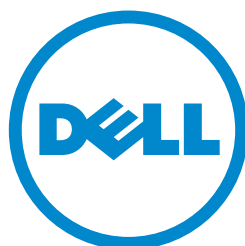


WXA 1.3 User's Guide



SonicWALL

Notes, Cautions, and Warnings



NOTE: A NOTE indicates important information that helps you make better use of your system.



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



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

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Introduction

Chapter 1

Preface

About this Guide

Welcome to the *WXA 1.3 User's Guide*. This manual provides the information you need to successfully activate, configure, and administer a WXA series appliance.



Note Always check <http://www.sonicwall.com/us/support.html> for the latest version of this manual as well as other Dell SonicWALL products and services documentation.

Organization of this Guide

The *WXA 1.3 User's Guide* organization is structured into the following parts that parallel the WAN Acceleration Web Management Interface. Within these parts, individual chapters correspond to the Dell SonicWALL WXA series appliance management interface layout.

Part 1 Introduction

Provides an overview of new Dell SonicWALL WXA series appliance features, guide conventions, support information, and an overview of the WXA series appliance management interface.

Part 2 Status

An overview of the Status page, providing a dashboard view of the System Information, TCP Acceleration, WFS Acceleration, and Web Cache of your Dell SonicWALL WXA series appliance.

Part 3 TCP Acceleration

Details the TCP Acceleration page, providing options to configure and monitor the TCP Acceleration service. This section details the functions of the Configuration, Statistics, Statistics breakdown, and Connections tabs.

Part 4 WFS Acceleration

Covers the management interface functions and configuration procedures for the WFS Acceleration page. The WFS Acceleration service can be configured to use Unsigned and/or Signed SMB. Unsigned SMB is used for networks that do not require traffic signing. Signed SMB is used for networks that require traffic signing for security reasons, and provides two configuration modes for the WFS Acceleration service: Basic or Advanced. The Basic configuration mode provides basic WFS Acceleration configuration options for a quick and easy deployment of the WFS Acceleration feature. The Advanced configuration mode provides detailed WFS Acceleration configuration options for the domain details and file shares.

Part 5 Web Cache

Covers the management interface functions and configuration procedures for the Web Cache page. Configure, monitor, and diagnose the Web Cache feature using the Status, Statistics, and Tools tabs.

Part 6 System

Details the System page, describing the management interface functions and configurations procedures for the System Status, Interface Status, Management, Settings, and Firmware tabs.

Part 7 Log

Covers the Log page, which displays a detailed list of the Dell SonicWALL WXA series appliance's log event messages. This page has multiple options to customize how log event messages are viewed.

Part 8 Appendices

This part contains appendices for configuring the WXA series appliance to join the domain without using the WAN Acceleration management interface, and for configuring the NetExtender WAN Acceleration Client (WXAC).

Guide Conventions

The following conventions used in this guide are as follows:

Convention	Use
Bold	Highlights items you can click or select on the WXA series appliance management interface. For example, "Click the Caching Strategy drop-down menu and select Minimal ." Note: This only applies to sections in this document that contain configuration procedures or management interface descriptions
Italic	Highlights a value to enter into a field. For example, "Type <i>192.168.168.168</i> in the IP Address field."
Menu Item > Menu Item	Indicates a multiple step Management Interface menu choice. For example, "Navigate to the WAN Acceleration > System page means select WAN Acceleration then select System ."

Dell SonicWALL Technical Support

For timely resolution of technical support questions, visit Dell SonicWALL on the Internet at <http://www.sonicwall.com/us/Support.html>. Web-based resources are available to help you resolve most technical issues or contact Dell SonicWALL Technical Support. To contact Dell SonicWALL telephone support, see the telephone numbers listed below:

North America Telephone Support

U.S./Canada: +1 888.793.2830 or +1 408.837.4317

International Telephone Support

Australia: + 1800.35.1642

Austria: +43(0)820.400.105

EMEA: +31(0)411.617.810

France: +44 193.257.3927

Germany: +44 193.257.3910

Hong Kong: +1 800.93.0997

India: 000.800.100.3395

Italy: +44 193.257.3928

Japan: 0120.569122

New Zealand: + 800.446489

Singapore: + 800.110.1441

Spain: +44 193.257.3921

Switzerland: +44 193.257.3929

UK: +44 193.257.3929

More Information on Dell SonicWALL Products

Contact Dell SonicWALL, Inc. for information about Dell SonicWALL products and services at:

Web:<http://www.sonicwall.com>

E-mail:sales@sonicwall.com

Phone:(408) 745-9600

Fax:(408) 745-9300

Current Documentation

Check the Dell SonicWALL documentation Web site for that latest versions of this manual and all other Dell SonicWALL product documentation.

<http://www.sonicwall.com/us/Support.html>

Introduction

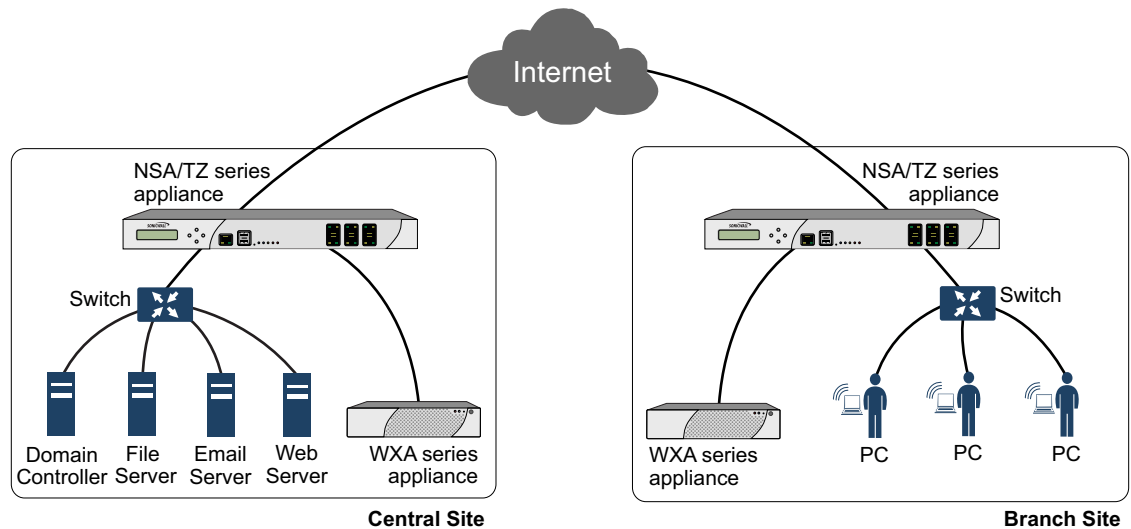
WXA 1.3 is the latest version of firmware for the Dell SonicWALL WXA series appliance. This chapter provides an overview of the WAN Acceleration feature, the WAN Acceleration management interface, deployment prerequisites and considerations, supported platforms, and details the key features in the WXA 1.3 and previous releases. This chapter contains the following sections:

- [What is WAN Acceleration?](#) on page 13
- [New Features in WXA 1.3](#) on page 15
- [Key Features in WXA 1.3](#) on page 16
- [Deployment Prerequisites](#) on page 17
- [Deployment Considerations](#) on page 17
- [Supported Platforms](#) on page 18
- [WXA Series Appliance Management Interface](#) on page 18

What is WAN Acceleration?

The WAN Acceleration service allows network administrators to accelerate WAN traffic between a central site and a branch site, using Transmission Control Protocol (TCP) acceleration methods, Windows File Sharing (WFS) acceleration, and Web caching. The Dell SonicWALL WXA series appliance is deployed in conjunction with a Dell SonicWALL NSA/TZ series appliance. In this type of deployment, the NSA/TZ series appliance provides dynamic security services, such as attack prevention, Virtual Private Network (VPN), routing, and Web Content Filtering. The WAN Acceleration service can increase application performance.

The illustration below displays the basic network topology for the Dell SonicWALL WXA series appliance and the NSA/TZ series appliances.



Transmission Control Protocol Acceleration

The TCP Acceleration service is a process that decreases the amount of data passing over the WAN by using compression, which accelerates selected traffic passing between a central site and a branch site. The selected traffic is stored in the Dell SonicWALL WXA series appliances' shared databases as blocks of data and tagged with reference indexes. This allows the WXA series appliances to only send the reference indexes (which are smaller in size) over the WAN instead of the actual data.

Refer to [Configuring TCP Acceleration](#) on page 47, for details on how to configure TCP Acceleration.

Windows File Sharing Acceleration

WAN Acceleration refers to a wide range of technologies that are aimed at accelerating applications, improving throughput, and reducing latency. Windows File Sharing (WFS) Acceleration is a subset of WAN Acceleration.

The use of WFS Acceleration within your network reduces the impact of high-latency and low-bandwidth links by approximating streaming behavior through the use of read-ahead and write-behind functionality and differential file transfer to avoid re-transferring parts of files that have not changed. WFS Acceleration allows branch users to access and share commonly used files at near-LAN speeds over the WAN. Distributed enterprises that deploy WFS Acceleration solutions are often able to consolidate storage to corporate central sites, eliminating the need to back up and manage data that previously resided in their branch sites.

The WXA series appliance offers WFS Acceleration for Unsigned SMB and Signed SMB traffic. In a network that supports unsigned SMB traffic, the WFS Acceleration service configuration is greatly simplified. The reason for this is Unsigned SMB traffic does not have a security layer, so the WXA series appliance can intercept the traffic without joining the domain, eliminating the need to configure custom zones, configuring reverse lookup, and add file shares. In a network that supports SMB signing, it is required that the WXA series appliance join the domain, due to the presence of a security layer in Signed SMB traffic. Although this type of configuration is more complex than unsigned SMB, it offers a more granular configuration of the WFS Acceleration service. Supporting SMB signing provides the option to configure WFS Acceleration in a Basic or Advanced configuration modes.

Refer to [Configuring WFS Acceleration](#) on page 97, for details on how to configure WFS Acceleration.

Web Cache

The Web Cache feature stores copies of Web pages passing through the network that are frequently and recently requested. So when a user requests one of these Web pages, it is retrieved from the local web cache instead of the Internet, saving bandwidth and response time. Minimal, Moderate, and Aggressive caching strategies are available, these determine which objects are placed into the web cache and how long they stay there.

Refer to [Configuring the Web Cache](#) on page 131, for details on configuring the web cache.

New Features in WXA 1.3

The WXA 1.3 release includes the following new features:

- **Increased Supported Connections**— WXA 1.3 runs as a 64-bit system, offering significant increases in concurrent connections over a 32-bit system.
- **Extended Support for Localization**— Firmware support for Brazilian Portuguese, Simplified Chinese, Japanese, and Korean languages is available.
- **Web Cache Improvements**— Additional data fields and charts are added to the Web Cache > Statistics page, allowing the user to filter the page to display data for particular subnets and certain IP addresses.
- **Manual Server Entry for Signed SMB**— The option to manually enter a server or share name is added to the Signed SMB configuration.

Key Features in WXA 1.3

The WXA 1.3 release includes the following Key features:

- **Wan Acceleration**— The WAN Acceleration service allows network administrators to accelerate WAN traffic between a central site and a branch site by using Transmission Control Protocol (TCP) and Windows File Sharing (WFS).
- **TCP Acceleration**— The TCP Acceleration service is a process that decreases the amount of data passing over the WAN by using compression, which accelerates selected traffic passing between a central site and a branch site.
- **WFS Acceleration**— WAN Acceleration refers to a wide range of technologies that are aimed at accelerating applications, improving throughput, and enabling bandwidth scalability using Windows File Sharing (WFS).
 - **Unsigned SMB**— In a network that supports unsigned SMB traffic, the WFS Acceleration service configuration is greatly simplified. The reason for this is unsigned SMB traffic does not have a security layer, so the WXA series appliance can intercept the traffic without joining the domain, eliminating the need to configure custom zones, configuring reverse lookup, and add file shares. Unsigned SMB is enabled by default.
 - **Signed SMB**— In a network that supports SMB signing, it is required that the WXA series appliance join the domain, due to the presence of a security layer in signed SMB traffic. Although this type of configuration is more complex than unsigned SMB, it offers a more granular configuration of the WFS Acceleration service. The WAN Acceleration > WFS Acceleration page displays a warning when signed SMB traffic is detected on the network. If this warning is present, please enable the Support SMB Signing checkbox, join the WXA appliance to the domain, and access the signed shares through the WXA appliance's shares.
- **WFS Basic Configuration Mode**— The Basic configuration mode is a simplified and user friendly way to have the Dell SonicWALL WXA series appliance join the domain, add servers to the configuration, and create the necessary records on the domain. The Basic mode is available when using Signed SMB and is the preferred mode for configuring WFS Acceleration.
- **Web Cache Management**— The Web Cache feature stores copies of Web pages passing through the network that are frequently and recently requested. When a user requests one of these Web pages, it is retrieved from the local web cache instead of the Internet, which can result in significant reductions in downloaded data and bandwidth usage.
 - **YouTube Web Caching**— The Web Cache feature is capable of caching YouTube videos (currently only Flash video format is supported). This feature is only available when using Moderate and Aggressive web caching strategies.
- **WXA Setup Wizard** (requires the NSA/TZ series appliance to be running SonicOS 5.9)— The WXA Setup Wizard in the SonicOS management interface guides you through the setup of the WXA series appliance, allowing the user to easily enable TCP Acceleration, WFS Acceleration (unsigned and signed SMB), and Web Caching. If you choose to use signed SMB, the WFS Setup Wizard is automatically launched from the initial WXA Setup Wizard. This wizard enables WFS Acceleration support for signed SMB, and walks the user through joining the domain and configuring file servers.
- **WAN Acceleration Client** (requires the NSA/TZ series appliance to be running SonicOS 5.9)— The WAN Acceleration Client (WXAC) gives remote users the benefit of WAN Acceleration when using SonicWALL NetExtender.

Deployment Prerequisites

The pre-requisites for deploying the WAN Acceleration service are as follows:

- A NSA/TZ series appliance is required to deploy the Dell SonicWALL WXA series appliance.
- Traffic passing through the Dell SonicWALL WXA series appliance requires Internet Protocol version 4 (IPv4). The WAN Acceleration service is not compatible with IPv6.

Deployment Considerations

Consider the following when deploying the Dell SonicWALL WXA series appliance:

- The WXA series appliance is supported to work with Dell SonicWALL E-class NSA, NSA, or TZ series appliances running SonicOS 5.8.1.0 or higher firmware. Some WXA features are not supported unless running SonicOS 5.8.1.11 or higher firmware.
- The WFS Acceleration service and Web Cache feature are not supported when running the WXA 500 Live CD in Memory mode.
- Typically the WXA series appliances are deployed in a site-to-site VPN configuration through their respective NSA/TZ series appliances. However, you can also use routing or L2 Bridge Mode, refer to the *SonicOS 5.8.1 Administrators Guide* for details.
- If a WXA series appliance is used in a high availability configuration, a switched connection to both appliances high availability pairs is required.
- The initial configuration of the WXA series appliance should be performed by using the WXA Setup Wizard, which is available by clicking the Wizards button in the top-right corner of the NSA/TZ series appliance's management interface. However, this is currently only available if running SonicOS 5.9 firmware. If your NSA/TZ series appliance is using 5.8.1.x or 6.1.x firmware use the procedures in this chapter for the initial configuring of the WXA series appliance. For more information on the WXA Setup Wizard refer to the *SonicOS 5.9 Administrator's Guide*.
- Encrypted traffic is highly randomized and does not materially benefit from the WXA series appliance's WAN Acceleration service. Therefore, SSL and TLS traffic types are not accelerated.
- WFS Acceleration using Signed SMB supports Windows file services using Active Directory, Kerberos, and NTLM for authentication and authorization.
- WFS Acceleration using Signed SMB supports NTLM clients which provide credentials to the Dell SonicWALL WXA series appliance and are valid in the domain. The Dell SonicWALL WXA series appliance obtains the Kerberos credentials through the Domain Controller. This permits client devices which have not joined the domain to be used by users, who on behalf of the client, have valid domain credentials.
- Create a DHCP scope on the managing NSA/TZ security appliance before the WXA series appliance is physically connected.
- If the branch offices have Domain Controllers and DNS Servers, it is recommended that you use those DNS server addresses and domain DNS name in the DHCP scope. Configure the Domain Name and Domain DNS server IP addresses in the configured DHCP scope. The WXA appliance will auto-discover Kerberos, LDAP, and NTP servers based on this type of information to assist in joining the appliance to the domain.
- Review the LDAP, Kerberos, and NTP services. In a multi-site domain where sites and services are not explicitly configured, the WXA series appliance might not choose the closest servers.

- Dell SonicWALL recommends that the WXA series appliance retrieve NTP updates from the Domain Controller.
- Dell SonicWALL recommends that the DNS server accept secure updates.
- Configure the zone properties of an interface to which the WXA appliance is connected as a LAN zone. Refer to the following KB articles: for more information
 - <https://www.fuzeugna.com/sonicwallkb/ext/kbdetail.aspx?kbid=10781>
 - <https://www.fuzeugna.com/sonicwallkb/ext/kbdetail.aspx?kbid=10738>

Supported Platforms

WAN Acceleration is currently available in the SonicOS Management Interface on the following appliance models:

- NSA E-Series appliance
- NSA Series appliance
- TZ Series appliance

WXA Series Appliance Management Interface

The Dell SonicWALL WXA series appliance's Web-based management interface provides an easy-to-use graphical interface for configuring your Dell SonicWALL WXA series appliance. All configuration procedures for the Dell SonicWALL WXA series appliance are performed through the Dell SonicWALL NSA/TZ series appliance's management interface. The following sections provide an overview of the key management interface objects:


- [User Interface](#) on page 18
- [Navigating the Management Interface](#) on page 19
- [Common Icons in the Management Interface](#) on page 19
- [Status Bar](#) on page 19
- [Applying Changes](#) on page 20
- [Tooltips](#) on page 20
- [Getting Help](#) on page 21

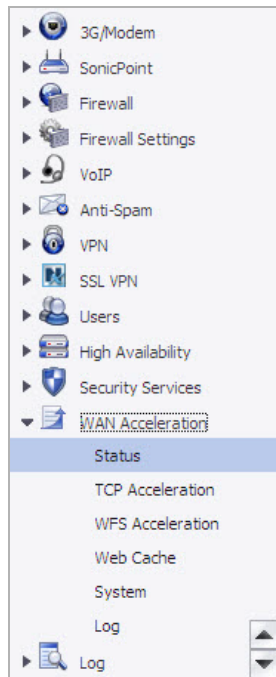
User Interface

Table statistics and log entries update within the user interface without requiring users to reload their browsers. This lightweight user interface is designed to have no impact on the Web server, CPU utilization, bandwidth or other performance factors. You can leave your browser window on an updating page indefinitely with no impact to the performance of your Dell SonicWALL WXA series appliance.

Navigating the Management Interface




Navigating the WAN Acceleration management interface includes a hierarchy of menu buttons on the navigation bar (left side of your browser window). When you click a menu button, related management functions are displayed as submenu items in the navigation bar.

If the navigation bar continues below the bottom of your browser, an  up-and-down arrow symbol appears in the bottom right corner of the navigation bar. Mouse over the up or down arrow to scroll the navigation bar up or down.



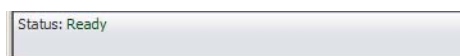
Common Icons in the Management Interface

The following describe the functions of common icons used in the WAN Acceleration management interface:

- Clicking on the edit  icon displays a window for editing the settings.
- Clicking on the delete  icon deletes a table entry
- Moving the pointer over the Tooltip  icon displays a description of the component.

Status Bar

The Status bar at the bottom of the management interface window displays the status of actions executed in the management interface.

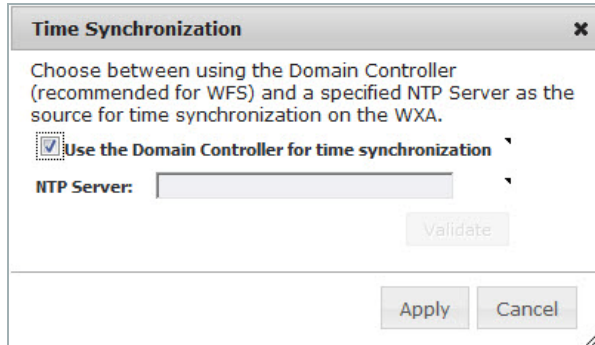


Applying Changes

Clicking the **Apply Changes** button saves any configuration changes you made on the page.

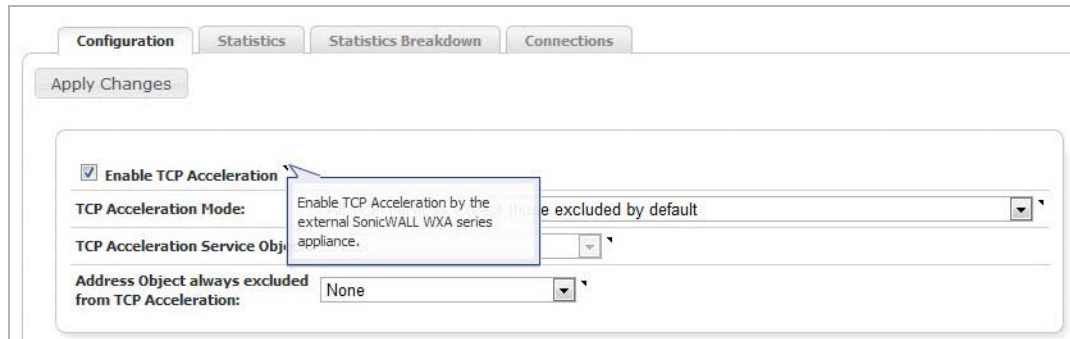


If the settings are contained in a secondary window within the management interface, when you click **Apply**, the settings are automatically applied to the WXA series appliance.



Tooltips

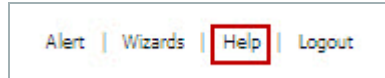
Tooltips are small pop-up windows that are displayed when you hover your mouse over a UI element. They provide brief information describing the element. Tooltips are displayed for many forms, buttons, table headings and entries.



Note Not all UI elements have Tooltips. If a Tooltip does not display after hovering your mouse over an element for a couple of seconds, you can safely conclude that it does not have an associated Tooltip.

Getting Help

Each Dell SonicWALL WXA series appliance includes Web-based online help available from the management interface. Clicking the question mark button on the top-right corner of every page accesses the context-sensitive help for the page.



Note Accessing the Dell SonicWALL WXA series appliance online help requires an active Internet connection.

Status

WAN Acceleration > Status

The Status page displays a Status tab with a dashboard view of the System Information, TCP Acceleration, WFS Acceleration, and Web Cache of your WXA series appliance. It also displays a Settings tab that provides top level control of the WAN Acceleration service. To configure the WXA series appliance, see [Configuring the WXA Series Appliance](#) on page 33.

This chapter is an overview of the Status page management interface and includes the following sections:

- [Status Tab](#) on page 26
 - [Action Items](#) on page 27
 - [WXA System Information Panel](#) on page 27
 - [TCP Acceleration Panel](#) on page 28
 - [WFS Acceleration Panel](#) on page 29
 - [Web Cache Panel](#) on page 30
- [Settings Tab](#) on page 31
 - [Action Items](#) on page 31
 - [WXA Appliance Configuration Panel](#) on page 31
 - [WXAC](#) on page 32

Status Tab

WAN Acceleration / **Status**

Probe for WXA Refresh: 600 sec

WXA System Information	
WAN Acceleration:	Enabled
WXA Operational Status:	Operational
Uptime:	64 days, 23 hrs
Model Number:	WXA 4000
Serial Number:	0017C555A134
Authentication Code:	32XG-FCF5
Firmware Version:	1.2.1-0-2

TCP Acceleration	
TCP Acceleration:	Enabled
Service Status on WXA:	Running
Since 6/6/2013 11:00:00 AM	
Total Data Reduction (%):	48.4
WAN Capacity Increase Factor:	1.9
Connections	
Max:	1200
Peak:	1
Current:	0
New:	11
Closed:	11

WFS Acceleration	
WFS Acceleration:	Enabled (for Signed SMB)
Service Status on WXA:	Running
Windows Domain:	tb20dc3.sonicwall.com
Since 5/13/2013 12:00:00 PM	
Total Data Reduction (%):	0.0
WAN Capacity Increase Factor:	1.0
Cache Size:	94 MB

Web Cache	
Web Cache:	Enabled
Service Status on WXA:	Running
Since 5/13/2013 11:00:00 AM	
Total Data Reduction (%):	100.0
WAN Capacity Increase Factor:	0.0
Cache Size:	16.93 MB
Cache Free Space:	62.48 GB
Number of Cached Objects:	813

Name	Description
Action Items	Provides the options to Refresh and Probe for the WXA series appliance. See Action Items on page 27 for details.
WXA System Information Panel	Displays system details of the WXA series appliance. See WXA System Information Panel on page 27 for details.
TCP Acceleration Panel	Displays the status of the TCP Acceleration feature. See the TCP Acceleration Panel on page 28 for details.
WFS Acceleration Panel	Displays the status of the WFS Acceleration feature. See the WFS Acceleration Panel on page 29 for details.
Web Cache Panel	Displays the status of the Web Caching feature. See the Web Cache Panel on page 30 for more details.

Action Items

Name	Description
Probe for WXA	Checks for the presence of a WXA series appliance. This is a handshake between the NSA/TZ series appliance and the WXA series appliance, and confirms they are connected to each other.
Refresh	Refreshes the Status page. The refresh interval can be entered in the text field. The interval can be increased to a maximum of 999 seconds. Click the Refresh symbol to manually update the Status page. Click the Pause button to stop the auto-refresh of the Status page. To resume auto-refresh, click the Start button.

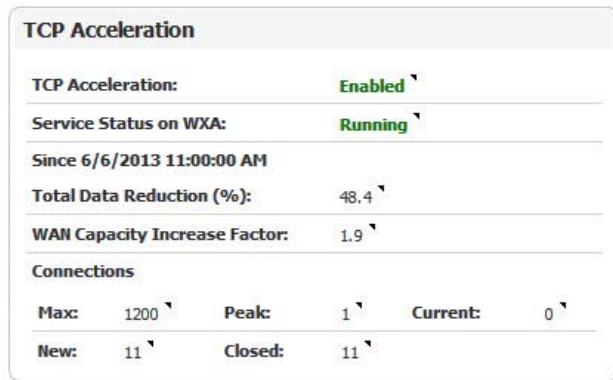
WXA System Information Panel

WXA System Information	
WAN Acceleration:	Enabled
WXA Operational Status:	Operational
Uptime:	65 days, 9 mins
Model Number:	WXA 4000
Serial Number:	0017C555A134
Authentication Code:	32XG-FCF5
Firmware Version:	1.2.1-0-2

Name	Description
WAN Acceleration	<p>WAN Acceleration must be enabled (on the Settings tab) and a WXA series appliance detected in order for traffic to be accelerated.</p> <ul style="list-style-type: none"> • Enabled—Indicates the WAN Acceleration service is enabled. • Disabled—Indicates the WAN Acceleration service is disabled.
WXA Operational Status	<p>The current status of the WXA series appliance connection.</p> <ul style="list-style-type: none"> • Operational—Indicates the WAN Acceleration service is enabled and a WXA series appliance is discovered and running. • Unavailable—Indicates that probing did not detect a WXA series appliance. Ensure the connection between the WXA series appliance and the SonicOS series appliance is properly set up before continuing with further configuration. • Resetting—Indicates that either the status of the WAN Acceleration service or the presence of a WXA series appliance has just changed and the configuration is being reset accordingly. Refresh the page in a few moments. • Unknown—Indicates the presence and status of a WXA series appliance is not known. This may be because the WAN Acceleration service is disabled in which case probing is turned off. Alternatively it may be that probing is just starting.
Uptime	Displays the amount of time the appliance has been running.
Model Number	Displays the WXA series appliance model number.
Serial Number	Displays the WXA series appliance serial number.

