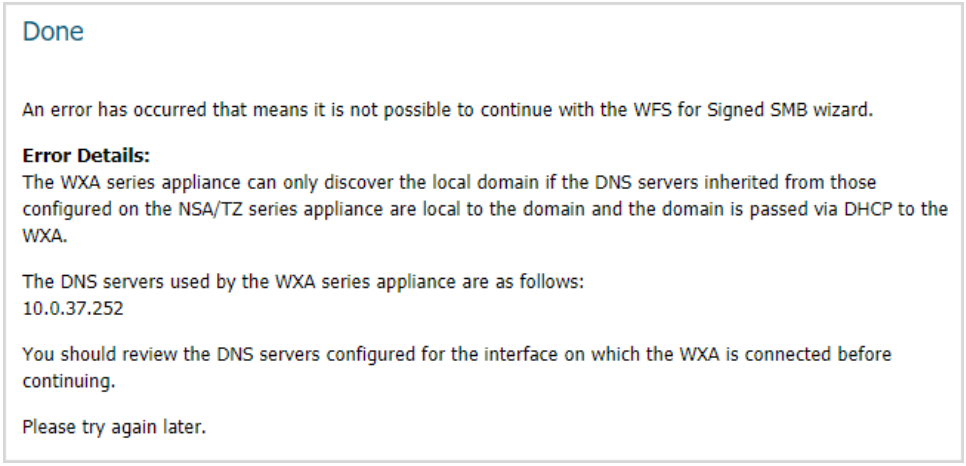


1 If the **WXA Hostname** field contains the correct host name, go to Step 3.

2 Optionally, enter the WXA host name in the **WXA Hostname** field. If you do not supply a name, the default hostname is used.

3 Click **NEXT** to continue. If the:

- Hostname is part of the domain already, the **Configure Shares** page displays. Go to Configure Shares on page 91.
- Hostname is not part of the domain, the **Join the Domain** page displays. Go to Join the Domain on page 90.
- Local Domain is not discovered, the **Done** page displays with an error message with information to help you troubleshoot why no domain was discovered.

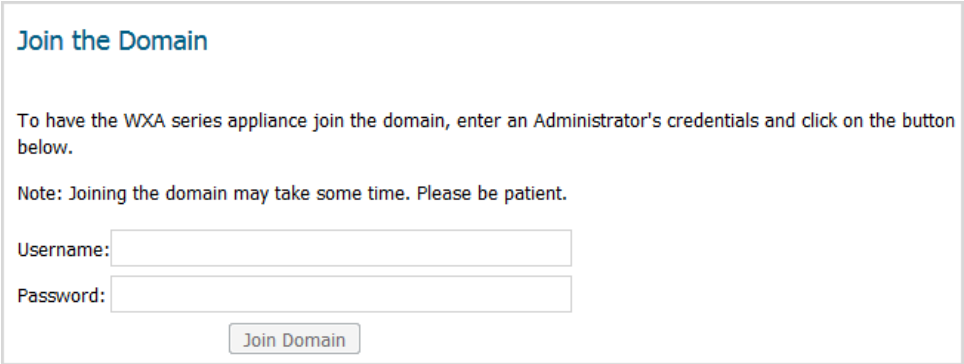


IMPORTANT: Configuring the domain, WXA host name, and/or Kerberos server is done on the **MANAGE | System Setup > WAN Acceleration** page; for further information see the *SonicOS 6.5 System Setup*.

Join the Domain

The **Join the Domain** page has you enter your Administrator's credentials so the WXA series appliance can join the domain.

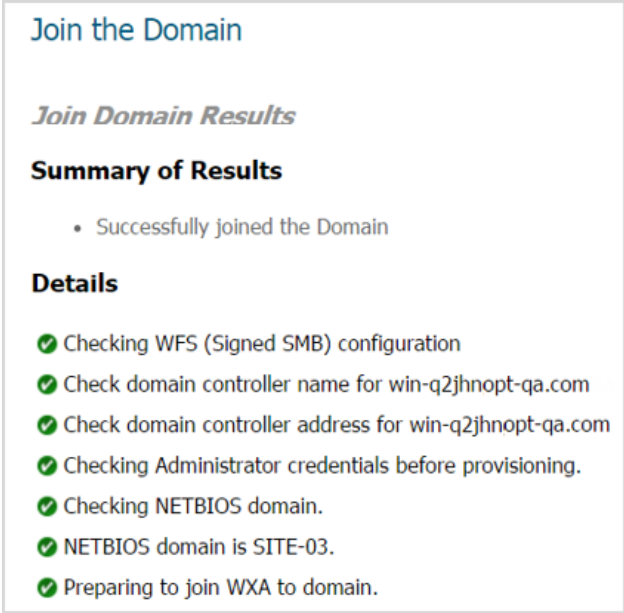
NOTE: Depending on the current status and configuration, there may be options to "unjoin the domain" or "rejoin the domain" if the WXA has previously been joined to a domain.



1 In the **Username** and **Password** fields, enter your Administrator's credentials.

2 Click **Join Domain**. The Join Domain process begins, and a message displays.

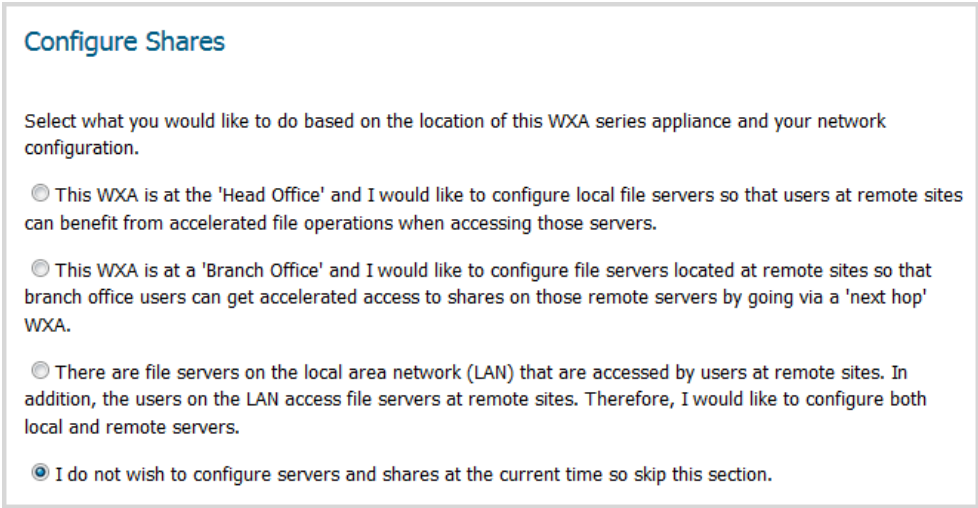
Please be patient, this may take some time. When the process is finished, the **Join Domain Results** display.



3 Click the **NEXT** button to continue.

Configure Shares

The **Configure Shares** page gives you options to select where you would like to configure shares based on the location of the WXA series appliance and your network configuration.



1 Choose one of the options:

Configure Shares options

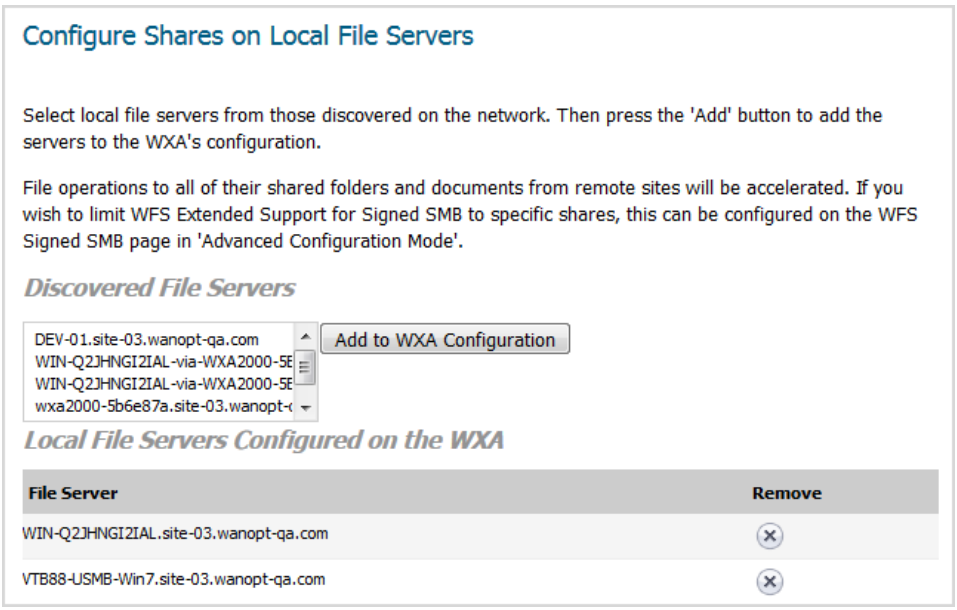
To	Select	Go to
Configure Local File Servers	**This WXA is at the 'Head Office' and I would like to configure local file servers so that users at remote sites can benefit from the accelerated file operations when accessing those servers.**	Configure Local File Servers on page 92.
Configure Remote File Servers	**This WXA is at a 'Branch Office' and I would like to configure file servers located at remote sites so that branch office users can get accelerated access to shares on those remote servers by going via a 'next hop' WXA.**	Configure Remote File Servers on page 93.
Configure Local and Remote file servers	**There are file servers on the local area network (LAN) that are accessed by users at remote sites. Therefore, I would like to configure both local and remote servers.**	Configure Local File Servers on page 92 and then Configure Remote File Servers on page 93.
Skip the Server and Share Configuration	**I do not wish to configure servers and shares at the current time so skip this section. This option is selected by default.**	Done Page on page 95.