Name	Description
Authentication Code	Displays the authentication code used to register the WXA series appliance. Note: This is also used as the password for a machine account when automatically provisioning the WXA series appliance.
Firmware Version	Displays the firmware version that is currently loaded on the WXA series appliance.

TCP Acceleration Panel



Name	Description
TCP Acceleration	<ul style="list-style-type: none"> • Enabled—Indicates that both the WAN Acceleration service and the specific TCP Acceleration switches are enabled. TCP traffic is sent to the WXA series appliance in order to be accelerated across the network. • Disabled—Indicates the TCP Acceleration service or the general WAN Acceleration service is disabled.
Service Status on WXA	<p>The current status of the TCP Acceleration service.</p> <ul style="list-style-type: none"> • Running—Indicates the TCP Acceleration service on the WXA series appliance is accelerating TCP connections • Ready—Indicates the TCP Acceleration service on the WXA series appliance is up and ready to accelerate TCP connections as soon as the component is enabled. • Unavailable—Indicates the TCP Acceleration service is either not running on the connected WXA series appliance or there is an error. • Unknown—Indicates the status of the TCP Acceleration service on the WXA series appliance is not known at the moment.
Total Data Reduction (%)	The total percentage of data reduced by the TCP Acceleration service.

Name	Description
WAN Capacity Increase Factor	The ratio of the amount of data conveyed, to the amount that is actually sent. Use this as a guide for how much extra capacity the WAN has gained without any increase in bandwidth.
Connections	Displays the following information for TCP Acceleration connections: <ul style="list-style-type: none"> • Max—The maximum number of TCP connections permitted at any instant. • Peak—The peak number of TCP connections passing through the WXA series appliance during the period covered by the statistics. • Current—The current number of TCP connections passing through the WXA series appliance. • New - The number of new connections. • Closed - The number of closed connections.

WFS Acceleration Panel

WFS Acceleration

WFS Acceleration:	Enabled (for Signed SMB) ▾
Service Status on WXA:	Running ▾
Windows Domain:	tb20dc3.sonicwall.com ▾
Since 5/13/2013 4:00:00 PM	
Total Data Reduction (%):	0.0 ▾
WAN Capacity Increase Factor:	1.0 ▾
Cache Size:	94 MB ▾

Name	Description
WFS Acceleration	<ul style="list-style-type: none"> • Enabled—Indicates that both the general WAN Acceleration service and either of the specified WFS Acceleration (Supporting Signed and Unsigned SMB) switches are enabled. • Disabled—Indicates that both the general WAN Acceleration service and either of the specified WFS Acceleration (Supporting Signed and Unsigned SMB) switches are disabled.
Service Status on WXA	<p>Displays current status of the WFS Acceleration service, reflecting both Unsigned and Signed SMB.</p> <ul style="list-style-type: none"> • Running—Indicates the WFS Acceleration service on the WXA series appliance is accelerating wide area file sharing operations. • Ready—Indicates the WFS Acceleration service on the WXA series appliance is up and ready to accelerating wide area file sharing operations as soon as the component is enabled. <p>Note: There are separate switches to control support for Signed and Unsigned SMB traffic.</p> <ul style="list-style-type: none"> • No Domain—To accelerate Signed SMB traffic, the WXA series appliance must join the Windows domain. This indicates that support for Signed SMB is enabled but either the WXA series appliance has not joined the Domain or its status on the domain is unknown. <p>Note: This status will not display if using “Unsigned SMB” only.</p> <ul style="list-style-type: none"> • Unavailable—Indicates the WFS Acceleration service is not running on the connected WXA series appliance or there may be an error. • Unknown—Indicates the status of the WFS Acceleration service on the connected WXA series appliance is not known at the present time.

Name	Description
Windows Domain	The Windows domain on which the WXA series appliance will accelerate access to configured shares. Note: This field is not displayed if using "Unsigned SMB" only.
Total Data Reduction (%)	The total percentage of data reduced by the WFS Acceleration service.
WAN Capacity Increase Factor	Displays the total amount of WAN capacity increase over the specified period of time.
Cache Size	Displays the amount of read-ahead data stored in the cache. Note: The WFS Cache statistics displayed in this page only represent Signed SMB traffic. If you are using Unsigned SMB, the WFS Cache statistics do not apply.

Web Cache Panel

Web Cache	
Web Cache:	Enabled
Service Status on WXA:	Running
Since 5/13/2013 4:00:00 PM	
Total Data Reduction (%):	100.0
WAN Capacity Increase Factor:	0.0
Cache Size:	16.94 MB
Cache Free Space:	62.48 GB
Number of Cached Objects:	814

Name	Description
Web Cache	<ul style="list-style-type: none"> Enabled—Indicates that WAN Acceleration is enabled and that web traffic passing through the NSA/TZ series appliance is to be redirected to the Web Cache on the WXA series appliance. Disabled—Indicates that the Web Cache is not enabled and web traffic passing through the NSA/TZ series appliance is not redirected to the Web Cache on the WXA series appliance.
Service Status on WXA	<p>The current operational status of the Web Cache.</p> <ul style="list-style-type: none"> Running—Indicates the Web Cache service is running normally. Ready—Indicates the Web Cache service is ready to begin caching as soon as the component is enabled. Unavailable—Indicates the Web Cache service is not running on the WXA series appliance, this may be due to an error. Unknown—Indicates that the status of the Web Cache service on the connected WXA series appliance is not known at the present moment.
Total Data Reduction (%)	Displays the difference between the data conveyed and the data sent, represented as a percentage.
WAN Capacity Increase Factor	Indicates the total amount of WAN capacity increase over the specified period of time.
Cache Size	Displays the current size of the cache used by the Web Cache.
Cache Free Space	Displays the amount of disk space available to the Web Cache.
Number of Cached Objects	Displays the number of objects currently stored in the Web Cache.

Settings Tab

WAN Acceleration /

Status

Status Settings

Apply Changes Probe for WXA Create static DHCP lease for WXA

WXA Appliance Configuration

Enable WAN Acceleration

WXA Interface: X2

WXA IP Address: 192.168.10.244

WXAC

Enable NetExtender WAN Acceleration Client (WXAC)

Active Licenses Currently in Use: 53

Name	Description
Action Items	Provides the options to apply changes, probe for the presence of the WXA series appliance, and create a static DHCP lease for the WXA series appliance.
WXA Appliance Configuration Panel	Enables and configures the WXA series appliance.
WXAC Panel	Enables support for the NetExtender WAN Acceleration Client. See WXAC on page 32 for details. Note: This panel only displays if the NSA/TZ series appliance is running SonicOS 5.9.

Action Items

Name	Description
Apply Changes	Applies the latest configuration changes.
Probe for WXA	Checks for the presence of a WXA series appliance. This is a handshake between the NSA/TZ series appliance and the WXA series appliance, and confirms they are connected to each other.
Create Static DHCP Lease for WXA	Creates a static lease for the WXA series appliance.

WXA Appliance Configuration Panel

Name	Description
Enable WAN Acceleration Checkbox	Enables or disables the WAN Acceleration feature.
WXA Interface Drop-Down	Selects the NSA/TZ series appliance interface that the WXA series appliance is connected to.
WXA IP Address	Displays the IP address of the WXA series appliance. Note: this field is read-only.

WXAC

The NetExtender WAN Acceleration Client (WXAC) securely accelerates WAN traffic between a remote PC and a central or branch office using SonicWALL NetExtender. The WXAC panel will not display unless the NSA/TZ series appliance is running SonicOS 5.9 firmware.

Name	Description																																																																												
Enable NetExtender WAN Acceleration Client (WXAC) Checkbox	Enables support for NetExtender WXAC. Note: WAN Acceleration must be enabled on NetExtender and a WXAC licence must be purchased before you enable WXAC on this page.																																																																												
Active Licenses Currently in Use	Displays the number of active WXAC licenses that are currently in use.																																																																												
NetExtender WAN Acceleration Client (WXAC) is not licensed	<p>If the NSA/TZ series appliance detects that the WXAC licence is not activated, the following displays:</p> <div data-bbox="824 667 1360 764" data-label="Image"> </div> <p>To License the WXAC, navigate to the System > Licenses page in the SonicOS management interface:</p> <table border="1"> <thead> <tr> <th colspan="4">Manage Services Online</th> </tr> <tr> <th></th> <th>Status</th> <th colspan="2">Manage Service</th> </tr> </thead> <tbody> <tr> <td>Security Service</td> <td>Licensed</td> <td colspan="2"></td> </tr> <tr> <td>Nodes/Users</td> <td>Licensed</td> <td colspan="2"></td> </tr> <tr> <td>App Control</td> <td>Not Licensed</td> <td colspan="2"></td> </tr> <tr> <td>Kaspersky: Enforced Client Anti-Virus and Anti-Spyware</td> <td>Not Licensed</td> <td colspan="2">Activate</td> </tr> <tr> <td>McAfee: Client/Server Anti-Virus Suite</td> <td></td> <td colspan="2">Activate</td> </tr> <tr> <td>McAfee: Enforced Client Anti-Virus and Anti-Spyware</td> <td>Not Licensed</td> <td>Try</td> <td>Activate</td> </tr> <tr> <td>App Visualization</td> <td>Expired</td> <td colspan="2"></td> </tr> <tr> <td>Gateway Anti-Virus, Anti-Spyware & Intrusion Prevention Service</td> <td>Expired</td> <td colspan="2">Renew</td> </tr> <tr> <td>Deep Packet Inspection for SSL (DPI-SSL)</td> <td>Not Licensed</td> <td>Try</td> <td>Activate</td> </tr> <tr> <td>Virtual Assist</td> <td>Not Licensed</td> <td>Try</td> <td>Activate</td> </tr> <tr> <td>VPN</td> <td>Licensed</td> <td colspan="2"></td> </tr> <tr> <td>Global VPN Client</td> <td>Licensed</td> <td colspan="2">Upgrade</td> </tr> <tr> <td>Global VPN Client Enterprise</td> <td>Not Licensed</td> <td colspan="2">Activate</td> </tr> <tr> <td>VPN SA</td> <td>Licensed</td> <td colspan="2">Upgrade</td> </tr> <tr> <td>SSL VPN</td> <td>Licensed</td> <td colspan="2">Upgrade</td> </tr> <tr> <td>WAN Acceleration Client</td> <td>Not Licensed</td> <td colspan="2">Activate</td> </tr> <tr> <td>WAN Acceleration Software</td> <td>Not Licensed</td> <td colspan="2">Activate</td> </tr> </tbody> </table>	Manage Services Online					Status	Manage Service		Security Service	Licensed			Nodes/Users	Licensed			App Control	Not Licensed			Kaspersky: Enforced Client Anti-Virus and Anti-Spyware	Not Licensed	Activate		McAfee: Client/Server Anti-Virus Suite		Activate		McAfee: Enforced Client Anti-Virus and Anti-Spyware	Not Licensed	Try	Activate	App Visualization	Expired			Gateway Anti-Virus, Anti-Spyware & Intrusion Prevention Service	Expired	Renew		Deep Packet Inspection for SSL (DPI-SSL)	Not Licensed	Try	Activate	Virtual Assist	Not Licensed	Try	Activate	VPN	Licensed			Global VPN Client	Licensed	Upgrade		Global VPN Client Enterprise	Not Licensed	Activate		VPN SA	Licensed	Upgrade		SSL VPN	Licensed	Upgrade		WAN Acceleration Client	Not Licensed	Activate		WAN Acceleration Software	Not Licensed	Activate	
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Gateway Anti-Virus, Anti-Spyware & Intrusion Prevention Service	Expired	Renew																																																																											
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Virtual Assist	Not Licensed	Try	Activate																																																																										
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SSL VPN	Licensed	Upgrade																																																																											
WAN Acceleration Client	Not Licensed	Activate																																																																											
WAN Acceleration Software	Not Licensed	Activate																																																																											

Configuring the WXA Series Appliance

Configuring Network Interfaces

The initial configuration of the WXA series appliance should be performed by using the WXA Setup Wizard, which is available by clicking the Wizards button in the top-right corner of the NSA/TZ series appliance's management interface. However, this is currently only available if running SonicOS 5.9 firmware. If your NSA/TZ series appliance is using 5.8.1.x or 6.1.x firmware use the procedures in this chapter for the initial configuring of the WXA series appliance. For more information on the WXA Setup Wizard refer to the *SonicOS 5.9 Administrator's Guide*.

The initial setup includes configuring network interfaces for the WXA series appliance, enabling the WAN Acceleration service, and creating a static DHCP lease for the WXA series appliance. All configuration procedures are performed on the NSA/TZ series appliance's management interface.

For licensing information, refer to the *WXA 500 Live CD Getting Started Guide* or *WXA 5000 Virtual Appliance Getting Started Guide*.

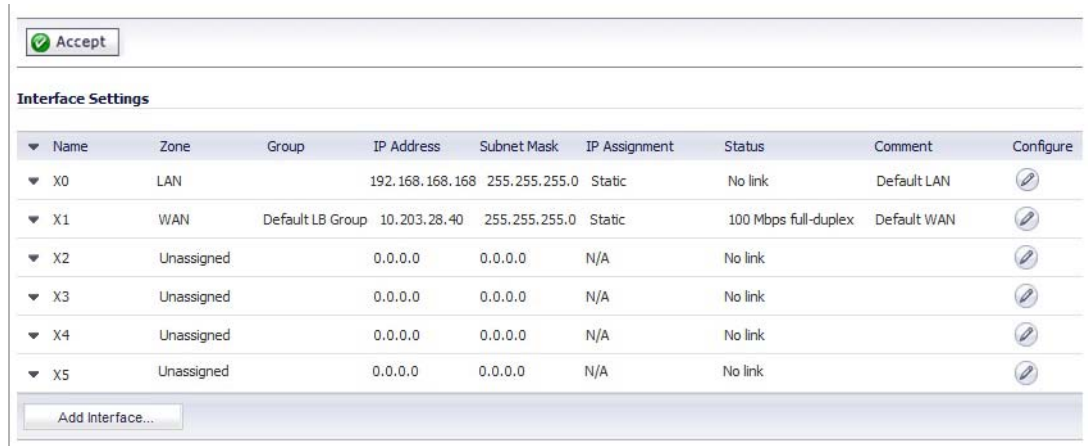
After completing the initial configuration steps in this chapter, refer to [Configuring TCP Acceleration](#) on page 47 and [Configuring WFS Acceleration](#) on page 97 to configure the TCP and WFS Acceleration services.



Note This configuration example uses the X5 interface, but you can use any spare interface on the NSA/TZ security appliance.

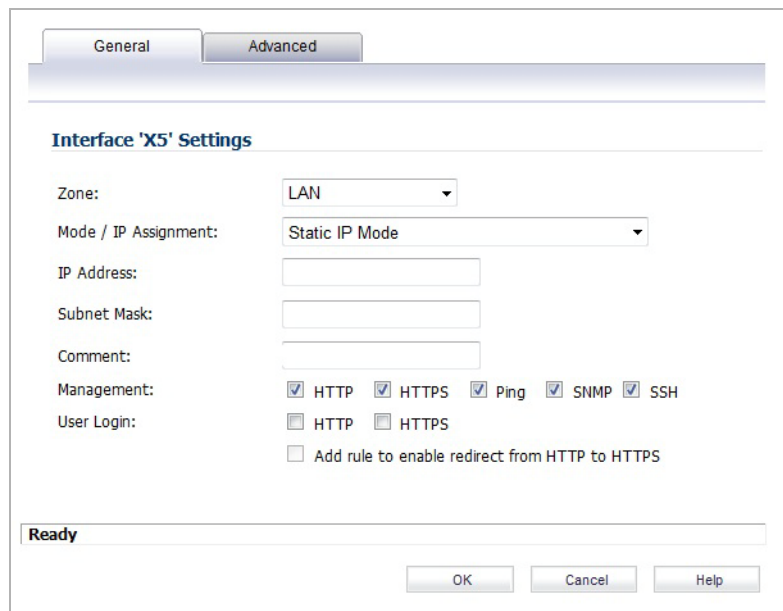
To configure your NSA/TZ security appliance to be used with the WXA series appliance, perform the following steps:

- Step 1** Open a Web browser.
- Step 2** Access the SonicOS Management interface.
- Step 3** Navigate to the **Network > Interfaces** page.



- Step 4** Click the **Edit** button in the row for the interface you want the WXA series appliance to be connected to.

The **Interface Settings > General** tab is displayed.



- Step 5** Enter and do the following:
 - **Zone:** Drop-down — *LAN*
 - **Mode/IP Assignment:** Drop-down — *Static IP Mode*
 - **IP Address:** Text Field — Enter the IP Address for the port. This example uses *10.203.30.162*.
 - **Subnet Mask:** Text Field — Enter the subnet mask for the port. This should be a subnet not already used on the network, and private to the WXA series appliance.

- (Optional) **Comment:** Text Field — Enter text that describes the device. For example, *WXA connection*.
- (Optional) **Management:** checkboxes — Select the management methods.
- Click **OK**.

Step 6 Navigate to the **Network > DHCP Server** page.

Step 7 Under the DHCP Server Lease Scopes, click **Add Dynamic**. The Dynamic Range Configuration window is displayed.

Step 8 Do the following:

- Select the **Enable this DHCP Scope** checkbox.
- Select the **Interface Pre-Populate** checkbox and then select port X5 in the **Interface Pre-Populate** drop-down. The information will be auto populated.
- Click the **OK** button.

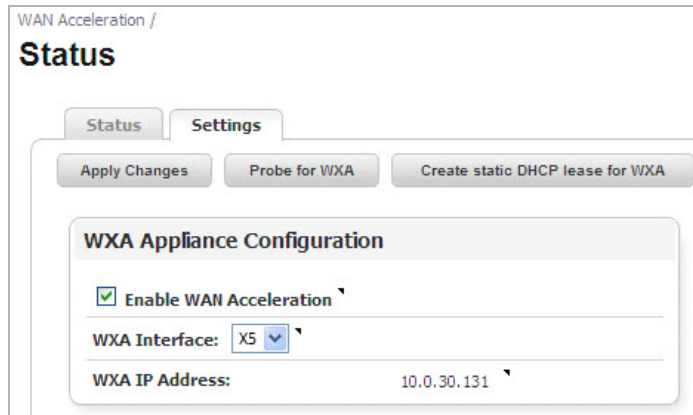


Note Configuring DNS is only required if you plan to use WFS Acceleration for Signed SMB. This example assumes that the correct DNS server has already been entered in the Network > DNS page. You can overwrite the DNS specified in the Network > DNS Server page. Click the **Edit** button for the lease you want to change, and then click the **DNS/WINS** tab. Enter the DNS IP Addresses in the text fields provided. You should also populate the Domain text-field, this speeds up the WFS Acceleration configuration and auto-detection of the server in the case that reverse DNS is not configured.

Step 9 Connect an Ethernet cable from the WXA series appliance to the X5 port on the NSA/TZ security appliance.

Step 10 Navigate to the **WAN Acceleration > Status** page.

Step 11 Click the **Settings** tab.

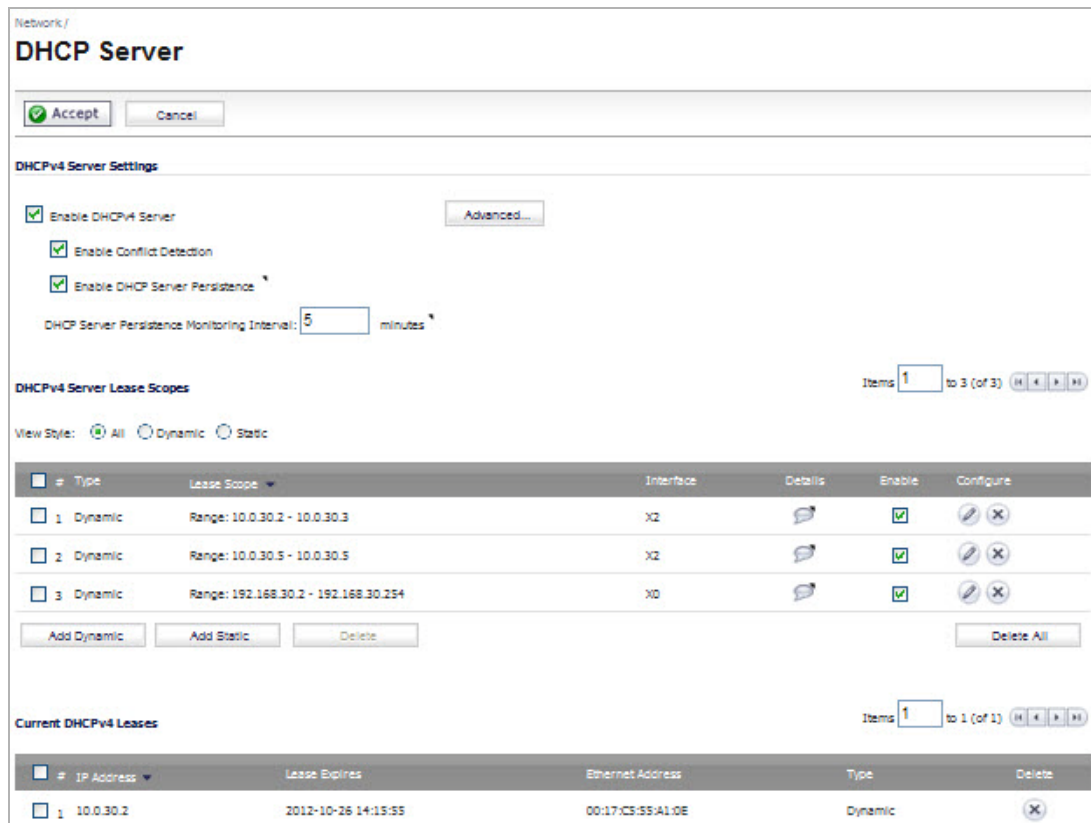


Step 12 In the WXA Appliance Configuration panel, click the **WXA Interface** drop-down list and select the X5 interface.

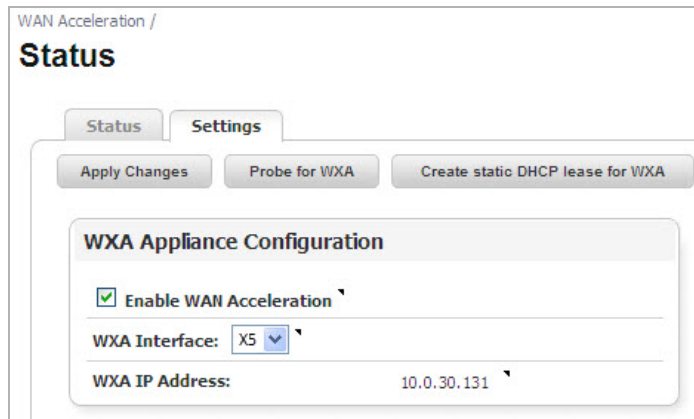
Step 13 Select the **Enable WAN Acceleration** checkbox.

Step 14 Click the **Apply Changes** button.

Step 15 Confirm that the NSA/TZ series appliance has a DHCP lease for the WXA series appliance. Navigate to the **Network > DHCP Server** page.



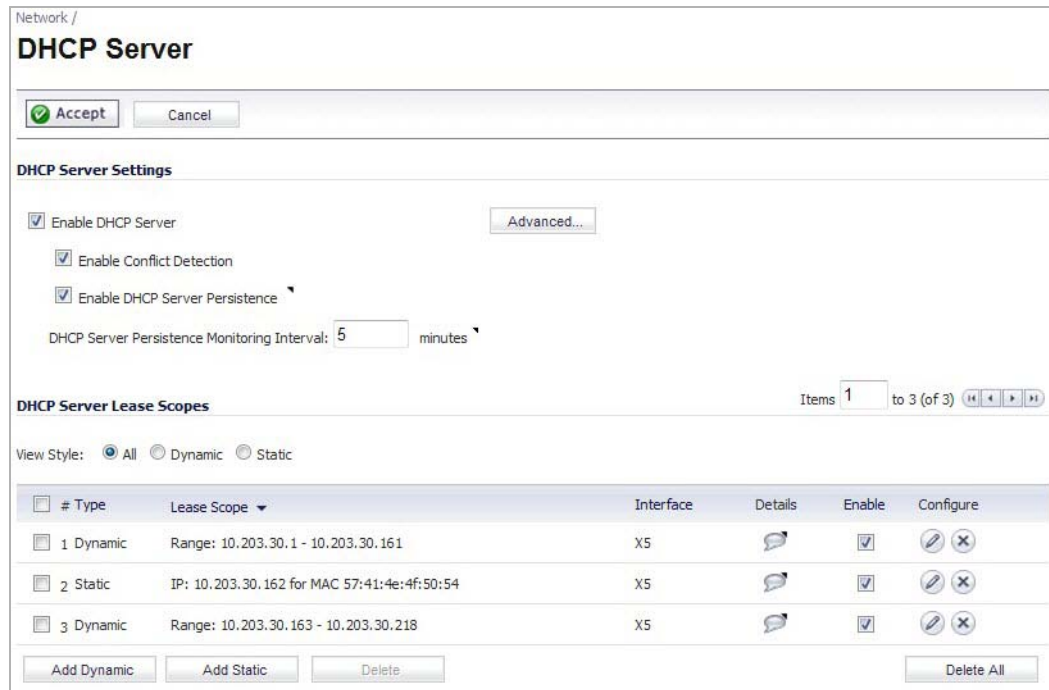
Step 16 Navigate to the **WAN Acceleration > Status** page.



Step 17 Click the **Settings** tab.

Step 18 Click **Create static DHCP lease for WXA**.
A DHCP lease will be set for the WXA series appliance.

Step 19 Verify that the lease was created. Navigate to the **Network > DHCP Server** page.
A dynamic range is set for the WXA appliance.



TCP Acceleration

Viewing the TCP Acceleration Page

WAN Acceleration > TCP Acceleration

The WAN Acceleration > TCP Acceleration page provides options to configure and monitor the TCP Acceleration service. This chapter details the management interface functions of the Configuration, Statistics, Statistics breakdown, and Connections tabs.

Name	Description
Configuration Tab	Enable the TCP Acceleration service and selects the mode, service object, and exclude objects. The WAN Acceleration feature must be enabled before you can enable or configure the TCP Acceleration service. Enable WAN Acceleration in the WAN Acceleration > Status page. See Configuration Tab on page 42 for details.
Statistics Tab	Displays egress and ingress data for the TCP Acceleration service. See Statistics Tab on page 43 for details.
Statistics Breakdown	Graphs TCP Acceleration data by port, IP address and data reduction. See for Statistics Breakdown Tab on page 44 details.
Connections Tab	Displays a detailed list of the TCP Acceleration connection results, such as start and end time stamps, source IP address and port, and destination IP address and port. Use these results to monitor the performance of your TCP Acceleration service. See Connections Tab on page 45 for details.