2 Click the **NEXT**. The page that displays depends on the option you selected; see Configure Shares options.

Configure Local File Servers

The **Configure Local File Servers** page lists the discovered local file servers, which you can select and add to the WXA series appliance's configuration.

File operations to all of the server's shared folders and documents from remote sites will be accelerated. To limit WFS Acceleration (Signed SMB) to specific shares, configure the shares on the **MANAGE | System Setup > WAN Acceleration** page of the SonicOS management interface; for further information, see *SonicOS 6.5 System Setup*.



1 From **File Server Name**, select a local file server.

2 Click **Add to WXA Configuration**. The server is added to the **Local File Servers Configured on the WXA** table.

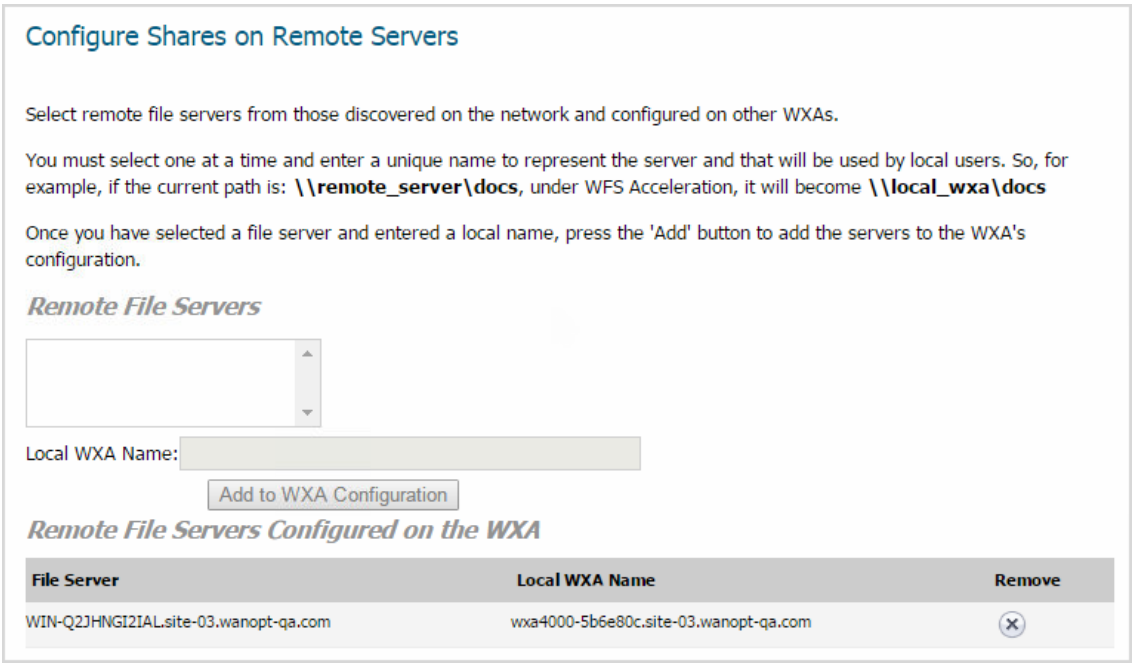
3 Click **NEXT** to continue. A message indicating the server information is being saved displays and then the **Add Domain Records** page.

4 Go to Add Domain Records on page 94.

Configure Remote File Servers

The **Configure Remote Servers** page gives you the options to select a remote file server and enter a local WXA name. The remote file server should be a Windows file server hosting shared folders and files. The WXA attempts to discover the "next-hop" WXA configured to provide accelerated access to that server.

File operations to all of the server's shared folders and documents are accelerated. To limit WFS Acceleration (Signed SMB) to specific shares, configure the shares on the **MANAGE | System Setup > WAN Acceleration** page of the SonicOS Management Interface; for further information, see *SonicOS 6.5 System Setup*.



1 From **Remote File Server Name**, select a remote file server to add to the WXA configuration.

2 In the **Local WXA Name** field, enter a unique name or alias for the local WXA series appliance. Entering a dot after the local WXA name auto-completes the name with that of the domain.

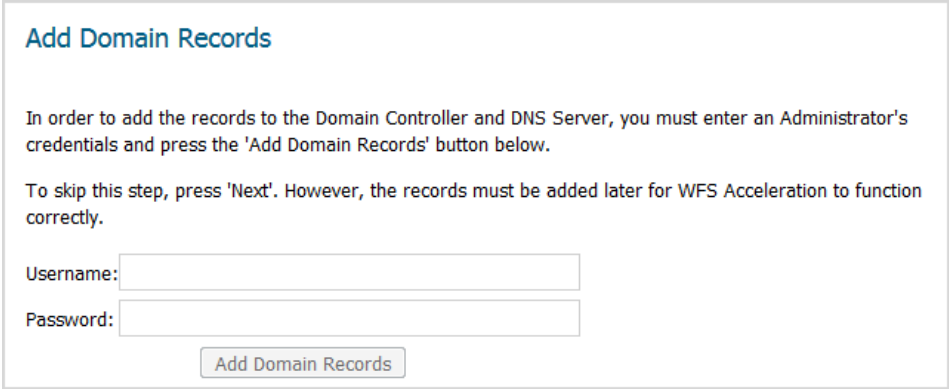
> **IMPORTANT:** This is the name that should then be used in paths to folder and files on the remote server in order for the file sharing operations to benefit from WFS Acceleration.

3 Click **Add to WXA Configuration**.

4 Click **NEXT** to continue. The **Add Domain Records** page displays.

Add Domain Records

The **Add Domain Records** page displays the remote server names, the local WXA names, and their status. It allows you to add domain records to the remote servers and local WXAs in your configuration.



1 Review the listed remote servers and local WXAs.

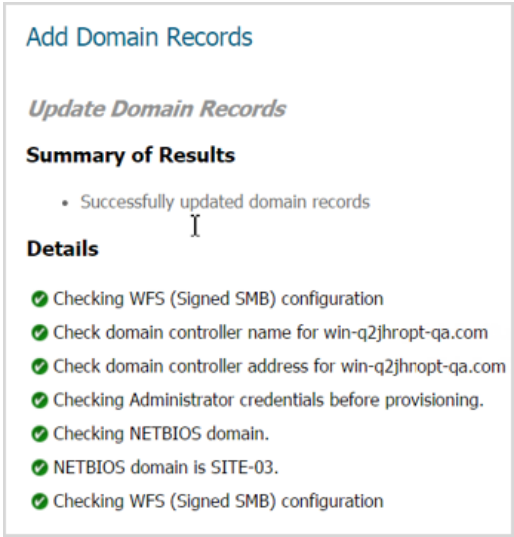
2 If:

- You need to add domain records, go to Step 3.
- The list is complete and correct or you want to add them later, go to Step 5.

3 In the **Username** and **Password** fields, enter your Administrator's credentials.

4 Click **Add Domain Records**. A message displays while SonicOS is verifying the domain records.

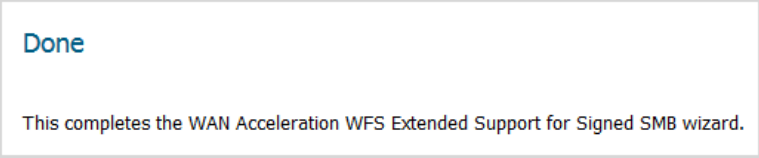
After verification, the **Summary of Results** displays.