Configuration Tab

WAN Acceleration / **TCP Acceleration**

Configuration | Statistics | Statistics Breakdown | Connections

Apply Changes | Bypassed

Enable TCP Acceleration

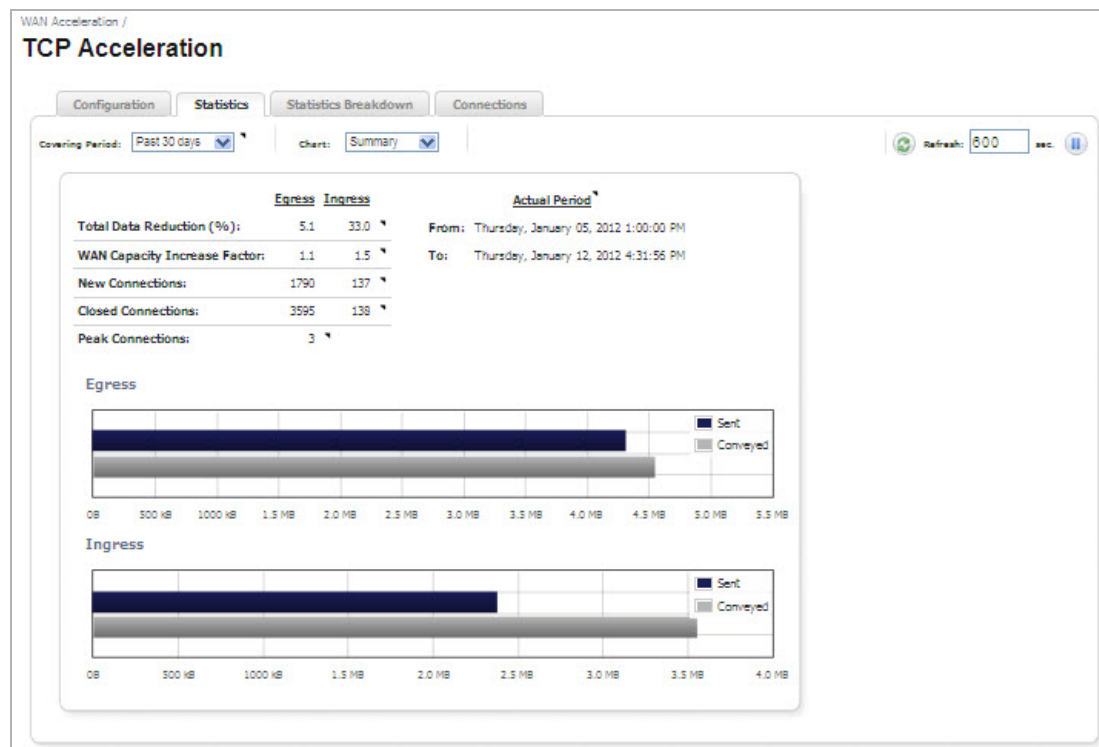
TCP Acceleration Mode: All TCP services except those excluded by default

TCP Acceleration Service Object: HTTP

Address Object always excluded from TCP Acceleration: None

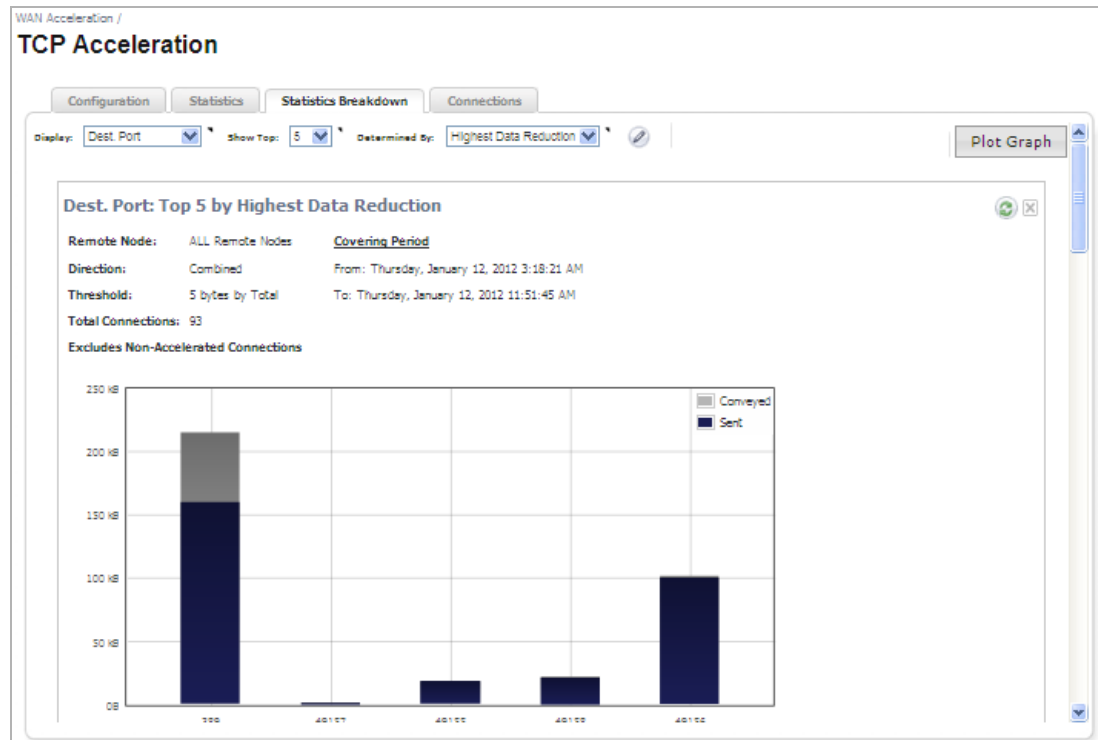
Name	Description														
Apply Changes Button	Saves the changes to the configuration.														
Bypassed Button	Displays a pop-up window with a list of connections that have either been excluded from the acceleration process or failed. This button is greyed out if these conditions are not present. <div data-bbox="802 913 1502 1129" style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p>Bypassed Addresses x</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>IP Address</th> <th>Port</th> <th>Reason</th> <th>Lifetime</th> <th>Created</th> <th>Updated</th> <th>Expires</th> </tr> </thead> <tbody> <tr> <td>192.168.20.100</td> <td>445</td> <td>Traffic not compressing well</td> <td>300</td> <td>10/10/2012 12:59:41</td> <td>10/10/2012 12:59:51</td> <td>10/10/2012 13:04:51</td> </tr> </tbody> </table> <p style="text-align: right;"><input type="button" value="Close"/></p> </div>	IP Address	Port	Reason	Lifetime	Created	Updated	Expires	192.168.20.100	445	Traffic not compressing well	300	10/10/2012 12:59:41	10/10/2012 12:59:51	10/10/2012 13:04:51
IP Address	Port	Reason	Lifetime	Created	Updated	Expires									
192.168.20.100	445	Traffic not compressing well	300	10/10/2012 12:59:41	10/10/2012 12:59:51	10/10/2012 13:04:51									
Enable TCP Acceleration	Enables or disables the TCP Acceleration service. This is selected by default.														
TCP Acceleration Mode	Selects how the service object is used. Either as services to be accelerated or as services to be excluded from acceleration.														
TCP Acceleration Service Object	Selects service objects for the TCP Acceleration service. To add new service objects to the drop-down list, navigate to Network > Address Objects and create new service objects. Note: The option for choosing a TCP Acceleration service object is greyed out if the TCP Acceleration mode does not support it.														
Address object always excluded from TCP Acceleration	Selects address objects to always exclude from the TCP Acceleration service. To add an address object to the drop-down list, navigate to Network > Address Objects and create new address objects.														

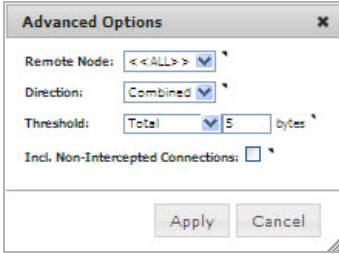
Statistics Tab



Name	Description
Covering Period	Click the Covering Period drop-down list and select the period of time the data displays on the Statistics tab.
Chart	Selects the graph style used to display the TCP Acceleration data.
Refresh Actions	Refreshes the data displayed in the WAN Acceleration > Statistics tab. The refresh interval can be entered in the text field. The interval can be increased to a maximum of 999 seconds. Click the Refresh symbol to manually update the Statistics tab. Click the Pause button to stop updates on the page.
Data and Graphs	Displays read-only data for the following: <ul style="list-style-type: none"> • Total Data Reduction percentage • WAN capacity increase factor • New Connections • Closed Connections • Peak Connections • Egress/Ingress data illustrated with bar graphs (corresponding to the site you are viewing from)

Statistics Breakdown Tab



Name	Description
Display Drop-Down Menu	<p>Selects one of the following options:</p> <ul style="list-style-type: none"> • Dest. Port - Displays the volume of data (or “Determined By” value) compared to the destination port numbers of the accelerated connections. • Dest. Address - Displays the volume of data compared to the destination IP address of the accelerated TCP connections. • Src. Address - Displays the volume of data compared to the source IP address of the accelerated TCP connections. • Address on WAN - Displays the volume of data compared to the destination address on the WAN of the accelerated TCP connections. • Address on LAN - Displays the volume of data compared to the destination address on the LAN of the accelerated TCP connections. <p>Note: Connections can be initiated by a machine on the LAN or WAN.</p>
Show Top Drop-Down Menu	Selects how many ports or IP addresses display in the graph.
Determined By Drop-Down Menu	Selects the criteria that displays in the graph.
Configure Button	<p>Click the Configure button to access the advanced configuration options:</p> 

Name	Description
Plot Graph	Displays a graphical representation of the selected criteria.
Refresh Button	Refreshes the graph with the most recent TCP Acceleration data.
Data and Graphs	Displays read-only data for the Remote Node, Direction, Threshold, Total Connections, and Covering Period. This data is also displayed in the graph.

Connections Tab

WAN Acceleration / TCP Acceleration

Configuration | Statistics | Statistics Breakdown | **Connections**

Local Identifier: 7A:58:6E Remote Node: <<ALL>> # Entries: 100 Incl. Non-Intercepted: Refresh: 600 sec

Start Time	End Time	Initiator	Remote Node	Src IP	Src Port	Dest IP	Dest Port	Egress	Ingress
4:37:23 PM	4:37:25 PM	LAN	00:EO:A2	192.168.30.59	4424	192.168.20.251	389		
4:37:23 PM	4:37:25 PM	LAN	00:EO:A2	192.168.30.59	4423	192.168.20.251	389		
4:37:22 PM	4:37:51 PM	LAN	00:EO:A2	192.168.30.59	4422	192.168.20.251	49158		
4:37:21 PM	4:38:03 PM	LAN	00:EO:A2	192.168.30.59	4420	192.168.20.251	49156		
4:01:45 PM	4:03:16 PM	WAN	00:EO:A2	192.168.20.252	62400	192.168.30.253	49155		
3:59:02 PM	3:59:03 PM	LAN	00:EO:A2	192.168.30.68	49390	192.168.20.251	389		
3:59:01 PM	3:59:36 PM	LAN	00:EO:A2	192.168.30.68	49386	192.168.20.251	49156		
3:59:01 PM	3:59:04 PM	LAN	00:EO:A2	192.168.30.68	49387	192.168.20.251	389		
3:17:30 PM	3:17:57 PM	LAN	00:EO:A2	192.168.30.59	4044	192.168.20.251	49158		
3:17:30 PM	3:17:32 PM	LAN	00:EO:A2	192.168.30.59	4046	192.168.20.251	389		
3:17:30 PM	3:17:32 PM	LAN	00:EO:A2	192.168.30.59	4045	192.168.20.251	389		
3:17:29 PM	3:19:28 PM	LAN	00:EO:A2	192.168.30.59	4043	192.168.20.251	49156		
2:56:19 PM	2:56:20 PM	LAN	00:EO:A2	192.168.30.59	3935	192.168.20.251	389		
2:56:18 PM	2:56:47 PM	LAN	00:EO:A2	192.168.30.59	3933	192.168.20.251	49158		
2:56:18 PM	2:56:20 PM	LAN	00:EO:A2	192.168.30.59	3934	192.168.20.251	389		
2:56:17 PM	2:57:17 PM	LAN	00:EO:A2	192.168.30.59	3931	192.168.20.251	49156		
2:22:44 PM	2:24:52 PM	WAN	00:EO:A2	192.168.20.252	5713	192.168.30.253	49155		
2:22:17 PM	2:23:46 PM	WAN	00:EO:A2	192.168.20.251	6316	192.168.30.253	49157		
2:22:12 PM	2:22:32 PM	LAN	00:EO:A2	192.168.30.59	3771	192.168.20.251	49156		

Filter by: Initiator Remote Node Src IP Src Port Dest IP Dest Port

Showing 1 to 20 of 100 entries

Action Items

Name	Description
Remote Node	Filters the table of connections based on the remote node (the WXA series appliance at the far end of the connection).
# Entries	Selects the number of entries to display in the Connections table.
Incl. Non-Intercepted	Enables or disables the inclusion of non-intercepted traffic to display in the Connections table. The definition of "Non-intercepted" is traffic that is diverted from the NSA/TZ series appliance to the WXA series appliance, but is not accelerated.
Refresh Actions	Refreshes the WAN Acceleration > Connections tab. The refresh interval can be entered in the text field. The interval can be increased to a maximum of 999 seconds. Click the Refresh symbol to manually update the Connections tab. Click the Pause button to stop updates on the page.

Column/Field Headings

Name	Description
Start Time	Indicates the starting time of a connection.
End Time	Indicates the ending time of a connection.
Initiator	Displays which end of the network initiated the connection. LAN for connections started locally, and WAN for connections started from a remote site.
Remote Node	Displays the WXA series appliance at the far end of the connection.
Src IP	Displays the IP address where the connection started.
Src Port	Displays the port number that the connection request was sent from.
Dest IP	Displays the destination IP address.
Dest Port	Displays the destination port number.
Egress	Displays a bar graph that represents outgoing traffic on the network. The blue colored bar is sent traffic and the grey bar is conveyed traffic.
Ingress	Displays a bar graph that represents incoming traffic on the network. The blue colored bar is sent traffic and the grey bar is conveyed traffic
Filter by	Filter the results by entering text into the appropriate input box. A combination of fields can be filtered.

Configuring TCP Acceleration

WAN Acceleration > TCP Acceleration

The initial configuration of TCP Acceleration should be performed by using the WXA Setup Wizard, which is available by clicking the Wizards button in the top-right corner of the NSA/TZ series appliance's management interface. However, this is currently only available if running SonicOS 5.9 firmware. If your NSA/TZ series appliance is using 5.8.1.x or 6.1.x firmware use the procedures in this chapter for configuring TCP acceleration. The TCP Acceleration service can be deployed in three different deployment scenarios including: site-to-site VPN, routed mode, and layer 2 bridge mode. This chapter explains how to permit and configure these deployment scenarios in the following subsections:

- [Configuring TCP Acceleration on a Site-to-Site VPN, page 47](#)
- [Configuring TCP Acceleration on a Non-VPN \(Routed Mode\), page 49](#)
- [Configuring the TCP Acceleration > Configuration Tab, page 56](#)
- [Verifying the TCP Acceleration Configuration on page 59](#)

Configuring TCP Acceleration on a Site-to-Site VPN

Once your WXA series appliance is configured to permit TCP Acceleration, see [Configuring the TCP Acceleration > Configuration Tab, page 56](#) to finish configuring the TCP Acceleration service.

To permit the TCP Acceleration service for use in a site-to-site Virtual Private Network (VPN), follow the steps listed below:

Step 1 Navigate to the **VPN > Settings** page.

VPN /
Settings

Accept Cancel

VPN Global Settings

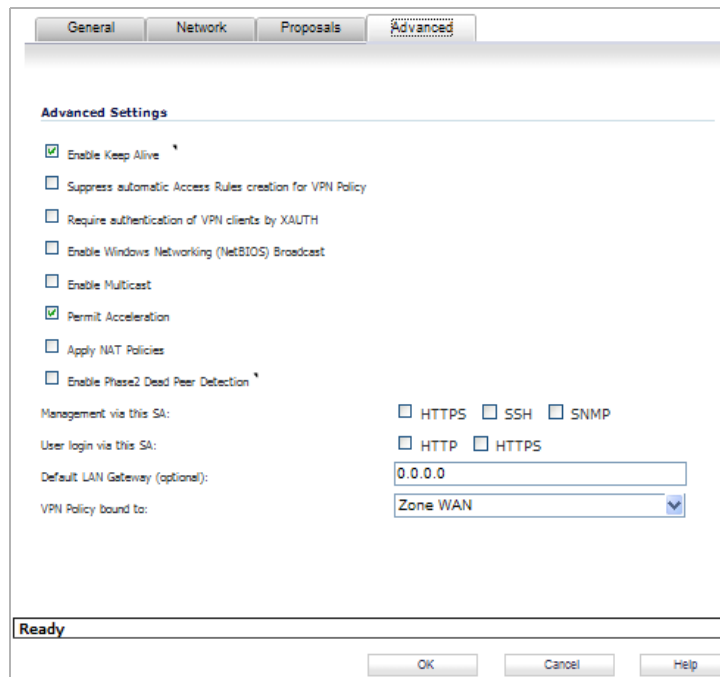
Enable VPN
Unique Firewall Identifier: 0017C516F55C

VPN Policies

#	Name	Gateway	Destinations	Crypto Suite	Enable	Configure
<input type="checkbox"/>	1	WAN GroupVPN		ESP: 3DES/HMAC SHA1 (IKE)	<input type="checkbox"/>	
<input type="checkbox"/>	2	WLAN GroupVPN		ESP: 3DES/HMAC SHA1 (IKE)	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	3	Home VPN Alt	0.0.0.0	10.20.21.0 - 10.20.21.127 10.20.21.128 - 10.20.21.255	<input checked="" type="checkbox"/>	

Step 2 Click the **Configure** button for the VPN policy you wish to use.

The Configure VPN Policy pop-up window displays.



- Step 3** Select the **Advanced** tab.
- Step 4** Select the checkbox for **Permit Acceleration**.
- Step 5** Click the **OK** button.

Configuring TCP Acceleration on a Non-VPN (Routed Mode)

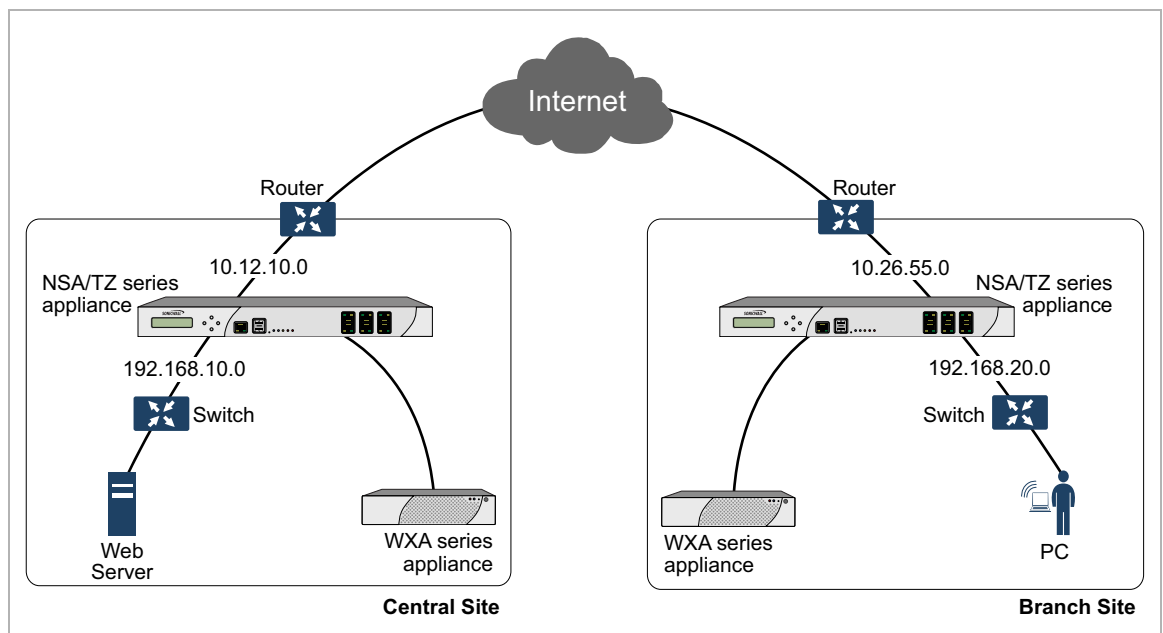
If you do not have a VPN configured on your network and you are using a custom routing policy, you need to add two routing policies on each site: One for outgoing traffic, and one for incoming traffic. Both routing policies are configured to permit acceleration.



Note Once both routing policies have been created and configured to permit TCP Acceleration, see [Configuring the TCP Acceleration > Configuration Tab, page 56](#) to finish configuring the TCP Acceleration service.

The illustration below displays the configuration between two non-VPN sites. Refer to this illustration as an example for the steps in the following sections:

- [Configure Routing Policies for Outgoing Traffic](#) on page 50
- [Configure Routing Policies for Incoming Traffic](#) on page 53

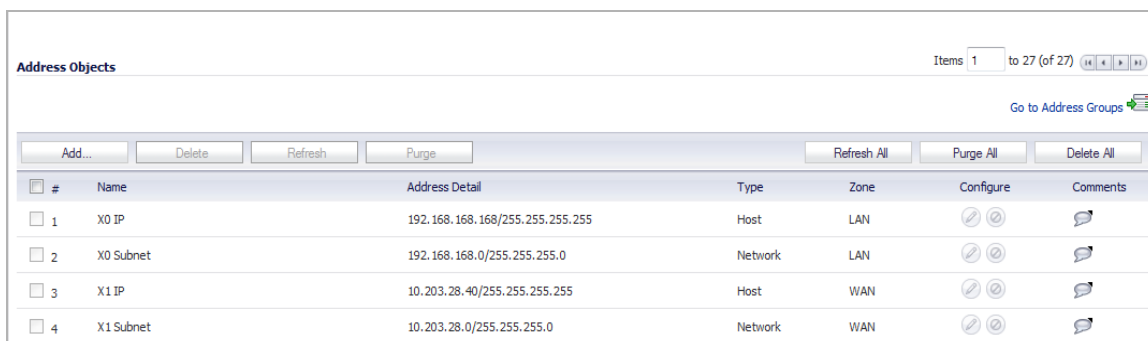


Configure Routing Policies for Outgoing Traffic

On the central site, configure a routing policy for outgoing traffic to the branch site. On the branch site, configure a routing policy for outgoing traffic to the central site.

The steps in this section are an example of configuring a routing policy on the branch site, for traffic going to the central site (outgoing):

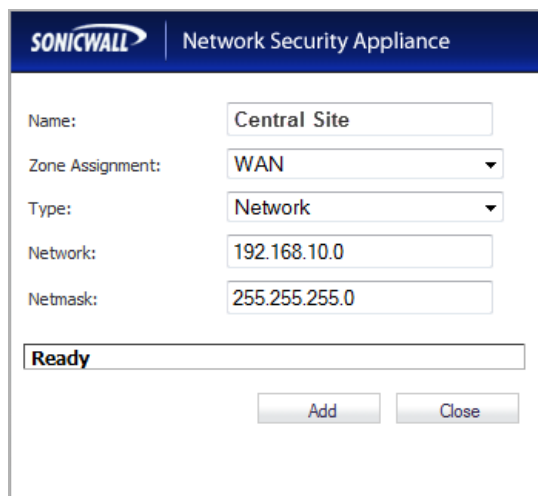
Step 1 Navigate to the **Network > Address Objects** page.



#	Name	Address Detail	Type	Zone	Configure	Comments
1	X0 IP	192.168.168.168/255.255.255.255	Host	LAN		
2	X0 Subnet	192.168.168.0/255.255.255.0	Network	LAN		
3	X1 IP	10.203.28.40/255.255.255.255	Host	WAN		
4	X1 Subnet	10.203.28.0/255.255.255.0	Network	WAN		

Step 2 Click the **Add** button.

The Add Address Object Group pop-up window displays.



SONICWALL Network Security Appliance

Name:

Zone Assignment:

Type:

Network:

Netmask:

Ready

Step 3 Enter a name (*Central Site*) for the address object in the **Name** text field.

Step 4 Click the **Zone Assignment** drop-down, select **WAN**.

Step 5 Click the **Type** drop-down, select **Network**.

Step 6 Enter the LAN IP address of the Central Site (*192.168.10.0*) in the **Network** text field.

Step 7 Enter the netmask IP address (*255.255.255.0*) in the **Netmask** text field.

Step 8 Click the **Add** button.

Step 9 Navigate to the **Network > Routing** page.

Route Policies Items 1 to 9 (of 9)

View Style: All Policies Custom Policies Default Policies

<input type="checkbox"/> #	Source	Destination	Service	Gateway	Interface	Metric	Priority	Probe	Comment	Configure
<input type="checkbox"/> 2	Any	255.255.255.255/32	Any	0.0.0.0	X0	20	2			
<input type="checkbox"/> 3	Any	X1 Default Gateway	Any	0.0.0.0	X1	20	3			
<input checked="" type="checkbox"/> 4	Any	Data Center	Any	X1 Default Gateway	X1	1	4			
<input type="checkbox"/> 5	Any	X0 Subnet	Any	0.0.0.0	X0	20	5			
<input type="checkbox"/> 6	Any	X1 Subnet	Any	0.0.0.0	X1	20	6			
<input type="checkbox"/> 7	Any	X5 Subnet	Any	0.0.0.0	X5	20	7			
<input type="checkbox"/> 8	X1 IP	Any	Any	X1 Default Gateway	X1	20	8			
<input type="checkbox"/> 9	Any	0.0.0.0/0	Any	10.203.28.1	X1	20	9			

Step 10 Click the **Add** button.

The Route Policy Settings pop-up window displays.

The screenshot shows a 'Route Policy Settings' dialog box with the following configuration:

- Source: Any
- Destination: Central Site
- Service: Any
- Gateway: X1 Default Gateway
- Interface: X1
- Metric: 1
- Comment: (empty)
- Disable route when the interface is disconnected
- Allow VPN path to take precedence
- Permit Acceleration
- Probe: None
- Disable route when probe succeeds
- Probe default state is UP

At the bottom, the status is 'Ready' and there are 'OK', 'Cancel', and 'Help' buttons.

Step 11 Click the **Source** drop-down, select **Any**.

Step 12 Click the **Destination** drop-down, select the address object you created (**Central Site**.)

Step 13 Click the **Service** drop-down, select **Any**.

Step 14 Click the **Gateway** drop-down, select the **X1 Default Gateway**.

Step 15 Click the **Interface** drop-down, select the **X1** interface.

Step 16 Enter *1* in the **Metric** text field.

This gives the route policy a high priority level. A larger metric number would have a lower priority.

Step 17 Select the **Permit Acceleration** checkbox.

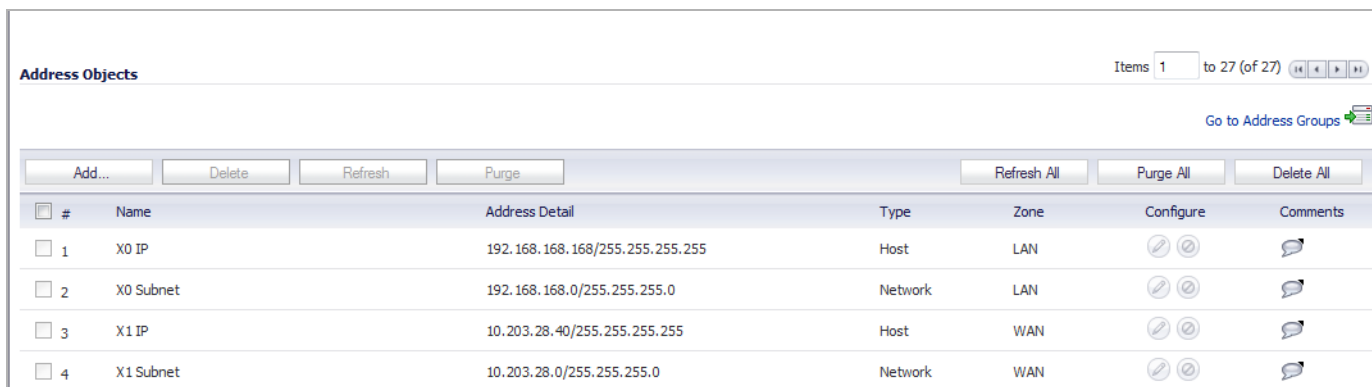
Step 18 Click the **OK** button.

Configure Routing Policies for Incoming Traffic

On the central site, configure a routing policy for incoming traffic from the branch site. On the branch site, configure a routing policy for incoming traffic from the central site.

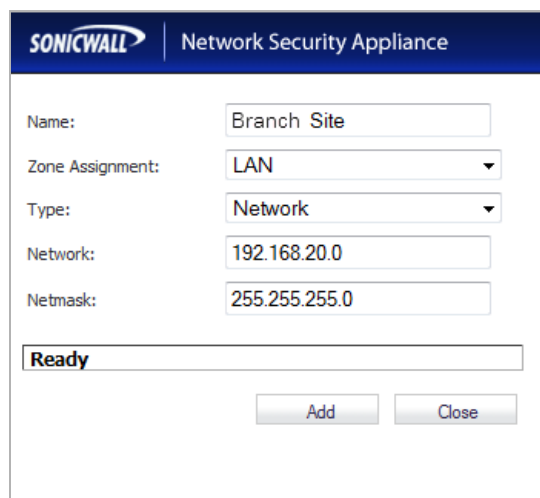
The steps in this section are an example of configuring a routing policy on the branch site, for traffic coming from the central site (incoming):

Step 1 Navigate to the **Network > Address Objects** page.



#	Name	Address Detail	Type	Zone	Configure	Comments
1	X0 IP	192.168.168.168/255.255.255.255	Host	LAN		
2	X0 Subnet	192.168.168.0/255.255.255.0	Network	LAN		
3	X1 IP	10.203.28.40/255.255.255.255	Host	WAN		
4	X1 Subnet	10.203.28.0/255.255.255.0	Network	WAN		

Step 2 Click the **Add** button.
The Add Address Object Group pop-up window displays.



SONICWALL Network Security Appliance

Name:

Zone Assignment:

Type:

Network:

Netmask:

Ready

Step 3 Enter a name (*Branch Site*) for the address object in the **Name** text field.

Step 4 Click the **Zone Assignment** drop-down, select **LAN**.

Step 5 Click the **Type** drop-down, select **Network**.

Step 6 Enter the LAN IP address of the Branch Site (*192.168.20.0*) in the **Network** text field.

Step 7 Enter the netmask IP address (*255.255.255.0*) in the **Netmask** text field.

Step 8 Click the **Add** button.

Step 9 Navigate to the **Network > Routing** page.

Route Policies Items 1 to 9 (of 9)

View Style: All Policies Custom Policies Default Policies

#	Source	Destination	Service	Gateway	Interface	Metric	Priority	Probe	Comment	Configure
<input type="checkbox"/> 2	Any	255.255.255.255/32	Any	0.0.0.0	X0	20	2			
<input type="checkbox"/> 3	Any	X1 Default Gateway	Any	0.0.0.0	X1	20	3			
<input checked="" type="checkbox"/> 4	Any	Data Center	Any	X1 Default Gateway	X1	1	4			
<input type="checkbox"/> 5	Any	X0 Subnet	Any	0.0.0.0	X0	20	5			
<input type="checkbox"/> 6	Any	X1 Subnet	Any	0.0.0.0	X1	20	6			
<input type="checkbox"/> 7	Any	X5 Subnet	Any	0.0.0.0	X5	20	7			
<input type="checkbox"/> 8	X1 IP	Any	Any	X1 Default Gateway	X1	20	8			
<input type="checkbox"/> 9	Any	0.0.0.0/0	Any	10.203.28.1	X1	20	9			

Step 10 Click the **Add** button.

The Route Policy Settings pop-up window displays.

The screenshot shows a 'Route Policy Settings' dialog box with the following configuration:

- Source: Central Site
- Destination: Branch Site
- Service: Any
- Gateway: 0.0.0.0
- Interface: X0
- Metric: 1
- Comment: (empty)
- Disable route when the interface is disconnected
- Allow VPN path to take precedence
- Permit Acceleration
- Probe: None
- Disable route when probe succeeds
- Probe default state is UP

At the bottom, the status is 'Ready' and there are 'OK', 'Cancel', and 'Help' buttons.

Step 11 Click the **Source** drop-down, select **Central Site**.

Step 12 Click the **Destination** drop-down, select the address object you created (**Branch Site**.)

Step 13 Click the **Service** drop-down, select **Any**.

Step 14 Click the **Gateway** drop-down, select (**0.0.0.0**).

Step 15 Click the **Interface** drop-down, select the **X0** interface.

Step 16 Enter **1** in the **Metric** text field.

This gives the route policy a high priority level. A larger metric number would have a lower priority.

Step 17 Select the **Permit Acceleration** checkbox.

Step 18 Click the **OK** button.

Configuring the TCP Acceleration > Configuration Tab

The Configuration tab gives you the option to select the mode, service object, and address object or group that are included or excluded from the TCP Acceleration service.

To view a list, create, and edit service objects, navigate to the **Network > Address Objects** page in the NSA/TZ series appliance management interface.

Below is three different examples of TCP Acceleration configurations:

Example 1

To configure acceleration of all the service objects, except those excluded by default. Follow the steps below:

-
- Step 1** Navigate to **WAN Acceleration > TCP Acceleration**.
 - Step 2** Select the **Configuration** tab.

WAN Acceleration /
TCP Acceleration

Configuration Statistics Statistics Breakdown Connections

Apply Changes Bypassed

Enable TCP Acceleration

TCP Acceleration Mode: All TCP services except those excluded by default

TCP Acceleration Service Object: HTTP

Address Object always excluded from TCP Acceleration: None

- Step 3** Select the **Enable TCP Acceleration** checkbox.
- Step 4** Click the **TCP Acceleration Mode** drop-down, then select **All TCP services except those excluded by default**.

By Default, the following ports are excluded from TCP Acceleration:

7, 22, 23, 37, 44, 49, 88, 107, 135, 136, 137, 138, 139, 179, 261, 443, 445, 448, 465, 513, 563, 585, 614, 636, 684, 695, 989, 990, 992, 993, 994, 995, 1494, 1701, 1718, 1719, 1720, 1723, 2000, 2001, 2002, 2003, 2252, 2427, 2478, 2479, 2482, 2484, 2492, 2598, 2679, 2727, 2762, 2998, 3077, 3078, 3183, 3191, 3220, 3269, 3389, 3410, 3424, 3471, 3496, 3509, 3529, 3539, 3660, 3661, 3713, 3747, 3864, 3885, 3896, 3897, 3995, 4031, 5007, 5060, 5061, 5631, 5900, 5901, 5902, 5903, 6000, 7674, 8443, 9802, 11751, 12109.

The option to choose a **TCP Acceleration Service Object** is read-only in this mode

- Step 5** Click the **Address Object always excluded from TCP Acceleration** drop-down, then select **None**.
- Step 6** Click the **Apply Changes** button.

Example 2

To configure acceleration of only the HTTP web traffic, follow the steps below:

Step 1 Navigate to **WAN Acceleration > TCP Acceleration**.

Step 2 Select the **Configuration** tab.

WAN Acceleration /

TCP Acceleration

Configuration | Statistics | Statistics Breakdown | Connections

Apply Changes | Bypassed

Enable TCP Acceleration

TCP Acceleration Mode: Only TCP services specified in the Service Object

TCP Acceleration Service Object: HTTP

Address Object always excluded from TCP Acceleration: None

Step 3 Click the **Enable TCP Acceleration** checkbox.

Step 4 Click the **TCP Acceleration Mode** drop-down, then select **Only TCP Services Specified in the Service Object**.

Step 5 Click the **TCP Acceleration Service Object** drop-down, then select **HTTP**.

Step 6 Click the **Address Object always excluded from TCP Acceleration** drop-down, then select **None**.

Step 7 Click the **Apply Changes** button.

Example 3

To configure acceleration of everything except Microsoft SQL database traffic or traffic to the Guest Authentication Servers, follow the steps below:

- Step 1** Navigate to **WAN Acceleration > TCP Acceleration**.
- Step 2** Select the **Configuration** tab.

Figure 1 Configuring TCP Acceleration Example 3

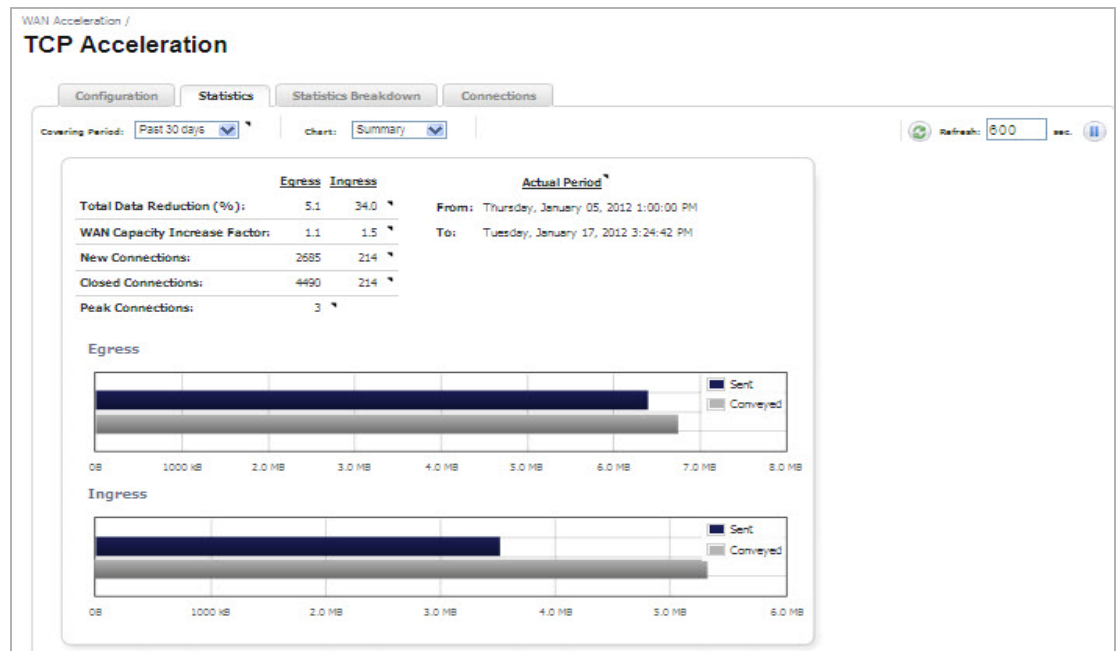


- Step 3** Select the **Enable TCP Acceleration** checkbox.
- Step 4** Click the TCP Acceleration Mode drop-down, then select **All TCP services except those specified in the Service Object and those excluded by default**.
- Step 5** Click the TCP Acceleration Service Object, then select **Microsoft Structured Query Language (MS SQL)**.
- Step 6** Click the Address Object always excluded from TCP Acceleration drop-down, then select **Guest Authentication Servers**.
- Step 7** Click the **Apply Changes** button.

Verifying the TCP Acceleration Configuration

After you complete the TCP Acceleration configuration procedures, verify TCP Acceleration is working by checking the **TCP Acceleration > Statistics** Tab.

Step 1 Navigate to the **TCP Acceleration > Statistics** Tab.



Step 2 View the statistics data and graphs to verify TCP Acceleration. This indicates if the WXA series appliance is using TCP Acceleration for data transfer.

If the Statistics tab data and graphs do not display any information, TCP traffic is not being accelerated. The TCP Acceleration feature is not configured correctly or is disabled.

Refer to the [Configuring the TCP Acceleration > Configuration Tab](#) on page 56 and check the TCP Acceleration configuration.

WFS Acceleration

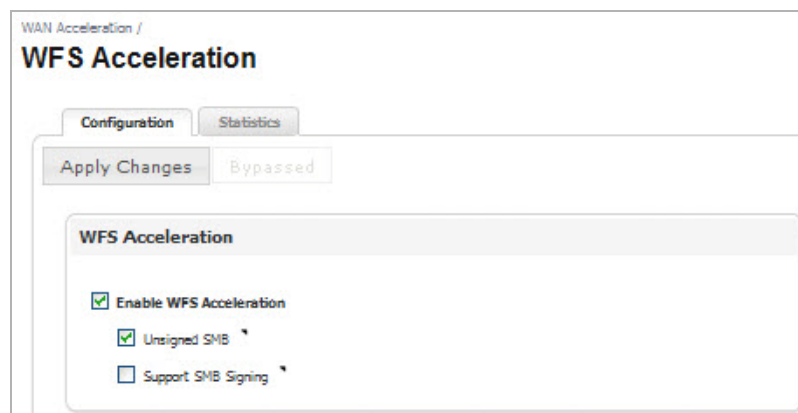
Viewing the WFS Acceleration Page

WAN Acceleration > WFS Acceleration

This chapter describes the management interface features and options that are available on the WAN Acceleration > WFS Acceleration page and is split up in two sections, Unsigned SMB and Signed SMB. Some of the tabs and options on this page might be hidden depending on which type of SMB signing and configuration mode is selected, see below for details.

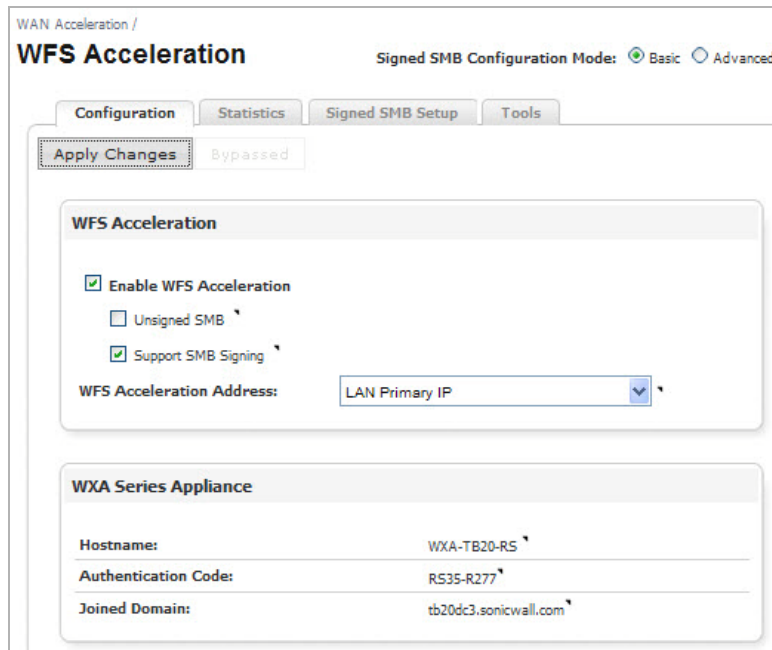
In a network that supports unsigned SMB traffic, the WFS Acceleration service configuration is greatly simplified. The reason for this is Unsigned SMB traffic does not have a security layer, so the WXA series appliance can intercept the traffic without joining the domain, eliminating the need to configure custom zones, configuring reverse lookup, and add file shares. In a network that supports SMB signing, it is required that the WXA series appliance join the domain, due to the presence of a security layer in Signed SMB traffic. Although this type of configuration is more complex than unsigned SMB, it offers a more granular configuration of the WFS Acceleration service. Supporting SMB signing provides the option to configure WFS Acceleration in a Basic or Advanced configuration modes.

When using Unsigned SMB, only the Configuration and Statistics tabs are present.

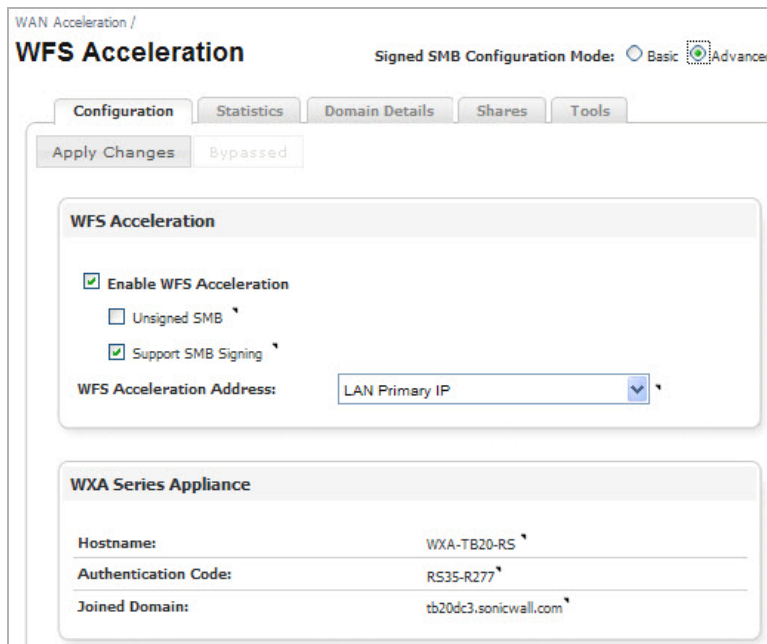


When using SMB Signing, additional tabs display depending on which configuration mode is selected (Basic or Advanced), which is explained below:

The Basic configuration mode displays the Configuration, Statistics, Signed SMB Setup, and Tools tabs.



The Advanced configuration mode displays the Configuration, Statistics, Domain Details, Shares, and Tools tabs.

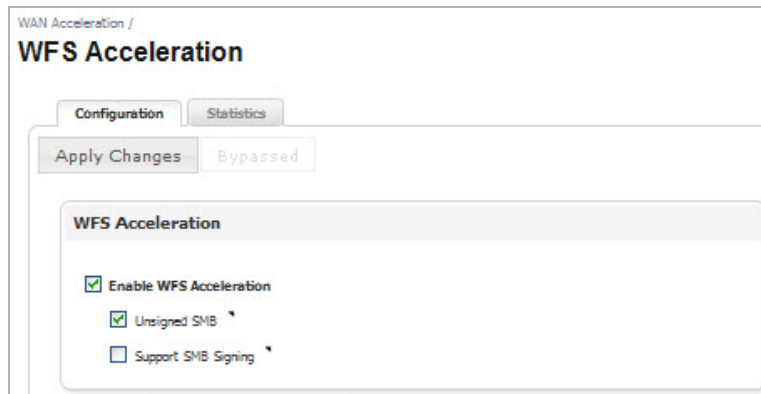


For detailed views and descriptions of the WFS Acceleration management interface, refer to the sections below.

- [WFS Acceleration Page Using Unsigned SMB](#) on page 65
- [WFS Acceleration Page Using Signed SMB](#) on page 67

WFS Acceleration Page Using Unsigned SMB

Clicking the **Unsigned SMB** checkbox displays the Configuration and Statistics tabs, this section details the options for those tabs.



Configuration Tab

The Configuration tab using Unsigned SMB gives you the options to enable the WFS Acceleration service and configure Server Message Block (SMB) signing settings.

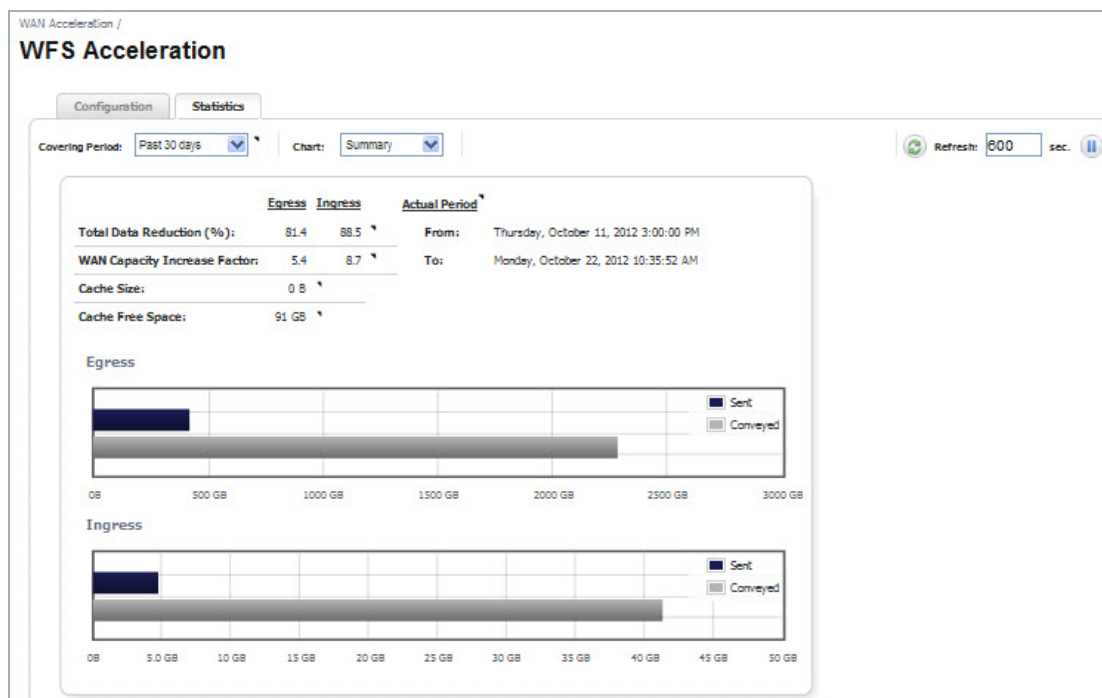
Name	Description
Apply Changes Button	Applies the latest configuration settings.
Bypassed	Displays a pop-up window with a list of connections that have either been excluded from the acceleration process or failed. <div data-bbox="721 1115 1422 1329" data-label="Image"> </div>
Enable WFS Acceleration Checkbox	Enables the WFS Acceleration service on the WXA series appliance. This checkbox is enabled when the Unsigned SMB checkbox is enabled.
Unsigned SMB Checkbox	Enables transparent WFS Acceleration on networks that do not use SMB signing. This checkbox is enabled by default.
Support SMB Signing Check-box	Enables support for SMB signing. This requires the WXA series appliance to be joined to the domain. This checkbox is disabled by default. For more information, refer to the WFS Acceleration Page Using Signed SMB on page 67. <p>Note: If this checkbox is disabled, the WXA series appliance panel is hidden.</p>

Statistics Tab

The Statistics tab displays performance statistics for the WFS Acceleration service.



Note The WFS Cache statistics displayed in this page only represent Signed SMB traffic. If you are using Unsigned SMB, the WFS Cache statistics do not apply.



Name	Description
Covering Period Drop-down	Click the Covering Period drop-down list and select the period of time the data displays on the Statistics tab.
Chart Drop-down	Selects the graph style used to display the WFS Acceleration data.
Refresh Actions	Refreshes the current page. The refresh interval can be entered in the text field. The maximum time interval that can be set is 999 seconds. Click the Refresh symbol to manually update the page. Click the Pause symbol to stop updates on the page.
Overview Table	Displays read-only data for the following: <ul style="list-style-type: none"> Total Data Reduction percentage WAN capacity increase factor Cache Size Cache Free Space
Egress Charts	Displays the egress (out going) sent and conveyed traffic in Bytes.
Ingress Charts	Displays the ingress (incoming) sent and conveyed traffic in Bytes.

WFS Acceleration Page Using Signed SMB

Clicking the **Support SMB Signing** checkbox displays the Basic (recommended) and Advanced configuration mode radio buttons. These signed SMB configuration modes give you the option to perform a simplified or more detailed WFS Acceleration configuration. The Basic configuration mode displays a Signed SMB Setup tab, while the Advanced configuration mode displays the Domain Details and Shares tabs in place of the Signed SMB Setup tab. All the other tabs (Configuration, Statistics, and Tools) appear the same in both Basic and Advanced configuration modes.

For detailed views and descriptions of the Basic and Advanced configuration mode management interface, refer to the following sections:

- [Basic Configuration Mode](#) on page 67
- [Advanced Configuration Mode](#) on page 81

Basic Configuration Mode

Basic mode is the preferred way to configure WFS Acceleration due to its simplistic naming convention and ease of use. However, you can select the Advanced radio button at any time, directing you to the [Domain Details Tab, page 82](#) if you wish to configure individual shares.



Note In Basic mode, a naming convention is used to circumvent some of the settings required in Advanced mode. Therefore, servers configured in Advanced mode may not appear in the Basic mode server lists, but will still be part of the configuration.

WAN Acceleration /
WFS Acceleration Signed SMB Configuration Mode: Basic Advanced

Configuration Statistics Signed SMB Setup Tools

Apply Changes Bypassed

WFS Acceleration

Enable WFS Acceleration
 Unsigned SMB
 Support SMB Signing

WFS Acceleration Address: LAN Primary IP

WXA Series Appliance

Hostname: WXA-TB20-RS
Authentication Code: RS35-R277
Joined Domain: tb20dc3.sonicwall.com

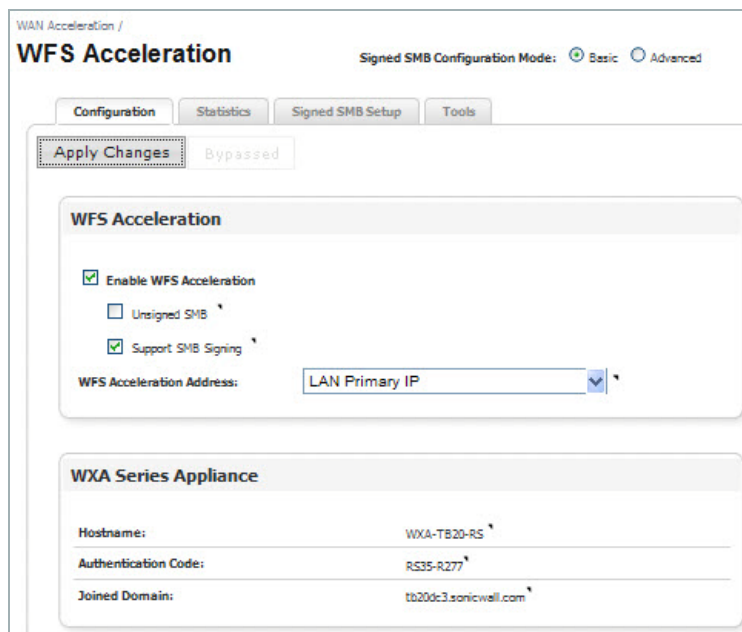
Name	Description
Configuration Tab	Enables WFS Acceleration and allows user to choose the IP address to associate with the service. See Configuration Tab on page 68 for details.
Statistics Tab	Displays performance statistics for the WFS Acceleration service. See Statistics Tab on page 70 for details.

Name	Description
Signed SMB Setup Tab	Configures the WXA series appliance to match the details of the domain it is joining. This tab offers a simplified domain and file server configuration, making it a quick and easy way to configure WFS Acceleration. See Signed SMB Setup Tab on page 71 for details.
Tools Tab	Provides diagnostic tools for the WFS Acceleration service. See Tools Tab on page 77 for details.

Configuration Tab

The Configuration tab allows you to enable the WFS Acceleration service, configure (SMB) signing settings, select an IP address object for the WXA series appliance, and view info for the WXA series appliance hostname (which can be configured, if the WXA series appliance is unjoined), authentication code, and joined domain. The WXA series appliance panel and Unsigned SMB checkbox may not display if the SonicOS firmware version is mismatched.