5 Click **NEXT** to continue. The **Done** page displays.

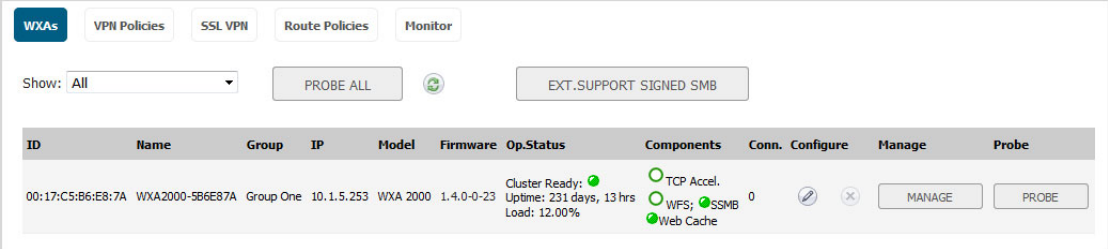
Done Page

The **Done** page confirms that you have successfully completed the **WFS Setup Wizard**.

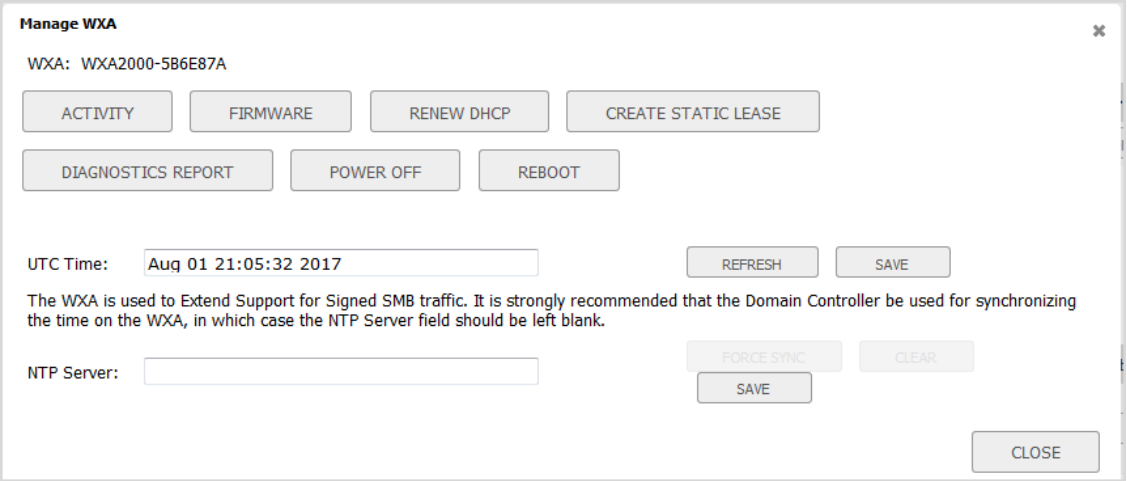


1 Click **CLOSE** to exit the **WFS Setup Wizard**.

2 Navigate to the **MANAGE | System Setup > WAN Acceleration** page.



3 In the **WXAs** table, click **MANAGE** for the newly configured WXA. The **Manage WXA** dialog displays.



4 Click **REFRESH** to update the **WAN Acceleration** page with changes made with this guide.

Part 3

Appendix

- SonicWall Support

A

SonicWall Support

Technical support is available to customers who have purchased SonicWall products with a valid maintenance contract and to customers who have trial versions.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. To access the Support Portal, go to https://support.sonicwall.com.

The Support Portal enables you to:

- View knowledge base articles and technical documentation
- View video tutorials
- Access MySonicWall
- Learn about SonicWall professional services
- Review SonicWall Support services and warranty information
- Register for training and certification
- Request technical support or customer service

To contact SonicWall Support, refer to https://support.sonicwall.com/contact-support.

About This Document

Legend

WARNING: A WARNING icon indicates a potential for property damage, personal injury, or death.

CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

IMPORTANT, NOTE, TIP, MOBILE, or VIDEO: An information icon indicates supporting information.

SonicWall Quick Configuration
Updated - February 2019
Software Version - 6.5.4
232-001872-04 Rev A