Figure 2 WFS Acceleration > Configuration



Name	Description
Apply Changes Button	Applies the latest configuration settings.
Enable WFS Acceleration Checkbox	Enables the WFS Acceleration service on the WXA series appliance. Enabled when Support SMB Signing checkbox is enabled.
Unsigned SMB Checkbox	Enables transparent WFS Acceleration on networks that do not use SMB signing. Enabled by default. For more information refer to the WFS Acceleration Page Using Unsigned SMB on page 65.
Support SMB Signing Checkbox	Enables support for SMB signing. This requires the WXA series appliance to be joined to the domain. This checkbox is enabled by default. Note: If this checkbox is disabled, the WXA series appliance panel is hidden.
WFS Acceleration Address Drop-down Menu	Sets the address object that represents the IP address that the WXA series appliance will use when connecting to servers and clients.

Name	Description
Hostname	Displays the hostname of the WXA series appliance. Note: The address for the WXA series appliance normally remains private because it is behind the managing NSA/TZ series appliance's IP address which is already used for routing across the network.
Authentication Code	Displays the authentication code for the WXA series appliance. Note: The authentication code is only needed when configuring a WXA series appliance to auto-join itself to the domain.
Joined Domain	Displays the domain that the WXA series appliance joined.



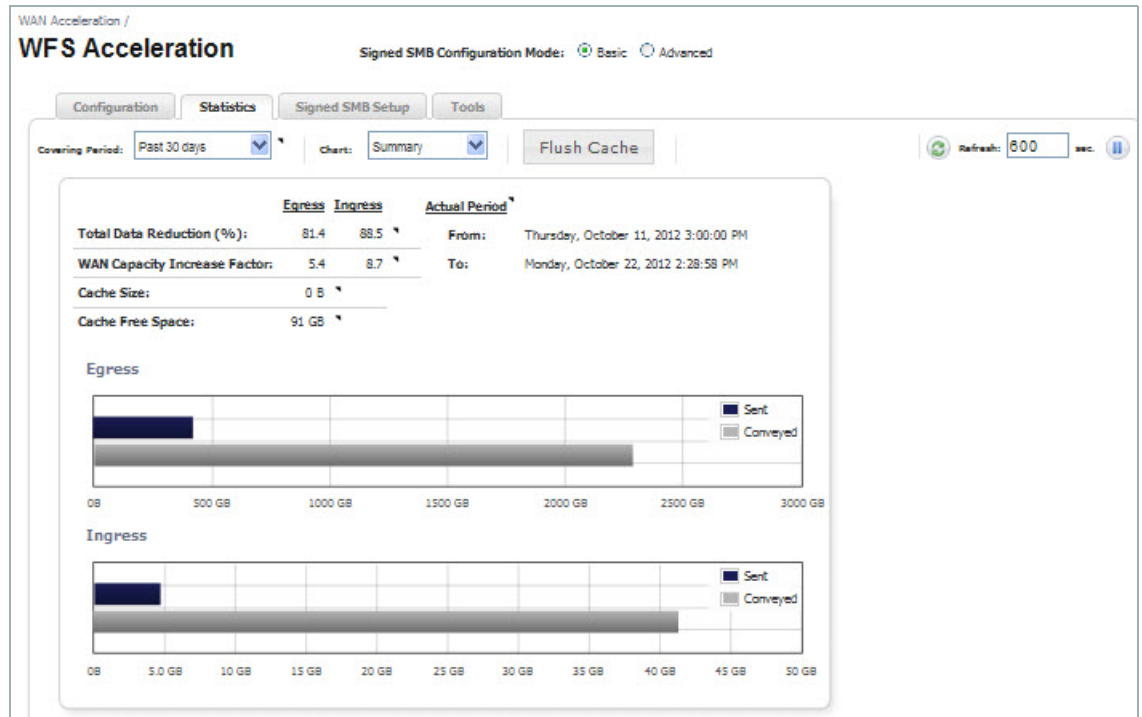
Note You can verify the WFS Acceleration status on the [WAN Acceleration > Status page](#).

Statistics Tab

The Statistics tab displays performance statistics for the WFS Acceleration service.



Note The WFS Cache statistics displayed in this page only represent Signed SMB traffic. If you are using Unsigned SMB, the WFS Cache statistics do not apply.



Name	Description
Covering Period Drop-down	Click the Covering Period drop-down list and select the period of time the data displays on the Statistics tab.
Chart Drop-down	Selects the graph style used to display the WFS Acceleration data.
Flush Cache Button	Clears the WFS Acceleration cache on the WXA series appliance.
Refresh Actions	Refreshes the current page. The refresh interval can be entered in the text field. The maximum time interval that can be set is 999 seconds. Click the Refresh symbol to manually update the page. Click the Pause symbol to stop updates on the page.
Overview Table	Displays read-only data for the following: <ul style="list-style-type: none"> Egress/Ingress Total Data Reduction percentage Egress/Ingress WAN capacity increase factor Egress Cache Size Egress Cache Free Space
Egress Charts	Displays the egress (out going) sent and conveyed traffic in Bytes.
Ingress Charts	Displays the ingress (incoming) sent and conveyed traffic in Bytes.

Signed SMB Setup Tab

The Signed SMB Setup tab offers a simplified and user friendly way to have the WXA series appliance join the domain, add servers to the configuration, and to create the necessary records on the domain.



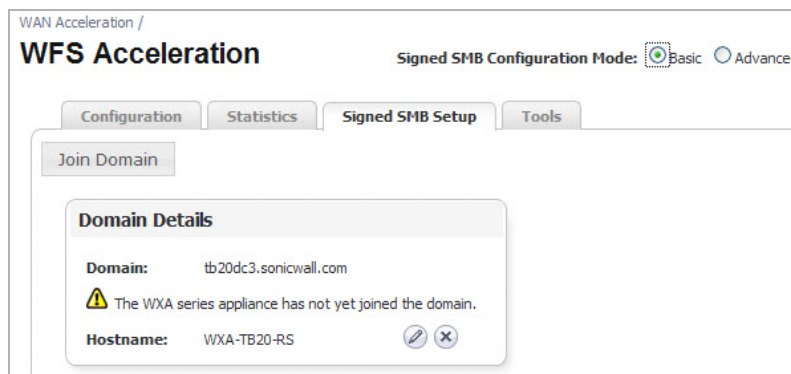
Note There is a WFS Setup Wizard available for deployments running SonicOS 5.9 firmware. This is the preferred way to configure Signed SMB. You can access the wizard by clicking the **Wizards** link in the top-right corner of the managing NSA/TZ series appliance's user interface. Click the **WXA setup Wizard**, then select the **WFS Setup Wizard**. For more information, refer to the "Wizards" section of the *SonicOS 5.9 Administrator's Guide*.

The WXA series appliance should automatically discover the domain details if:

1. The DNS server can reverse resolve its own address into a hostname within the domain.
2. The domain is specified using DHCP and the DNS server resolves that to the address of a Domain Controller.
Specifying the domain using DHCP is not directly considered auto-detecting and it is not a requirement for the DNS server to be a Domain Controller, although it is most common. However it is required for the DNS server to be a domain DNS server, problems can occur if any non-domain DNS server is used. Also, some types of independent DNS caches and servers might cause issues.

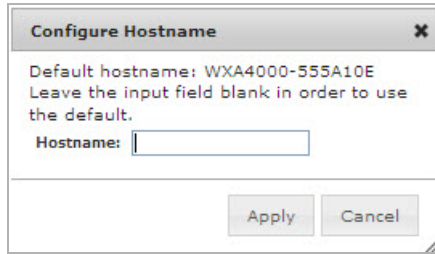
If the WXA series appliance has not joined the domain, the Signed SMB Setup tab displays a Join Domain button and a note that the WXA series appliance has not yet joined the domain.

Figure 3 WFS Acceleration > Signed SMB Setup (Domain Not Joined)



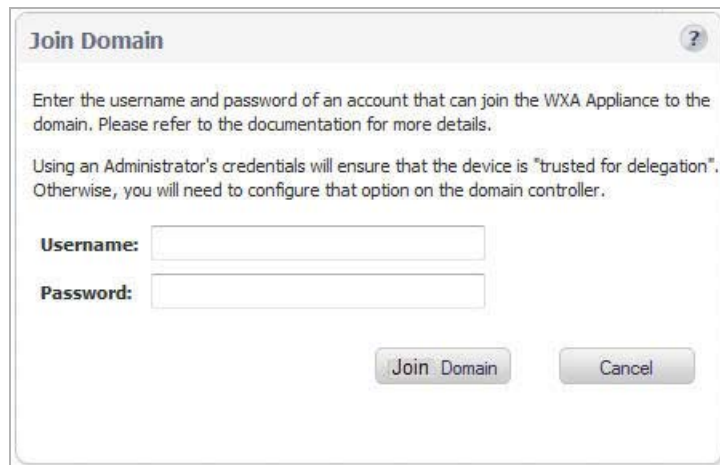
Name	Description
Join Domain button	Joins the WXA series appliance to the domain. Your Administrator's credentials must be entered to join the domain.
Domain: (read-only)	Displays the domain your WXA series appliance is joined to.
Hostname:	Displays the default or created hostname for your WXA series appliance.
Configure button	Configures the WXA series appliance hostname. You can create your own hostname or leave the text field blank to use the default.
Delete button	Deletes the configuration for the WXA series appliance hostname and the domain it is configured to. If the WXA series appliance has not joined the domain, a Delete button displays for the Hostname and can be reverted back to the default hostname.

The Configure Hostname pop-up window displays after clicking the **Configure** button in the Hostname field:



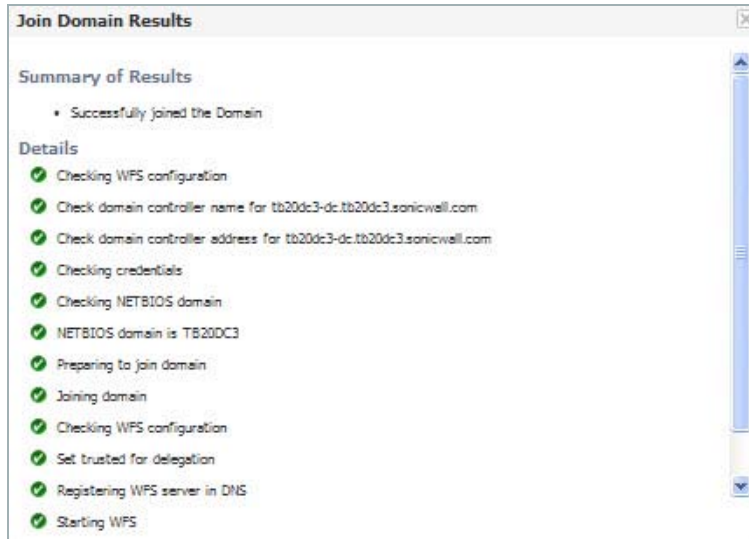
Name	Description
Hostname (text field)	Enter a <i>hostname</i> for your WXA series appliance. A default hostname is chosen for you, leave the text field blank to use it. Note: If you are configuring a WXA 5000 Virtual Appliance or WXA 500 Live CD, a default hostname is not provided, you must enter one.
Apply button	Applies the created or default hostname to the WXA series appliance.
Cancel button	Cancel any entered information and closes the Configure Hostname pop-up window.

Figure 4 Join Domain Pop-up Window



Name	Description
Join Domain button	Joins the WXA series appliance to the domain. Note: The join domain process adds the relevant domain records for the WXA series appliance, which requires administrator's credentials.
Cancel button	Cancel any information entered and closes the Join Domain pop-up window.

Figure 5 Join Domain Results



Name	Description
Summary of Results (Read-only)	Displays a summary of results after the WXA series appliance joins the domain.
Details (Read-only)	Details the steps performed in the domain joining procedure. A green circle indicates a pass, and a red circle indicates a failure.

If the WXA series appliance is joined to the domain, the Add Server and Update Domain Records buttons display, along with the domain details and configured servers panels. Click the **Local** radio button to configure servers on the local site and the **Remote** radio button to configure servers on a site that is remote from the location of the local site.



Note The central site's administrator should configure their local servers first before the branch site administrator configures their remote servers. For example, if you are at the central site, you would configure the local File Servers so that they can be accessed from the branch sites.

The configured servers information changes when toggling between the Local and Remote radio buttons, as seen in the two figures below:

Figure 6 Signed SMB Setup for the remote site

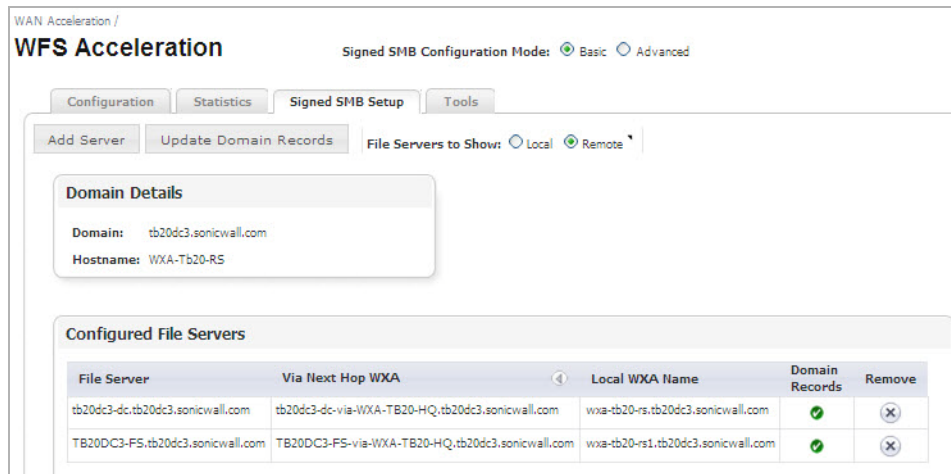
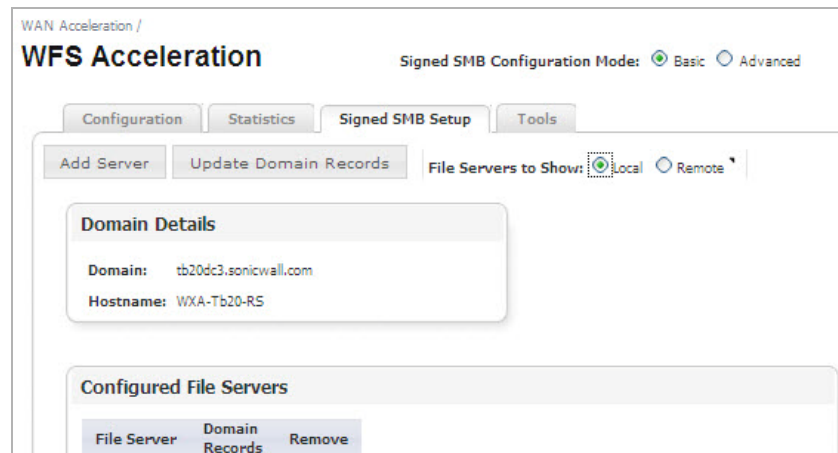


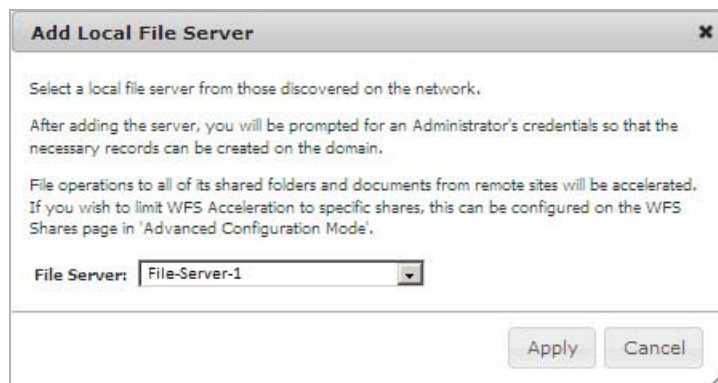
Figure 7 Signed SMB Setup for the local site



Name	Description
Add Server button	Configures the WXA security appliance to share files on a remote server. See on page 75 and on page 76 for details.
Update Domain Records button	Updates any missing SPN aliases to the Domain Controller, configured remote servers to the Specific Trusted Host List on the computer account, and any missing DNS records. It also removes unwanted or outdated records. This button should be used when deleting servers, as well as adding them. As seen in on page 77 , when this button is clicked, you will be prompted to enter your Administrator's credentials.
File Servers to Show: Local radio button	Changes the management interface to configure local file servers.
File Servers to Show: Remote radio button	Changes the management interface to configure remote file servers.
Domain: (text field)	Displays the name of the domain that the WXA series appliance is joined to.

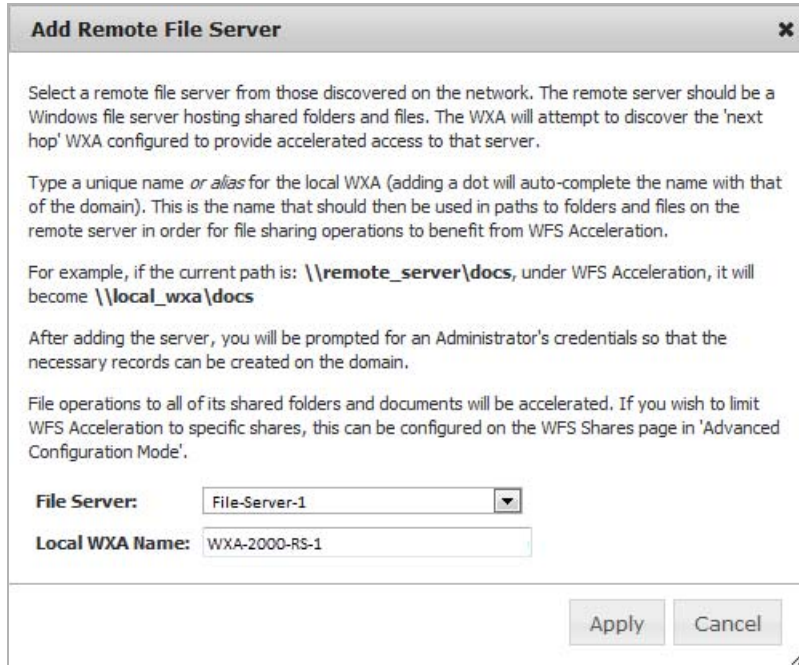
Name	Description
Hostname: (text field)	Displays the default or created hostname for the WXA series appliance.
File Server	Displays the file server(s) configured to the WXA series appliance.
Via Next Hop WXA	Displays the auto-generated name of the WXA series appliance on the local site that is configured the local file server.
Local WXA Name	Displays the name of the local WXA series appliance.
Domain Records	Displays a green circle if the domain records are configured correctly and a red circle if they are not. Click the Update Domain Records button to add any missing records and remove stale records.
Remove button	Removes the server from the configured list. Note: It is recommended to use the "Update Domain Records" button after removing a server, this deletes any unwanted domain records.

Figure 8 Add Local File Server Pop-up Window



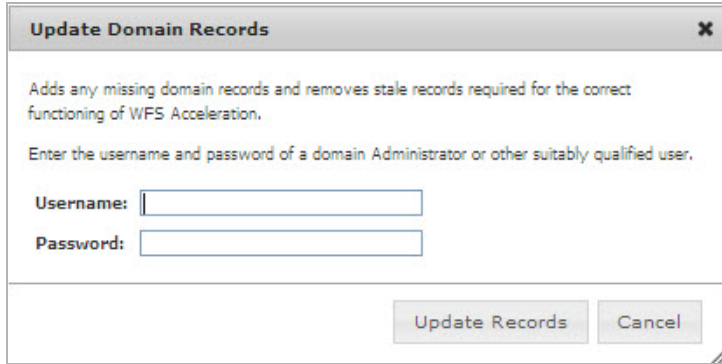
Name	Description
File Server: (text field)	Selects the local file server from the drop-down list.
Apply button	Adds the file server to the WXA series appliance for sharing. After clicking the Apply button, domain records are also added to the server, requiring the Administrator's credentials.
Cancel button	Cancel the information entered and closes the Add Server pop-up window.

Figure 9 Add Remote File Server Pop-up Window



Name	Description
File Server: (text field)	Selects the remote file server from the drop-down list.
Local WXA Name: (text field)	Enter a name for your local WXA series appliance. Adding a dot at the end of the name auto-completes the name with that of the domain.
Apply button	Adds the file server to the WXA series appliance for sharing. After clicking the Apply button, an SPN Alias is created using the local WXA name and the domain records are added to the server, requiring the Administrator's credentials.
Cancel button	Cancels the information entered and closes the Add Server pop-up window.

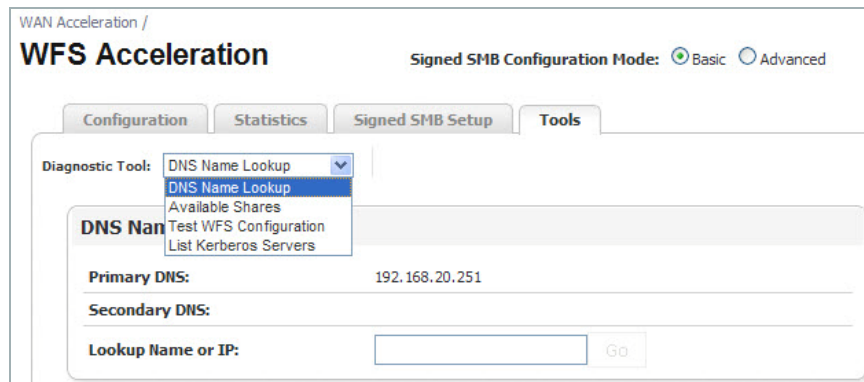
Figure 10 Update Domain Records Pop-up Window



Name	Description
Username (text field)	Enter your Administrator's <i>username</i> .
Password (text field)	Enter your Administrator's <i>password</i> .
Update Records button	Updates any missing domain records required for the WFS Acceleration feature to function correctly.
Cancel button	Cancels any information entered and closes the Update Domain Records pop-up window.

Tools Tab

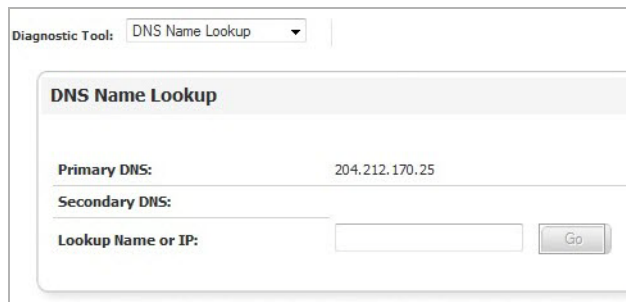
The Tools tab provides diagnostic tools for the WFS Acceleration service.



The Diagnostic Tools drop-down provides the following selections:

- **DNS Name Lookup** — Performs a search on a specific Name or IP address, see [on page 78](#) for details.
- **Available Shares** — Displays information about available shares on a specific host, see [on page 79](#) for details.
- **Test WFS Configuration** — Performs a test on the WFS Acceleration configuration and validates connectivity, see [on page 80](#) for details.
- **List Kerberos Servers** — Displays a list of Kerberos servers that are available to use, see [on page 80](#) for details.

Figure 11 DNS Name Lookup Panel



The DNS Name Lookup Panel displays the following information:

Name	Description
Primary DNS: (read-only)	Displays the primary DNS which was configured on NSA/TZ security appliance using the Network > DNS page or Network > DHCP Server > Edit > DNS/WINS tab.
Secondary DNS: (read-only)	Displays the secondary DNS which was configured on NSA/TZ security appliance using the Network > DNS page or Network > DHCP Server > Edit > DNS/WINS tab.
Lookup Name or IP: Text Field	Allows you to search for available DNS names or IP addresses. Click Go to initiate the search. A response will be received from the DNS server. It is used to verify whether the WXA series appliance can reach the DNS server. Note: Lookup of IP addresses only works if the DNS server has reverse lookup zones configured.



Note The DNS servers in the DNS Name Lookup should all be domain DNS servers. Non-domain DNS servers can cause issues.

Figure 12 Available Shares Panel

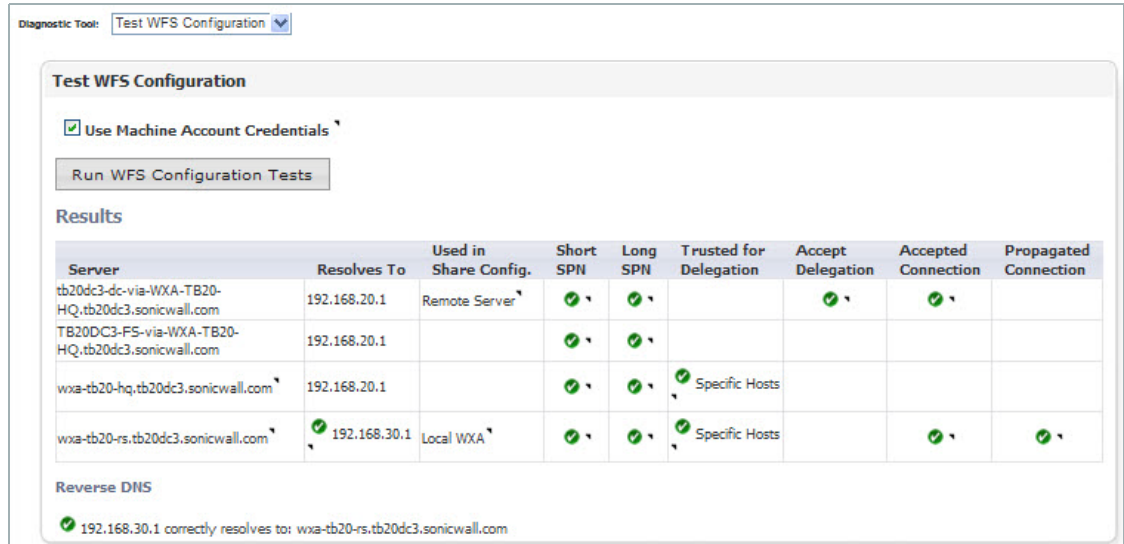
The Available Shares Panel provides the following configuration options:



Note If the WXA series appliance has already joined the domain, you can use the WXA series appliance credentials, the username/password do not need to be entered.

Name	Description
Host: Text Field	The name of the server that the shares reside.
Use Machine Account Credentials Checkbox	Checks the shares available on the share entered in the Host text field using the WXA series appliance's machine account credentials.
Username: Text Field	The username for the user's account.
Password: Text Field	The password for the user's account.
Go Button	Initiates the search. This displays a list of shares available on the server that the system administrator specified. It is used to verify the connection between the WXA series appliance and the server and that a list of shares can successfully be obtain from that server.

Figure 13 Test WFS Configuration Option



The Test WFS Configuration Panel provides the following configuration options:

Name	Description
Use Machine Account Credentials Checkbox	Checks the shares available on the share entered in the Host: text field using the WXA series appliance's machine account credentials.
Username: Text Field	The username for the user's account. This is only visible/required if the WXA series appliance does not have its own machine account with appropriate permissions.
Password: Text Field	The password for the user's account. This is only visible/required if the WXA series appliance does not have its own machine account with appropriate permissions.
Run WFS Configuration Tests Button	Initiates a test to ensure that the WFS Acceleration service is configured correctly
Results	Displays the results of the WFS Acceleration test.
Reverse DNS	Displays the Reverse DNS address.

For more information on troubleshooting test results, refer to [Verifying the WFS Acceleration Configuration](#) on page 117.

Figure 14 List Kerberos Servers Option



The List Kerberos Server Panel provides the following configuration options:

Name	Description
Domain: Text Field	Displays the domain for the Kerberos server.
Go Button	Initiates the search and displays a list of the Kerberos servers.

Advanced Configuration Mode

Clicking the **Advanced** configuration mode radio button displays the Domain Details and Shares tabs. All other tabs (Configuration, Statistics, and Tools) appear the same in both Basic and Advanced configuration modes. For details on the Configuration, Statistics, and Tools tabs, see the [Basic Configuration Mode](#) on page 67.



Caution Advanced configuration mode should only be used if you need to specifically define server or share names. The preferred way to configure WFS Acceleration is to use the Basic configuration mode.

While in the Domain Details or Shares tab, you can select the **Basic** radio button at any time, directing you to the [Signed SMB Setup Tab](#) on page 71, if you wish to use the simplified configuration procedure for the domain.



Note Servers configured in Advanced mode may not be visible in the **WFS Acceleration > Signed SMB Setup** tab in Basic mode, due to the specific naming convention used in Basic mode. However, the servers are still part of the configuration and file operations will still be accelerated.

WAN Acceleration / **WFS Acceleration** Signed SMB Configuration Mode: Basic Advanced

Configuration Statistics Domain Details Shares Tools

Apply Changes Bypassed

WFS Acceleration

Enable WFS Acceleration
 Unsigned SMB
 Support SMB Signing

WFS Acceleration Address: LAN Primary IP

WXA Series Appliance

Hostname: WXA-TB20-R5
Authentication Code: RS35-R277
Joined Domain: tb20dc3.sonicwall.com

Name	Description
Domain Details Tab	Configures the WXA series appliance to match details of the domain it is joining. This tab offers advanced configuration procedures for joining the domain. See the Domain Details Tab, page 82 for details.
Shares Tab	Configures the WXA series appliance to accelerate specific servers and shares. Available only when using the Advanced configuration mode. See the Shares Tab on page 91 for details.

Domain Details Tab


The Domain Details tab offers an advanced configuration of the domain, providing more options and details than the Basic mode's Signed SMB Setup tab. The WXA series appliance may automatically discover the domain details if the DNS server configured on the NSA/TZ series appliance is a domain controller and the DNS server is correctly configured in the domain.

If the domain name is not auto-discovered, the Domain Details tab requires you to enter the basic details for a domain.

Figure 15 WFS Acceleration (Name Not Auto-discovered)

The screenshot shows the 'WFS Acceleration' configuration page in 'Advanced' mode. A warning message at the top states: 'A Windows domain has not been discovered or configured. Configure a domain for the appliance to join on the Domain Details page. You must then configure the servers and shares to which acceleration will be applied (see Shares page).' The 'Domain Details' tab is active, showing a form to 'Enter Domain Details..'. The form includes fields for 'Fully Qualified Domain Name', 'Hostname' (with the value 'ESAES33x-7F5108'), and 'Kerberos Server' (with a port of '88'). An 'Apply Changes' button is located at the bottom right of the form area.

WAN Acceleration /
WFS Acceleration Signed SMB Configuration Mode: Basic Advanced

 • A Windows domain has not been discovered or configured. Configure a domain for the appliance to join on the Domain Details page.
• You must then configure the servers and shares to which acceleration will be applied (see Shares page).

Configuration Statistics **Domain Details** Shares Tools

Enter Domain Details..
No domain details can be discovered from the network. You can configure a domain manually by completing the following form and applying the changes.

Fully Qualified Domain Name:

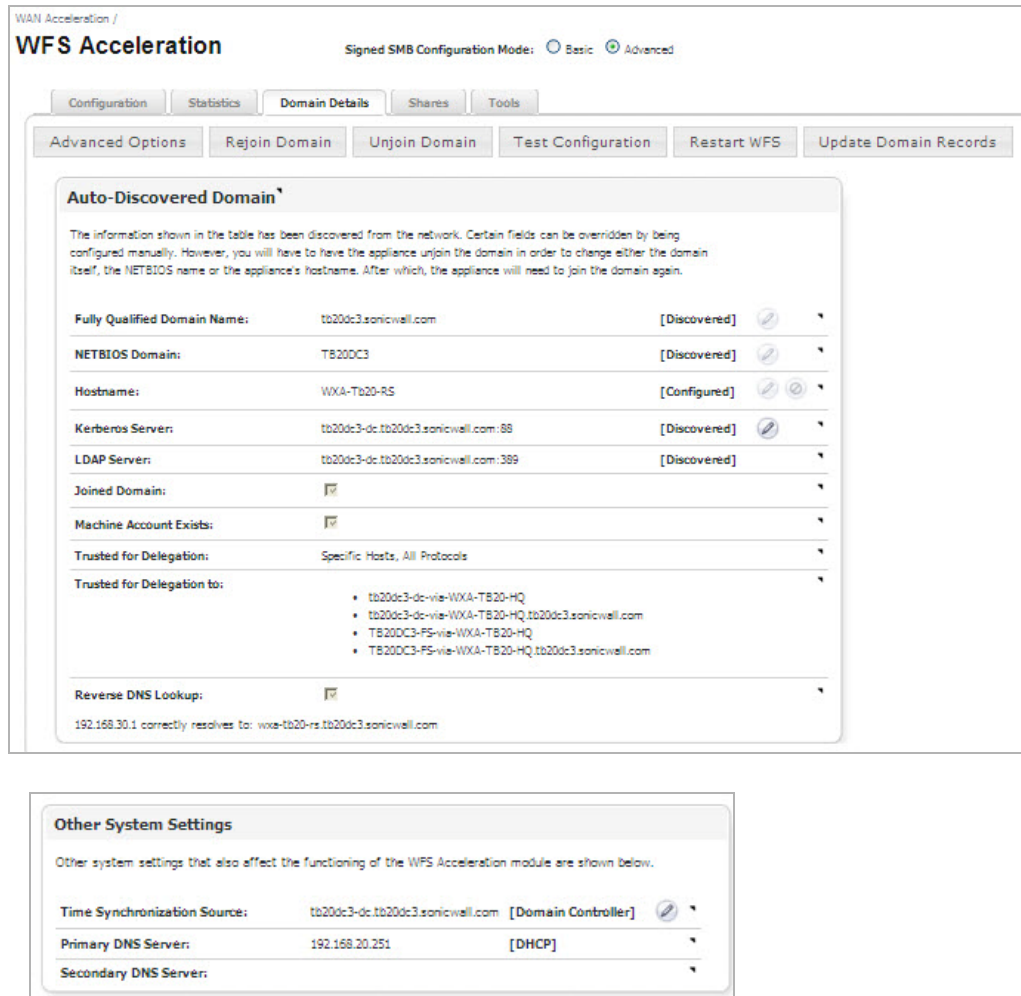
Hostname:

Kerberos Server: :

Apply Changes

If the domain name is auto-discovered, the Domain Details tab displays the configured domain details and options for configuring the domain.

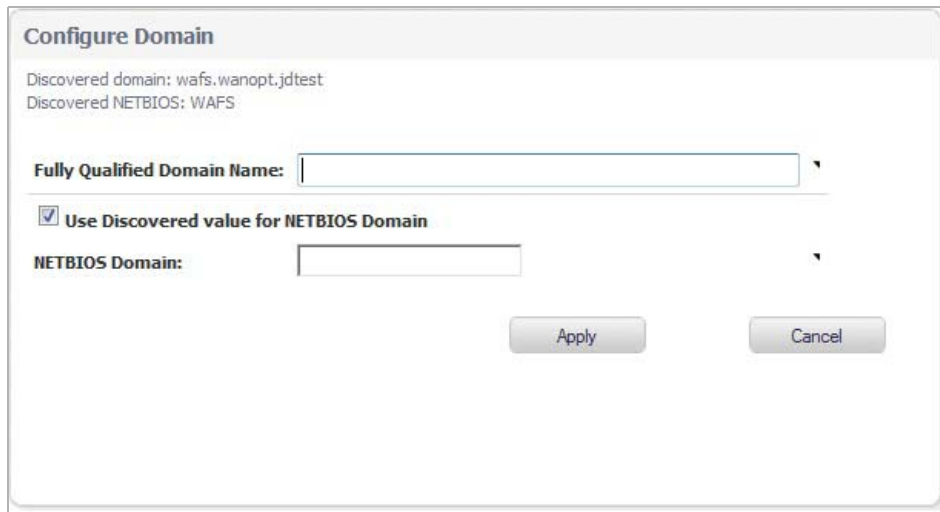
Figure 16 WFS Acceleration (Name Auto-discovered)



Name	Description
Action Buttons	
Advanced Options	Configures the WFS Acceleration service in more detail with Client Signing, Server Signing, and Max Transmit, which affect the CIFS packet size, see on page 87 for details.
Join Domain/Rejoin Domain	The WXA series appliance joins the domain (becomes part of the domain) that is identified in the FQDN. The Join Domain Pop-up Window is displayed, see on page 88 for details. If the WXA series appliance has previously joined the domain, the Rejoin Domain button is displayed. If this is the first time, a Join Domain button is displayed.
Unjoin Domain	Removes all information about the current domain that the WXA series appliance has joined. This button will no remove a configured domain, hostname, or servers/shares from the configuration.
Test Configuration	Tests the WFS Acceleration service and displays a WFS Configuration Test Results pop-up window, see on page 89 . If the WFS Acceleration service is not working correctly, reconfigure the domain details, and then retest.

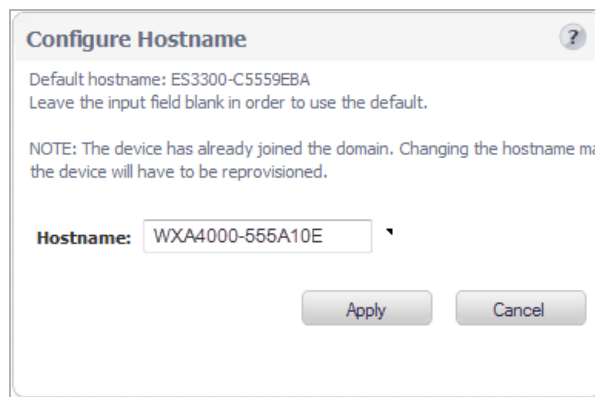
Name	Description
Restart WFS	Restarts the WFS Acceleration service. All existing sessions and file transfers will be terminated.
Update Domain Records	Updates any missing domain records for SPN aliases, configured remote servers to the "Specific Trusted Host List", and missing DNS records. Displays an Update Domain Pop-up window, see on page 90 , detailing the results of the procedure.
Auto-discovered Domain Panel (the panel name changes depending on whether the domain is auto-discovered or configured)	
Fully Qualified Domain Name:	The fully qualified domain name (FQDN) of your Windows domain that the WXA series appliance joins. To change the FQDN, you must unjoin the domain. Click the Edit button to modify the FQDN, see on page 85 for details.
NETBIOS Domain:	If you configured the FQDN at initial setup and join (or tired to join) the domain, the WXA series appliance should auto-discover the corresponding NETBIOS domain. Click the Edit button to configure the FQDN and the NETBIOS Domain, see on page 85 for details. Changing the FQDN or the NETBIOS Domain after joining the Windows domain requires the device to rejoin the domain.
Hostname:	Displays the hostname for the WXA series appliance. Click the Edit button to modify the hostname, see on page 85 for details. Changing the hostname requires the old computer account to be manually deleted from the domain controller.
Kerberos Server:	The FQDN of the Kerberos server or an IP address (not recommended) on the Windows Domain. Joining the domain with the Kerberos server specified as an IP address causes a failure unless reverse DNS lookups have been configured on the DNS server. The alternative is to provide the name of the Kerberos server. The port number defaults to 88. This server is typically the domain controller. To edit the server name, you must first unjoin the domain, and then click the Edit button. The Kerberos Server pop-up window appears, see on page 86 for details.
LDAP Server:	Sets the Lightweight Directory Access Protocol (LDAP) server on the network. The port number defaults to 389. This server is typically the domain controller.
Joined Domain: Checkbox	(Read-only) Indicates the device has joined the domain.
Machine Account Exists: Checkbox	(Read-only) Indicates an account matching the hostname of the device is found on the domain. The computer account password is set to the authorization code.
Trusted for Delegation:	(Read-only) Indicates that the computer account of the WXA series appliance on the Domain Controller is trusted for delegation. This is a necessity and requires the administrator to configure the domain controller to confirm that the WXA series appliance can be trusted for delegation. Note: This field is updated by clicking the Update Domain Records button. It can also be updated directly on the domain controller.
Trusted for Delegation to:	(Read-only) Displays a list of all the trusted remote servers and WXA series appliances. Note: This field is updated by clicking the Update Domain Records button. It can also be updated directly on the domain controller.
Reverse DNS Lookup:	Displays DNS info if the WFS Acceleration address is correctly resolved to the WXA series appliance's hostname.
Other System Settings Panel	
Time Synchronization Source:	Displays the server that the WXA series appliance will synchronized its clock with. This server is usually the Domain Control because the WXA series appliance's clock must closely match that of the Domain Controller's clock. Click the Edit button to modify the server, see on page 87 .
Primary DNS Server:	(Read-only) Displays the current primary DNS server IP address, which must be a domain DNS server for WFS Acceleration to function properly.
Secondary DNS Server:	(Read-only) Displays the current secondary DNS server IP address. This must also be a domain DNS server for WFS Signed acceleration to function properly.

Figure 17 Configure Domain Pop-up Window



Name	Description
Fully Qualified Domain Name:	The FQDN for the Windows domain that the WXA series appliance will join.
Use Discovered value for NETBIOS Domain Checkbox	When checked (enabled), uses the NETBIOS name that is derived from the discovered domain.
NETBIOS Domain: Text Field	Enter the NETBIOS name for the domain. Note: Not necessary if the checkbox is selected.
Apply Button	Applies all changes.
Cancel Button	Cancels the operation.

Figure 18 Configure Hostname Pop-up Window

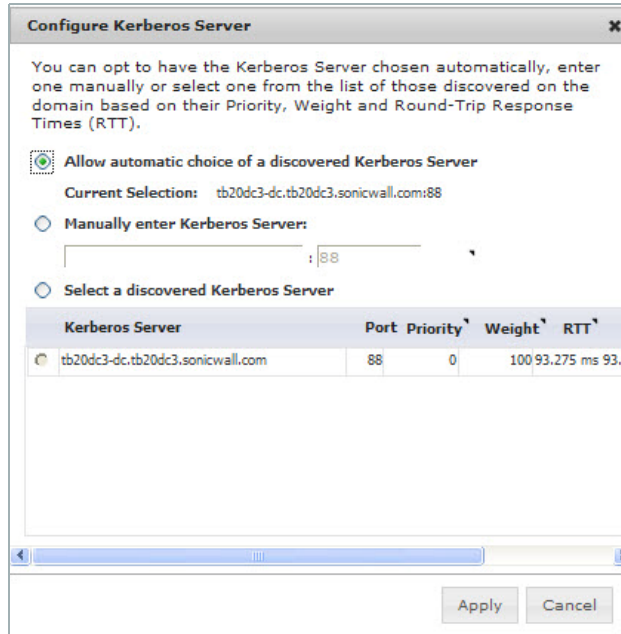


Name	Description
Hostname: Text Field	Input the desired hostname or leave the input field blank to use the default hostname. Note: If you are configuring a WXA 5000 Virtual Appliance or WXA 500 Live CD, a default hostname is not provided, you must enter one.
Apply Button	Applies all changes.
Cancel Button	Cancels the operation.



Note If the device has already joined the domain, changing the host name requires the device to unjoin the domain, and then rejoin the domain after the change is made.

Figure 19 Configure Kerberos Server Pop-up Window

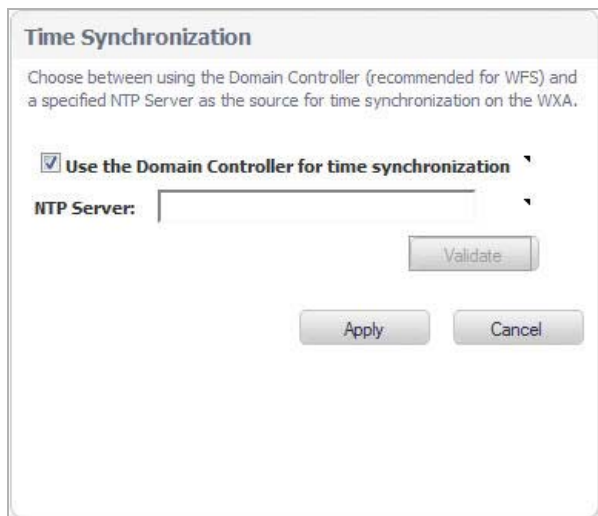


Name	Description
Configure Kerberos Server radio buttons	Select the desired configuration from these options: <ul style="list-style-type: none"> Allow automatic choice of a discovered Kerberos Server Display the auto-selected server. Manually enter Kerberos Server Enter the name and port number for the Kerberos Server used for authentication to the domain. Select a discovered Kerberos Server Choose one from the list.
Kerberos Server list	List the discovered Kerberos Servers with information on the following performance metrics: <ul style="list-style-type: none"> Priority - The priority of the Kerberos Server, lower values are preferred. Weight - The relative weight for Kerberos Servers with the same priority. Higher values are preferred. RTT- The round trip time for probes to the Kerberos Server.
Apply Button	Applies all changes.
Cancel Button	Cancels the operation.



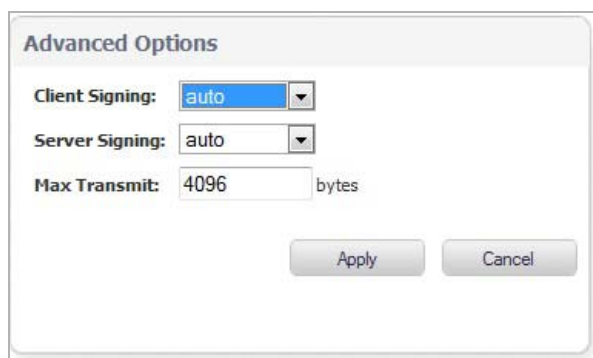
Note The LDAP Server and the Kerberos Server are usually the same computer.

Figure 20 Time Synchronization Pop-up Window



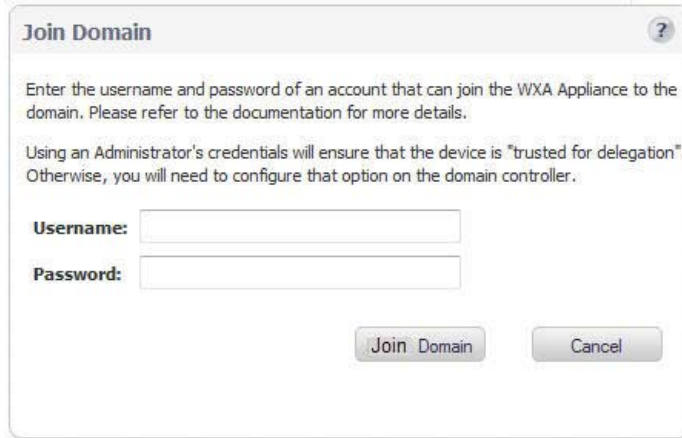
Name	Description
Use the Domain Controller for Time Synchronization: Checkbox	When enabled (checked) the domain controller is used as the time synchronization source.
NTP Server: Text Field	Overrides the domain controller synchronization by specify a NTP server in the required field.
Validate Button	Validates that the NTP Server specified can be connected and that the server provide the current time.
Apply Button	Applies all changes.
Cancel Button	Cancels the operation.

Figure 21 Advanced Options Pop-up Window

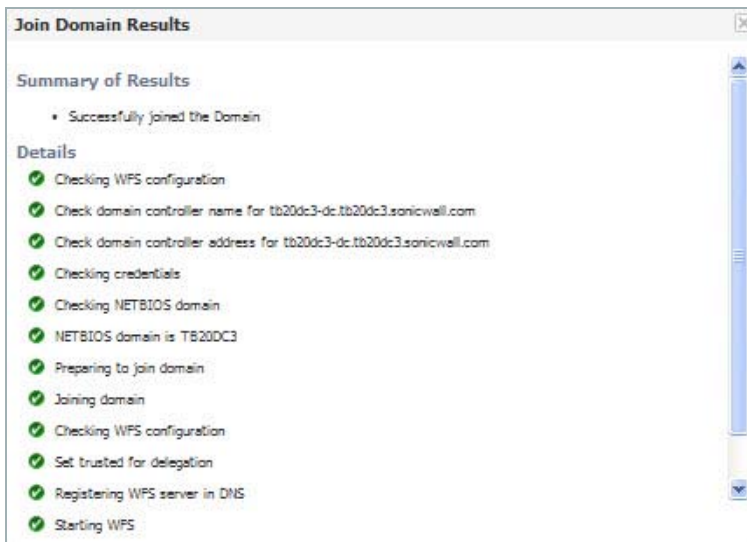


Name	Description
Client Signing: Drop-down	Identifies the server message block (SMB) signing between the WXA series appliance and the Windows client.
Server Signing: Drop-down	Identifies the SMB signing between the WXA series appliance and the server.
Max Transmit: Text Field	Sets the largest block of data that can be written at any one time.
Apply Button	Applies all changes.
Cancel Button	Cancels the operation.

Figure 22 Join Domain Pop-up Window



Enter the username and password of the domain administrator account.



Name	Description
Summary of Results (Read-only)	Displays a summary of results after the WXA series appliance joins the domain.
Details (Read-only)	Details the steps performed in the domain joining procedure. A green circle indicates a pass, and a red circle indicates a failure.

Figure 23 WFS Configuration Test Results Pop-up Window

Server	Resolves To	Used in Share Config.	Short SPN	Long SPN	Trusted for Delegation	Accept Delegation	Accepted Connection	Propogated Connection
wxa-tb20-hq-1.tb20dc3.sonicwall.com	192.168.20.1	Remote Server	✓	✓		✓	✓	
wxa-tb20-hq.tb20dc3.sonicwall.com	192.168.20.1	Remote Server	✓	✓	Specific Hosts	✓	✓	
wxa-tb20-rs-1.tb20dc3.sonicwall.com	192.168.30.1	Local WXA	✓	✓			✓	✓
wxa-tb20-rs.tb20dc3.sonicwall.com	192.168.30.1	Local WXA	✓	✓	Specific Hosts		✓	✓

Reverse DNS

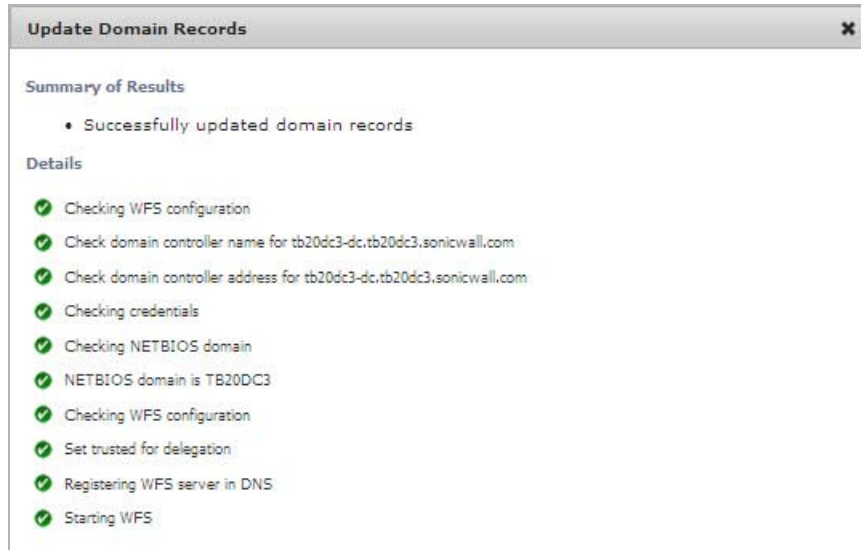
✓ 192.168.30.1 correctly resolves to: wxa-tb20-rs.tb20dc3.sonicwall.com

The WFS Configuration Test Results page displays the configuration status of the WFS Acceleration service. A green circle indicates a successful configuration, and a red circle indicates an error. Hover over the circle icons to display the details for that configuration.

Name	Description
Server	Display the remote server or local WXA names.
Resolves To	Displays the IP address that the WXA series appliance is resolved to.
Used in Share Config.	Displays the server that is used for sharing. This can be an actual server, or a WXA series appliance.
Short SPN	Verifies a short SPN is present on the machine account.
Long SPN	Verifies a long SPN is present on the machine account.
Trusted for Delegation	Lists the general server or specific hosts that are trusted for delegation by the WXA series appliance.
Accept Delegation	Displays the hosts that are trusted to present delegated credentials to the WXA series appliance.
Accepted Connection	Verifies the server accepted an authenticated connection.
Propagated Connection	Verifies the server propagated an authenticated connection.
Reverse DNS	Displays the Reverse DNS address path.

For information on troubleshooting, refer to the [Verifying the WFS Acceleration Configuration](#) on page 117.

Figure 24 Update Domain Records Pop-up Window



Name	Description
Summary of Results (Read-only)	Displays a summary of results after the WXA series appliance runs the Update Domain Records feature.
Details (Read-only)	Details the steps performed in the Update Domain Records procedure. A green circle indicates a pass, and a red circle indicates a failure.

Shares Tab

The Shares tab configures the WXA series appliance to accelerate specific shares and servers. This tab is only available in Advanced configuration mode.



Note Basic mode is the preferred way to configure WFS Acceleration, only use Advanced mode if you need to specifically define the server or share name.

Figure 25 WFS Acceleration > Shares

Action Items

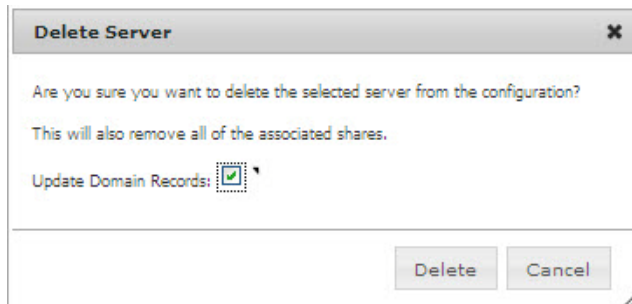
Name	Description
Add Server Button	When clicked the Add Server pop-up is displayed, see on page 93 . This window allows you to configure a new remote server
Update Domain Records	Updates any missing domain records for SPN aliases and “trusted for delegation”. When clicked, the Update Domain Records pop-up window displays, see on page 95 , requiring you to enter the Administrator’s Credentials.

Column Headings

Name	Description
Remote Server Name Column	Displays the name of the remote server. Note: This may not physically be remote, it might be on the local site.
Local WXA Name Column	Displays the name or alias of the local WXA series appliance.
Default Cache Enabled Column	Displays whether caching is enabled (checked) or disabled (unchecked).
Default Cache Read Ahead Column	Displays the size of the read-ahead buffer.
Configure Column	Displays Edit and Delete buttons. Click the edit button to modify the configuration of the server. Click the delete button to remove the file server from the configuration, see on page 92 . When the Edit button is clicked, the Edit Server Details window is displayed, see on page 93 .
Add New Share... Link	Adds a new share to a remote server. When clicked, the Add Share Pop-up window is displayed, see on page 94 .

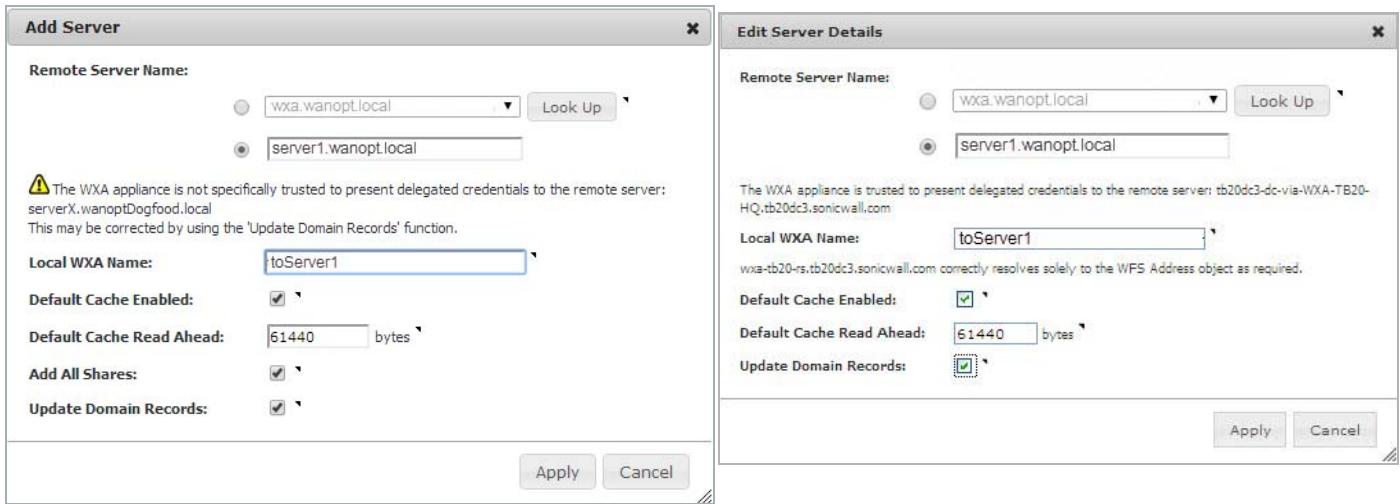
Name	Description
Name Column	Displays the name of the shares set on the server.
Cache Enabled Column	Indicates whether caching is enabled (checked) or disabled (unchecked).
Cache Read Ahead Column	Displays the size of the read-ahead buffer.
Configure Column	Displays an Edit and Delete button. Click the Edit button to modify the configuration of the share. Click the Delete button to remove the share from using the server. When the Edit button is clicked, The Edit Share Details pop-up window is displayed, see on page 94 .

Figure 26 Delete a Server



Name	Description
Update Domain Records checkbox	Removes any domain records that are no longer needed as a result of removing the file server from the configuration.
Delete	Deletes the file server from the configuration.
Cancel	Cancels the “delete server” request and closes the pop-up window.

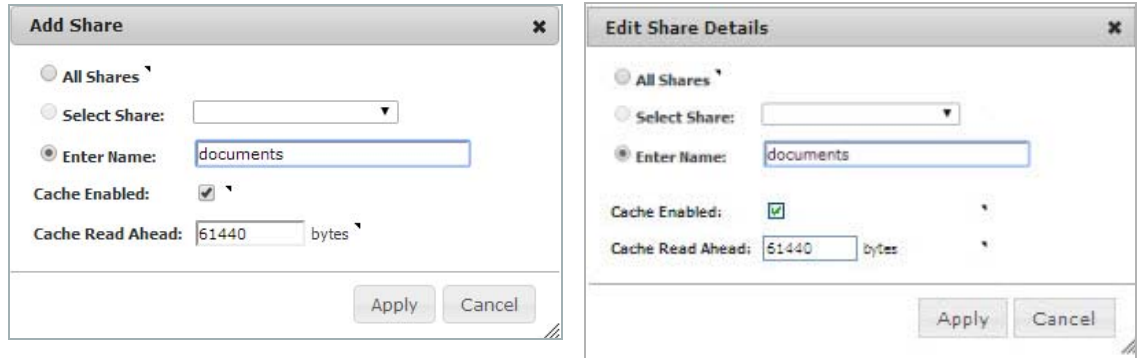
Figure 27 Add Server and Edit Server Details Pop-up Windows



Name	Description
Remote Server Name: Radio Buttons	<p>The Remote Server name can be selected from a list of remote servers found on the network, or manually entered in the text field. Toggle the radio buttons to choose between automatic or manual entry.</p> <p>Note: The remote server can either be a Windows server or another WXA series appliance acting as a proxy server.</p> <p>Clicking the Look Up button verifies that the name entered is registered in the DNS server.</p>
Local WXA Name: Text Field	<p>Enter the name of the local WXA, this will forward to the remote server. Use this name in paths to shares to get accelerated access to remote shares. A different local name alias should be used for each remote server.</p> <p>Note: If the Update Domain Records checkbox is enabled, the WXA series appliance will attempt to create a DNS record for each of the service principal name (SPN) aliases. The local device name must resolved to the public IP address. The DNS Server IP address is identified on the Domain Details Tab, page 82 of this WXA. These records can also be added later by clicking the Update Domain Records button.</p>
Default Cache Enabled: Checkbox	<p>When enabled (checked) shares are stored in the default cache. This option is enabled by default.</p> <p>When a file is requested, that is also available in the cache, the WXA series appliance serves the data from that cache as long as the cache file is valid. If the original file has changed, the parts of the cache that are still valid may be used. This process reduces the need for data to be sent over the network. This option can be overridden for individual shares.</p>
Default Cache Read Ahead: Text Field (Add Server Pop-up only)	<p>The default size (measured in bytes) for read-ahead speed in the cache. The default cache read ahead value is 61440 bytes.</p> <p>To calculate this value, multiply the link latency (in milliseconds) by the measured site-to-site bandwidth in (kilobytes per second) and divide that by the number of simultaneous file access users. This option can be overridden for individual shares.</p> <p>Example equation: $BDP / \langle \text{expected number of user sessions} \rangle$ where $BDP = \text{link rate in kilobytes} * \text{link latency}$.</p>
Add All Shares: Checkbox	<p>When enabled (checked), all shares are added on the server for WFS Acceleration. Otherwise, individual shares must be added manually.</p>
Update Domain Records: Checkbox	<p>Updates any missing domain records for SPN aliases, configured remote servers to the "Specific Trusted Host List", and missing DNS records. Requires the user to enter Admin credentials in a second pop-up window.</p>

Name	Description
Apply Button	Applies all changes.
Cancel Button	Cancels the operation.

Figure 28 Add Share and Edit Share Details Pop-up Windows



Name	Description
All Shares Option	All shares are added to the server.
Share Name: Drop-down menu	Provides a list of available shares on the remote server (not always available).
Enter Name: Text Field	Manually enter the name of a share.
Cache Enabled: Checkbox	When enabled (checked), data is stored in the cache.
Cache Read Ahead: Text Field	The number of bytes that the cache reads ahead. This service is only functional when the Cache Enabled checkbox is selected. The default cache read ahead is 61440 bytes.
Apply Button	Applies all changes.
Cancel Button	Cancels the operation.

Figure 29 Update Domain Records

Update Domain Records [X]

Adds any missing domain records and removes stale records required for the correct functioning of WFS Acceleration.

Enter the username and password of a domain Administrator or other suitably qualified user.

Username:

Password:

[Update Records] [Cancel]

This pop-up window displays when the **Update Domain Records** button is clicked. Enter the Administrator's Credentials to resolve any missing domain records for SPN aliases, "trusted for delegation", and DNS records.

Name	Description
Username Text Field	Enter the Administrator's Username.
Password Text Field	Enter the Administrator's Password.
Update Records Button	Updates any missing domain records for SPN aliases and "trusted for delegation".
Cancel Button	Cancels the Update Domain Records process.

Configuring WFS Acceleration

WAN Acceleration > WFS Acceleration

This chapter provides details on configuring the WFS Acceleration service. There are several different ways to configure WFS Acceleration depending on the user requirements and type of network environment used. If the Client PC is already joined to a domain, it is recommended to use Signed SMB. If you are not sure of the Client PC's domain joining status, it is recommended to use Unsigned SMB to begin with.

Unsigned SMB

In a network that supports unsigned SMB traffic, the WFS Acceleration service configuration is greatly simplified. The reason for this is unsigned SMB traffic does not have a security layer, so the WXA series appliance can intercept the traffic without joining the domain, eliminating the need to configure custom zones, configuring reverse lookup, and add file shares. Unsigned SMB is enabled by default.

Signed SMB

In a network that supports SMB signing, it is required that the WXA series appliance join the domain, due to the presence of a security layer in signed SMB traffic. Although this type of configuration is more complex than unsigned SMB, it offers a more granular configuration of the WFS Acceleration service. The WAN Acceleration > WFS Acceleration page displays a warning when signed SMB traffic is detected on the network. If this warning is present, please enable the Support SMB Signing checkbox, join the WXA appliance to the domain, and access the signed shares through the WXA appliance's shares.

Supporting SMB signing provides the option to configure WFS Acceleration in a Basic or Advanced configuration mode.

The Basic configuration mode (recommended) is a simplified WFS Acceleration configuration that concentrates on selecting the Windows File Servers that are hosting shares, and distinguishing remote and local file server configurations in the management interface. A Signed SMB Setup tab is displayed, providing options to easily add file servers and domain records.

The Advanced configuration mode offers manual configuration of the domain details, file servers, and file shares on the Domain Details and Shares tabs.



Caution Advanced configuration mode should only be used if you need to specifically define server or share names. The preferred way to configure WFS Acceleration is to use the Basic configuration mode.

To configure the WFS Acceleration service, refer to the section below that matches to your desired configuration:

- [Configuring WFS Acceleration Using Unsigned SMB](#) on page 98
- [Configuring WFS Acceleration Using Signed SMB](#) on page 99
- [Verifying the WFS Acceleration Configuration](#) on page 117

Configuring WFS Acceleration Using Unsigned SMB

To configure the WFS Acceleration service using Unsigned SMB, perform the following:

- Step 1** Permit acceleration for the relevant VPN or routed policies in the **Network > Routing** or **VPN > Settings** pages in the SonicOS management interface.

The screenshot displays two configuration panels. The left panel, titled "Route Policy Settings", includes fields for Source (Any), Destination (Any), Service (Any), Gateway (0.0.0.0), and Interface (--Select an interface--). It also has checkboxes for "Disable route when the interface is disconnected", "Allow VPN path to take precedence", "Permit Acceleration" (checked and highlighted with a red box), and "Probe: None". The right panel, titled "Advanced Settings", contains checkboxes for "Enable Keep Alive", "Suppress automatic Access Rules creation for VPN Policy", "Enable Windows Networking (NetBIOS) Broadcast", "Enable Multicast", and "Permit Acceleration" (checked and highlighted with a red box). It also includes options for "Apply NAT Policies", "Management via this SA" (with checkboxes for HTTPS and SSH), "User login via this SA" (with checkboxes for HTTP and HTTPS), "Default LAN Gateway (optional)", and "VPN Policy bound to: Zone WAN".

- Step 2** Configure a network interface on the NSA/TZ series appliance for the port you want to connect the WXA series appliance to. The WXA series appliance must be connected to a NSA or TZ series appliance on a port other than X0 and X1. See [Configuring Network Interfaces](#) on page 33 for details.

- Step 3** Navigate to the **WAN Acceleration > WFS Acceleration** page.

The screenshot shows the "WFS Acceleration" configuration page. At the top, there are tabs for "Configuration" and "Statistics". Below the tabs are buttons for "Apply Changes" and "Bypassed". The main content area is titled "WFS Acceleration" and contains three checkboxes: "Enable WFS Acceleration" (checked), "Unsigned SMB" (checked), and "Support SMB Signing" (unchecked).

- Step 4** Click the **Configuration** tab, and then select the **Enable WFS Acceleration** checkbox.

- Step 5** Select the **Unsigned SMB** checkbox.

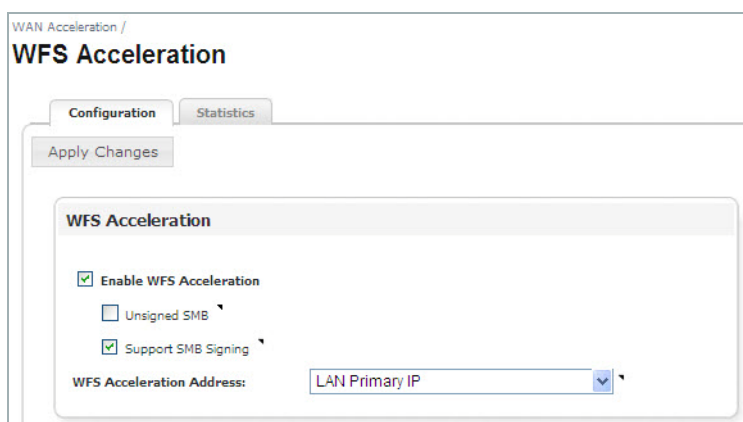
- Step 6** Click the **Apply Changes** button.

Configuring WFS Acceleration Using Signed SMB

The preferred way to configure WFS Acceleration for Signed SMB is to use the WXA Setup Wizard. However, this is currently only available if running SonicOS 5.9 firmware. If your NSA/TZ series appliance is using 5.8.1.x or 6.1.x firmware use the procedures in this section to configure WFS Acceleration for Signed SMB. For more information on the WXA Setup Wizard refer to the *SonicOS 5.9 Administrator's Guide*.

To manually configure the WFS Acceleration service using signed SMB, perform the following:

- Step 1** Configure a network interface on the NSA/TZ series appliance for the port you want to connect the WXA series appliance to. The WXA series appliance must be connected to a NSA or TZ series appliance on a port other than X0 and X1. See [Configuring Network Interfaces](#) on page 33 for details.
- Step 2** Navigate to the **WAN Acceleration > WFS Acceleration** page.

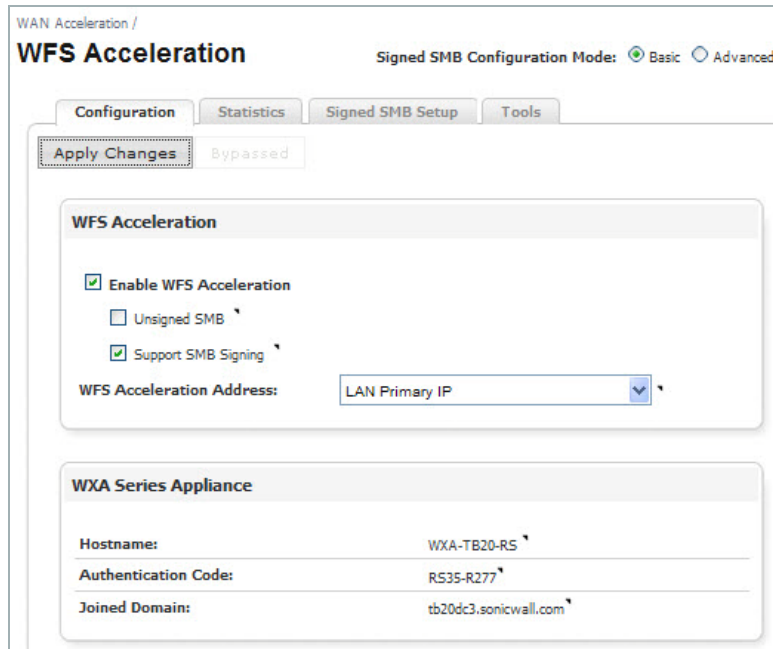


The screenshot shows the 'WFS Acceleration' configuration page. At the top, there are tabs for 'Configuration' and 'Statistics', with 'Configuration' selected. Below the tabs is an 'Apply Changes' button. The main configuration area is titled 'WFS Acceleration' and contains the following options:

- Enable WFS Acceleration
- Unsigned SMB
- Support SMB Signing
- WFS Acceleration Address:

- Step 3** Click the **Configuration** tab, and then select the **Enable WFS Acceleration** checkbox.
- Step 4** Select the **Support SMB Signing** checkbox.
- Step 5** Click the **Apply Changes** button.

The Signed SMB Setup and Tools tab, and Basic and Advanced configuration mode radio buttons display:



- Step 6** Select the **Basic** (Recommended) or **Advanced** configuration mode radio button.
- If you selected the Basic configuration mode, refer to the [Basic Configuration Mode](#) on page 101 for Basic mode configuration procedures.
 - If you selected the Advanced configuration mode, refer to the [Advanced Configuration Mode](#) on page 109 for Advanced mode configuration procedures.

Basic Configuration Mode

To configure WFS Acceleration in Basic configuration mode, use the Signed SMB Setup tab to join the domain, add file servers on the local and remote locations, and add domain records. When initially configuring WFS Acceleration, always configure the Central site first (the site where the file servers are physically located).



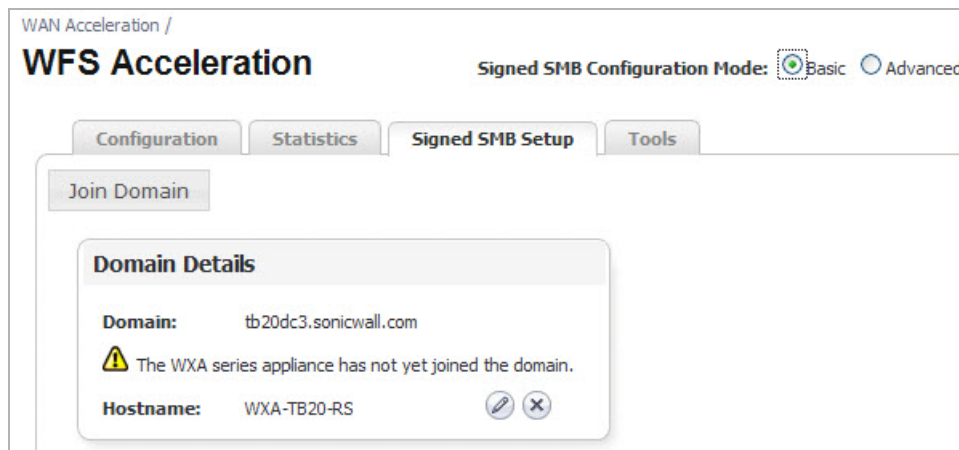
Note Basic mode is the preferred way to configure WFS Acceleration, only use Advanced mode if you need to specifically define server or share names.

- [Joining the Domain](#) on page 101
- [Adding File Shares](#) on page 103

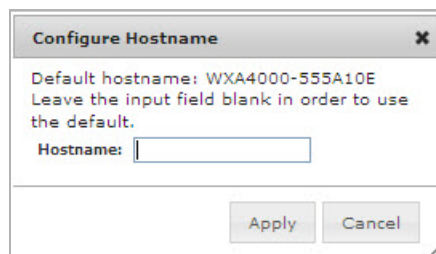
Joining the Domain

To join the domain, perform the following steps:

- Step 1** In the **WAN Acceleration > WFS Acceleration** page, select the **Signed SMB Setup** Tab. If this is the first time setting up WFS Acceleration, an initial Signed SMB Setup page displays:



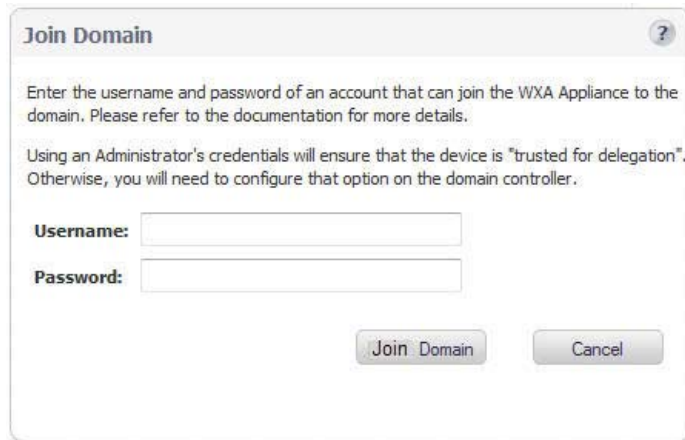
- Step 2** Enter the following in the Domain Details panel:
- Click the **Configure** icon located next to Hostname. A Configure Hostname pop-up window displays.



- Enter a friendly hostname or leave the Hostname text field blank to use the default hostname. The WXA series appliance automatically creates a hostname for you, but it is recommended that you create your own friendly hostname.
- Click the **Apply** button.

Step 3 Click **Join Domain**.

The **Join Domain** pop-up window displays.



The image shows a 'Join Domain' dialog box with a title bar containing a question mark icon. The main text reads: 'Enter the username and password of an account that can join the WXA Appliance to the domain. Please refer to the documentation for more details.' Below this, a note states: 'Using an Administrator's credentials will ensure that the device is "trusted for delegation". Otherwise, you will need to configure that option on the domain controller.' There are two input fields: 'Username:' and 'Password:'. At the bottom, there are two buttons: 'Join Domain' and 'Cancel'.

Step 4 Enter the username and password for the administrator of the domain or an account that can join the WXA series appliance to the domain.

Step 5 Click the **Join Domain** button.

The WXA series appliance will create a computer account on the domain controller, using the hostname entered in Join Domain pop-up window.

The Signed SMB Setup tab populates with the configured Domain Details:



The image shows the 'WFS Acceleration' configuration page. At the top, it says 'WAN Acceleration / WFS Acceleration' and 'Signed SMB Configuration Mode: Basic (selected) Advanced'. Below this are tabs for 'Configuration', 'Statistics', 'Signed SMB Setup', and 'Tools'. Under the 'Signed SMB Setup' tab, there are buttons for 'Add Server' and 'Update Domain Records', and a dropdown menu for 'File Servers to Show: Local (selected) Remote'. A 'Domain Details' box is visible, showing 'Domain: tb20dc3.sonicwall.com' and 'Hostname: WXA-Tb20-RS'.

Adding File Shares

The Basic server configuration mode does not require you to create SPNs for the remote servers or match remote and local WXA appliance names. In Basic mode, all available shares are added when a server is configured. When adding a server using the Basic configuration mode, the Administrator's credentials must be entered, enabling the WXA series appliance to add the SPN aliases for the share automatically.



Note If file servers were previously configured in the Advanced configuration mode, they might not display in the Basic configuration mode's "Signed SMB Setup" tab.

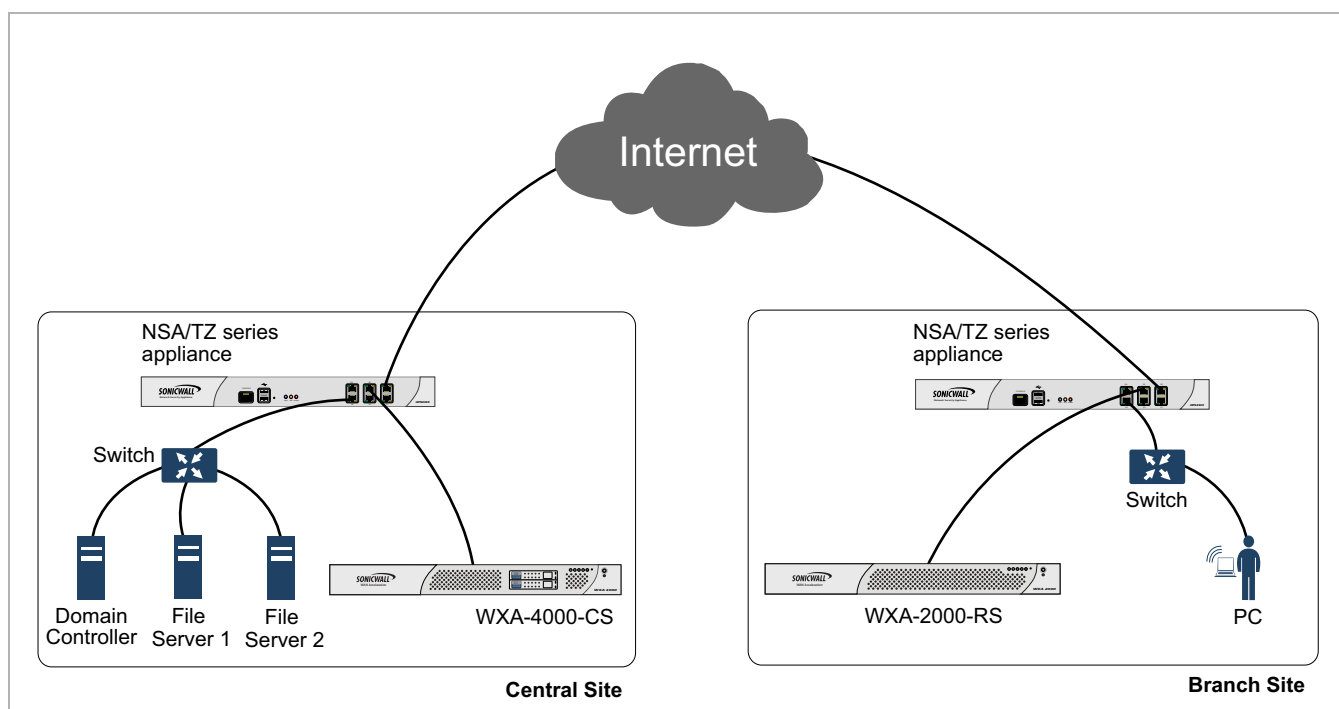
It is recommended to enter a **dot** after the Local WXA Name, this auto-completes the name with that of the domain.

The following Illustration and configuration steps provide an example of how to add file shares. In this example deployment scenario, the Central site contains all the file servers, and the Branch site contains users that are accessing files from the Central site file servers.



Note When configuring shares on the Central site, the Branch site is considered "Remote".

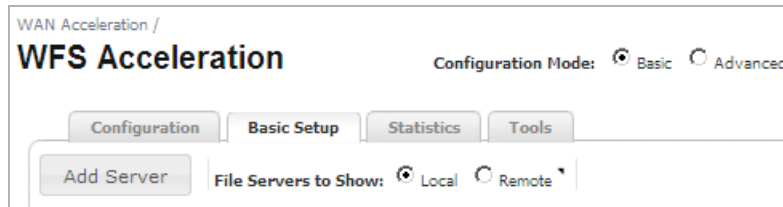
When configuring shares on the Branch site, the Central site is considered "Remote".



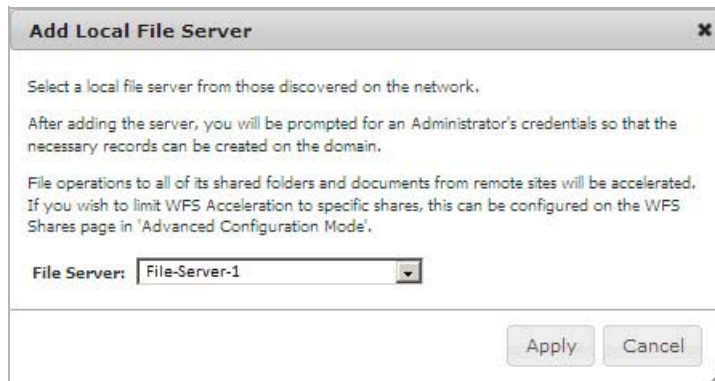
Configure the WXA 4000 appliance on the Central Site

Add File Server 1:

- Step 1** Navigate to the **WAN Acceleration > WFS Acceleration > Signed SMB Setup** tab.
- Step 2** Click the **File Servers to Show: Local** radio button.
Always configure the central site first.

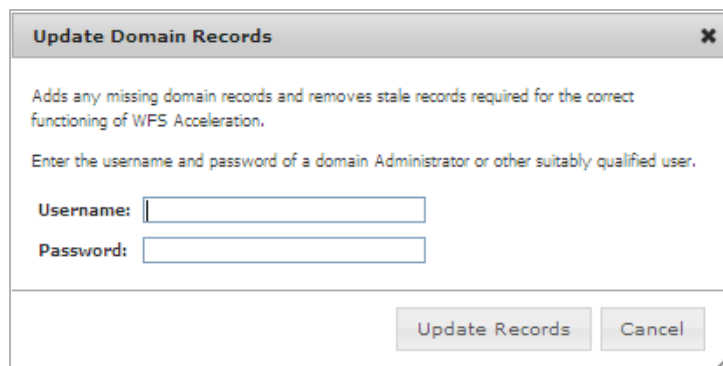


- Step 3** Click the **Add Server** button.
The Add Server pop-up window displays:



- Step 4** Click the **File Server:** drop-down list, and then select the Local Server Name: **File-Server-1**
- Step 5** Click **Apply**.

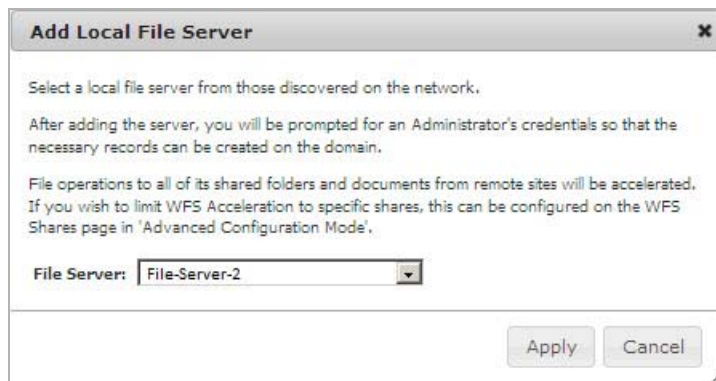
The Update Domain Records pop-up window displays:



- Step 6** Enter your Administrator credentials.
- Step 7** Click the **Update Records** button.

Add File Server 2:

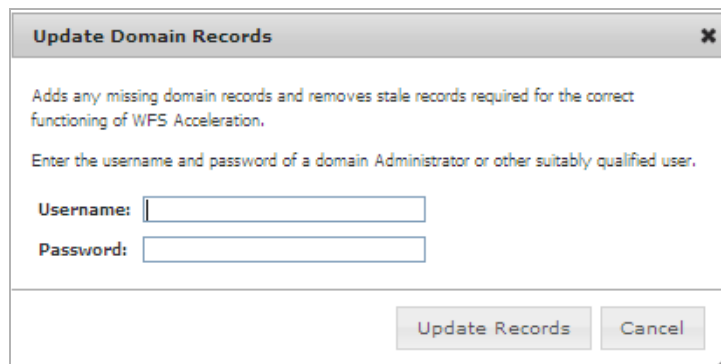
- Step 8** Click the **Add Server** button.
The Add Server pop-up window displays:



- Step 9** Click the **File Server:** drop-down list, and then select Local Server Name: **File-Server-2**

- Step 10** Click **Apply**.

The Update Domain Records pop-up window displays:



- Step 11** Enter your Administrator credentials.

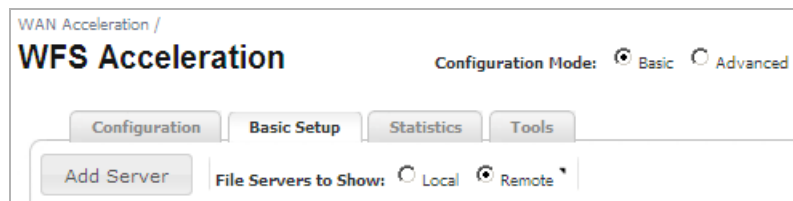
- Step 12** Click the **Update Records** button.

Configure the WXA 2000 appliance on the Branch Site

Add File Server 1:

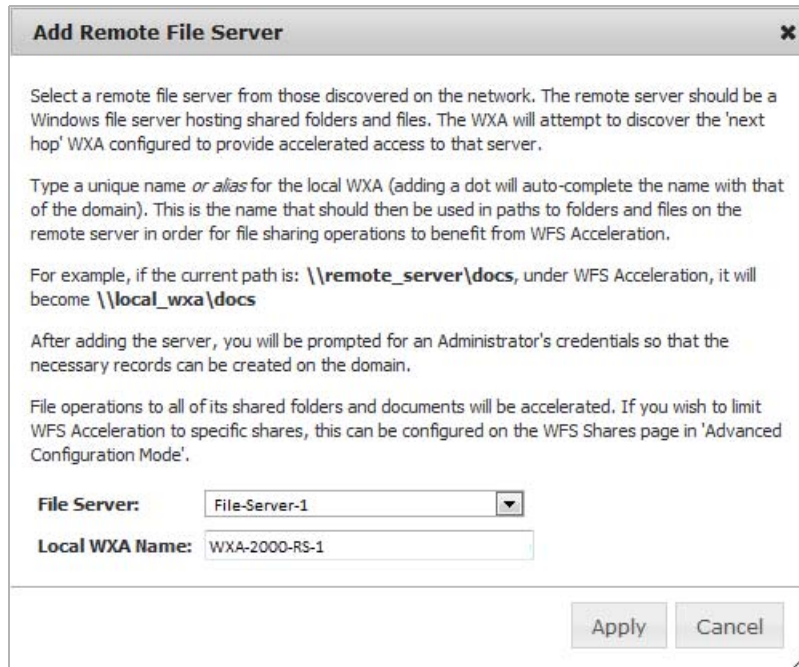
-
- Step 1** Navigate to the **WAN Acceleration > WFS Acceleration > Signed SMB Setup** tab.

- Step 2** Click the **File Servers to Show: Remote** radio button.



- Step 3** Click the **Add Server** button.

The Add Remote Server pop-up window displays:



Step 4 Click the **File Server:** drop-down list, and then select the name of the remote file server hosting the shares: **File-Server-1**

Step 5 Enter a local WXA name: **WXA-2000-RS-1**

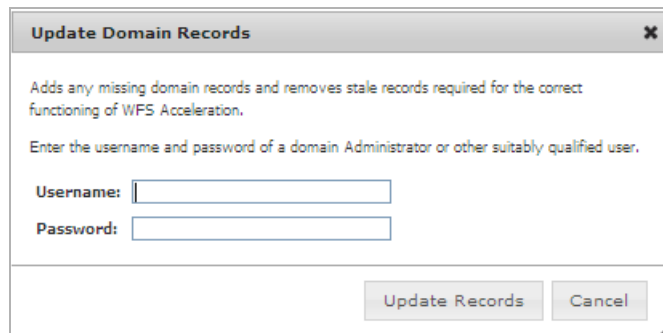


Note Adding a dot after the name will auto-complete the name with that of the domain. This (the local WXA Name) is the name that should then be used in paths to folders and files on the remote server in order for the file sharing operations to benefit from WFS Acceleration.

For example, if the current path is `\\remote_server\docs` under WFS Acceleration, it will become `\\local_Wxa\docs`.

Step 6 Click **Apply**.

The Update Domain Records pop-up window displays:



Step 7 Enter your Administrator credentials.

Step 8 Click the **Update Records** button.

Add File Server 2:

Step 9 Click the **Add Server** button.

The Add Remote Server pop-up window displays:

Add Remote File Server

Select a remote file server from those discovered on the network. The remote server should be a Windows file server hosting shared folders and files. The WXA will attempt to discover the 'next hop' WXA configured to provide accelerated access to that server.

Type a unique name *or alias* for the local WXA (adding a dot will auto-complete the name with that of the domain). This is the name that should then be used in paths to folders and files on the remote server in order for file sharing operations to benefit from WFS Acceleration.

For example, if the current path is: `\\remote_server\docs`, under WFS Acceleration, it will become `\\local_wxa\docs`

After adding the server, you will be prompted for an Administrator's credentials so that the necessary records can be created on the domain.

File operations to all of its shared folders and documents will be accelerated. If you wish to limit WFS Acceleration to specific shares, this can be configured on the WFS Shares page in 'Advanced Configuration Mode'.

File Server: File-Server-2

Local WXA Name: WXA-2000-RS-2

Apply Cancel

Step 10 Click the **File Server:** drop-down list, and then select name of the remote file server hosting the shares: **File-Server-2**

Step 11 Enter a local WXA name: **WXA-2000-RS-2**

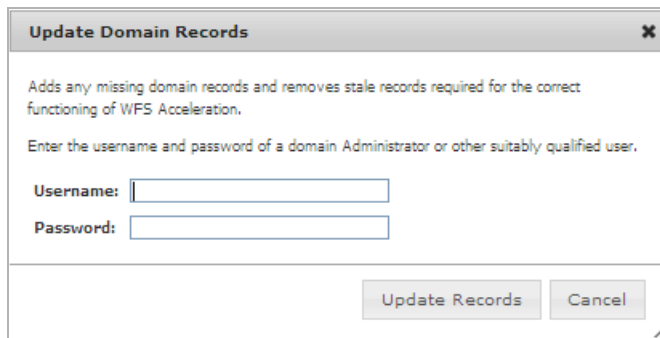


Note Adding a dot after the name will auto-complete the name with that of the domain. This (the local WXA Name) is the name that should then be used in paths to folders and files on the remote server in order for the file sharing operations to benefit from WFS Acceleration.

For example, if the current path is `\\remote_server\docs` under WFS Acceleration, it will become `\\local_Wxa\docs`.

Step 12 Click **Apply**.

The Update Domain Records pop-up window displays:

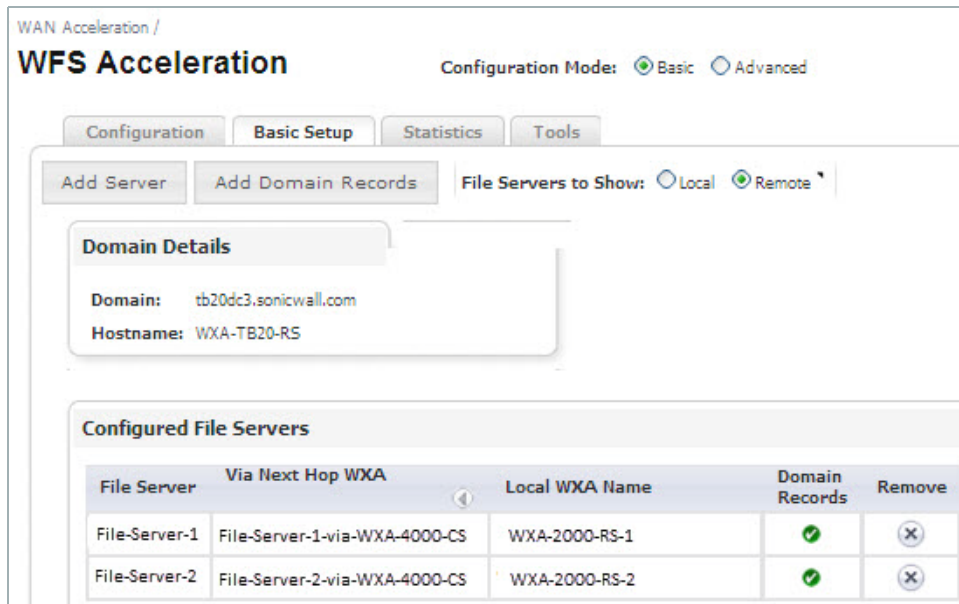


The dialog box titled "Update Domain Records" contains the following text: "Adds any missing domain records and removes stale records required for the correct functioning of WFS Acceleration." Below this, it says "Enter the username and password of a domain Administrator or other suitably qualified user." There are two input fields: "Username:" and "Password:". At the bottom right, there are two buttons: "Update Records" and "Cancel".

Step 13 Enter your Administrator credentials.

Step 14 Click the **Update Records** button.

The Configured File Servers panel in the Signed SMB Setup tab populates the configured file server:



The screenshot shows the "WFS Acceleration" configuration page. At the top, it says "WAN Acceleration / WFS Acceleration" and "Configuration Mode: Basic Advanced". Below this are tabs for "Configuration", "Basic Setup", "Statistics", and "Tools". Under "Basic Setup", there are buttons for "Add Server" and "Add Domain Records", and a dropdown for "File Servers to Show:" with "Local" and "Remote" options. A "Domain Details" box shows "Domain: tb20dc3.sonicwall.com" and "Hostname: WXA-TB20-RS". The "Configured File Servers" section contains a table with the following data:

File Server	Via Next Hop WXA	Local WXA Name	Domain Records	Remove
File-Server-1	File-Server-1-via-WXA-4000-CS	WXA-2000-RS-1	<input checked="" type="checkbox"/>	<input type="button" value="X"/>
File-Server-2	File-Server-2-via-WXA-4000-CS	WXA-2000-RS-2	<input checked="" type="checkbox"/>	<input type="button" value="X"/>

Advanced Configuration Mode

To configure WFS Acceleration in Advanced configuration mode, use the Domain Details and Shares tabs to join the domain and add file shares.



Caution Advanced configuration mode should only be used if you need to specifically define server or share names. The preferred way to configure WFS Acceleration is to use the Basic configuration mode.

This section contains the following subsections:

- [Joining the Domain](#) on page 109
- [Adding File Shares](#) on page 111

Joining the Domain

To join the domain manually, perform the following steps on the WXA series appliance:

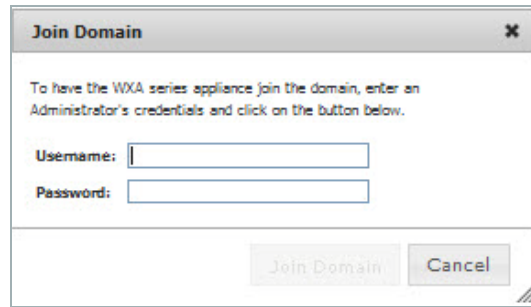
- Step 1** In the **WAN Acceleration > WFS Acceleration** page, select the **Domain Details** Tab. If this is the first time setting up WFS Acceleration, an initial Domain Details page displays:

Configured Domain		
Fully Qualified Domain Name:	tb200c3.sonicwall.com	[Configured] [edit] [delete]
NETBIOS Domain:	TB200C3	[Discovered] [edit]
Hostname:	WXA-TB20-RS	[Configured] [edit] [delete]
Kerberos Server:	tb200c3-dc.tb200c3.sonicwall.com:88	[Discovered] [edit]
LDAP Server:	tb200c3-dc.tb200c3.sonicwall.com:389	[Discovered]
Joined Domain:	<input type="checkbox"/>	
Machine Account Exists:	<input type="checkbox"/>	
Trusted for Delegation:	⚠ Not Configured	
Trusted for Delegation to:	⚠ None	
Reverse DNS Lookup:	<input checked="" type="checkbox"/>	

192.168.30.1 correctly resolves to: wxa-tb20-rs.tb200c3.sonicwall.com

- Step 2** Click **Join Domain**.

The **Join Domain** pop-up window displays.



The 'Join Domain' pop-up window has a title bar with 'Join Domain' and a close button. Below the title bar, there is a message: 'To have the WXA series appliance join the domain, enter an Administrator's credentials and click on the button below.' There are two input fields: 'Username:' and 'Password:'. At the bottom, there are two buttons: 'Join Domain' and 'Cancel'.

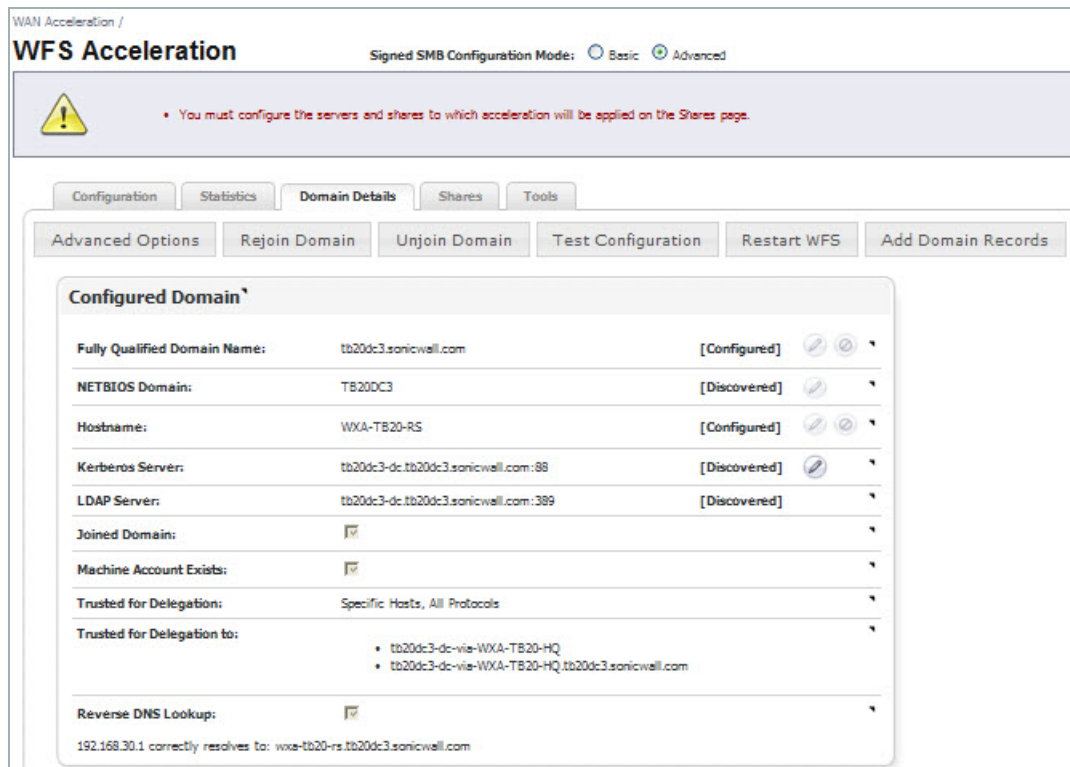
Step 3 Enter the username and password for the administrator of the domain or an account that can join the WXA series appliance to the domain.

Step 4 Click the **Join Domain** button.

A Join Domain Results pop-up window displays, showing live results of the join domain command.

The WXA series appliance will create a computer account on the domain controller, using the hostname entered in Join Domain pop-up window.

The Domain Details tab populates with the configured Domain Details:



The screenshot shows the 'WFS Acceleration' configuration page. At the top, there is a warning icon and a message: 'You must configure the servers and shares to which acceleration will be applied on the Shares page.' Below this, there are tabs for 'Configuration', 'Statistics', 'Domain Details', 'Shares', and 'Tools'. The 'Domain Details' tab is active, showing a 'Configured Domain' section with the following details:

Property	Value	Status
Fully Qualified Domain Name:	tb20dc3.sonicwall.com	[Configured]
NETBIOS Domain:	TB20DC3	[Discovered]
Hostname:	WXA-TB20-RS	[Configured]
Kerberos Server:	tb20dc3-dc.tb20dc3.sonicwall.com:88	[Discovered]
LDAP Server:	tb20dc3-dc.tb20dc3.sonicwall.com:389	[Discovered]
Joined Domain:	<input checked="" type="checkbox"/>	
Machine Account Exists:	<input checked="" type="checkbox"/>	
Trusted for Delegation:	Specific Hosts, All Protocols	
Trusted for Delegation to:	<ul style="list-style-type: none">tb20dc3-dc-via-WXA-TB20-HQtb20dc3-dc-via-WXA-TB20-HQ.tb20dc3.sonicwall.com	
Reverse DNS Lookup:	<input checked="" type="checkbox"/>	




192.168.30.1 correctly resolves to: wxa-tb20-rs.tb20dc3.sonicwall.com

Adding File Shares

The Advanced mode offers a more detailed configuration process for adding file servers and shares. Giving you manual configuration options such as enabling the default cache, selecting the default cache read ahead, specifying individual shares, and adding domain records.

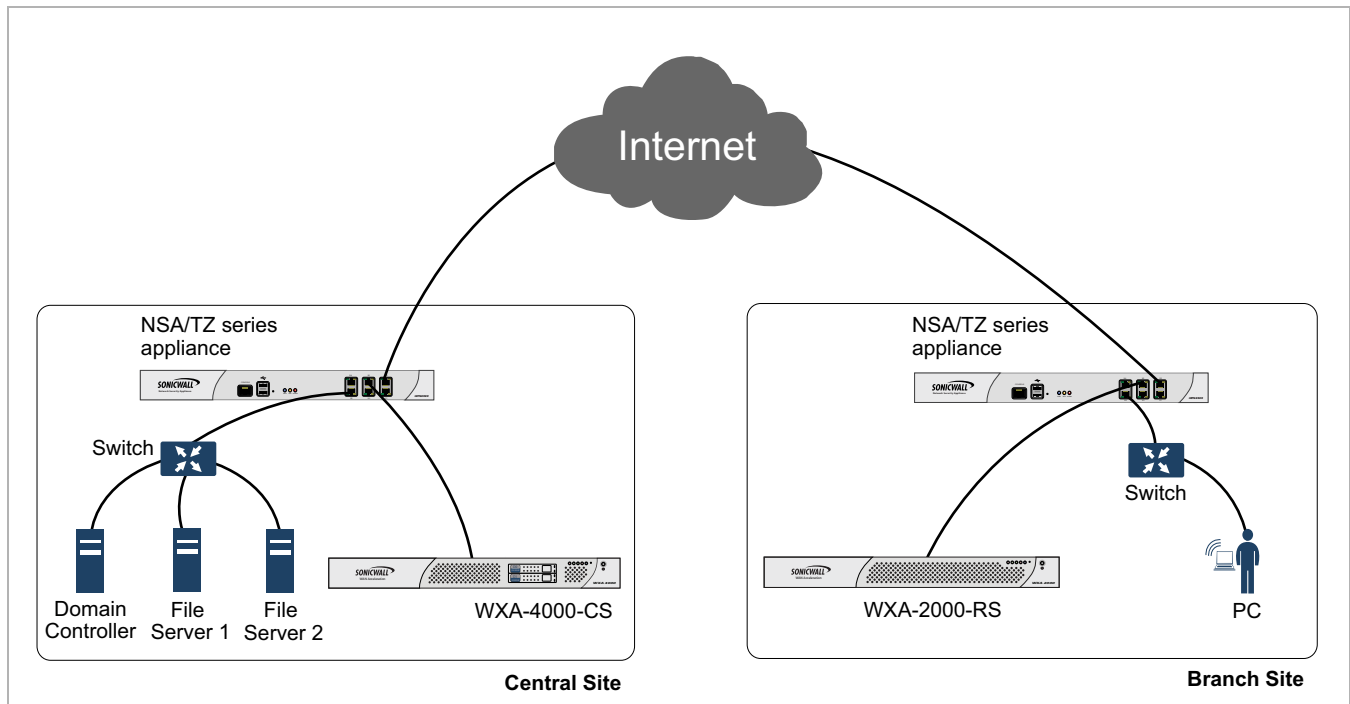
Note the following considerations before adding file shares:

- File servers configured in Advanced mode might not display when viewed in Basic mode.
- A unique Local WXA Name must be created for every remote file server added on the Central Site.
- When adding a server, it is recommended to enter a period after the Local WXA Name, this auto-completes the name with that of the domain (e.g *WXA-4000-CS-1.my_domain.local*). If the period is not entered, a caution icon will appear in the Shares tab next to the Remote Server name, noting that it is recommended to use the fully qualified name:

Remote Server Name	Local WXA Name	Default Cache Enabled	Default Cache Read Ahead	Configure
 wxa-tb20-hq.tb20dc3.sonicwall.com	wxa-tb20-rs	<input checked="" type="checkbox"/>	61440	 

This section contains an example of configuring shares in a typical WXA deployment. If your WXA deployment is different, you can still use this example as a guide to add file shares, the basic principals are the same.

In this example, we are going to add shares that are hosted on File Server 1 and File Server 2, use this network diagram as a reference and perform the following steps:



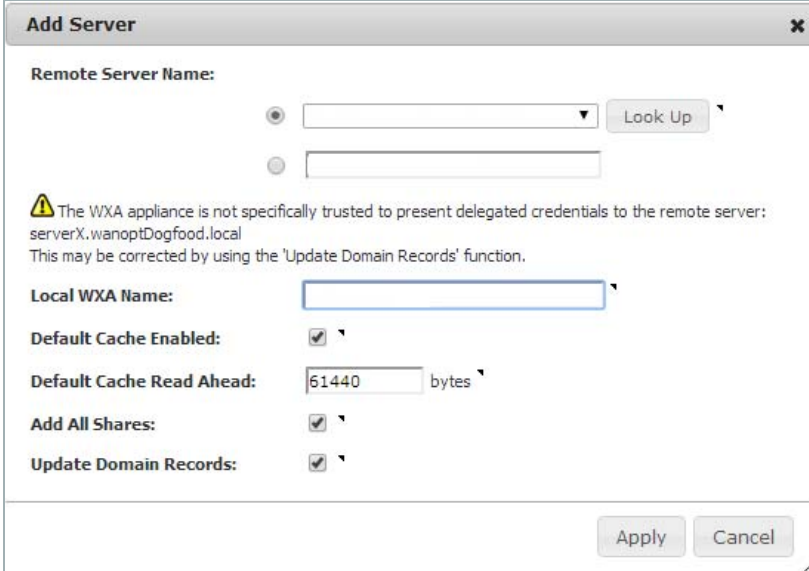
Configure the WXA 4000 appliance on the Central Site

Add File Server 1:

Step 1 Navigate to the **WAN Acceleration > WFS Acceleration > Shares** tab.

Step 2 Click the **Add Server** button.

The Add Server pop-up window displays:



Add Server

Remote Server Name:

Look Up

⚠ The WXA appliance is not specifically trusted to present delegated credentials to the remote server: serverX.wanoptDogfood.local
This may be corrected by using the 'Update Domain Records' function.

Local WXA Name:

Default Cache Enabled:

Default Cache Read Ahead: bytes

Add All Shares:

Update Domain Records:

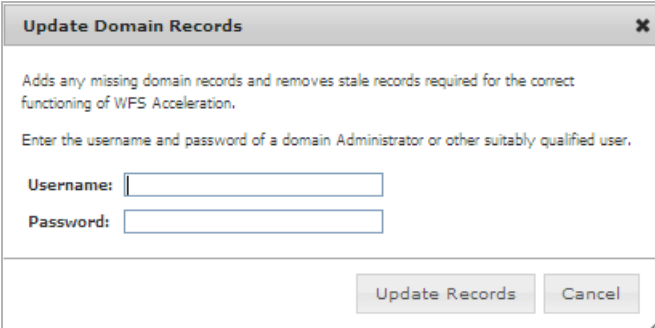
Apply Cancel

Step 3 Enter the Remote Server Name: Select **File Server 1** from the drop-down list. If the remote server is not in the list, toggle the radio button and enter it manually in the text field.

Step 4 Enter a Local WXA Name: **WXA-4000-CS-1**
Then add a **period** after the name. This auto-completes the fully qualified domain name.

Step 5 Click **Apply**.

The Update Domain Records pop-up window displays:



Update Domain Records

Adds any missing domain records and removes stale records required for the correct functioning of WFS Acceleration.

Enter the username and password of a domain Administrator or other suitably qualified user.

Username:

Password:

Update Records Cancel

Step 6 Enter your Administrator credentials.

Step 7 Click the **Update Records** button.

This automatically creates all the necessary SPN Aliases and DNS entries.

Add File Server 2:

Step 1 Click the **Add Server** button.

The Add Server pop-up window displays:

The screenshot shows a dialog box titled "Add Server". It has a close button (X) in the top right corner. The "Remote Server Name:" section has two radio buttons. The first is selected and points to a dropdown menu with a "Look Up" button to its right. The second radio button points to a text input field. Below this is a warning icon and text: "The WXA appliance is not specifically trusted to present delegated credentials to the remote server: serverX.wanoptDogfood.local. This may be corrected by using the 'Update Domain Records' function." The "Local WXA Name:" field is a text input box. Below it are four checked checkboxes: "Default Cache Enabled:", "Add All Shares:", and "Update Domain Records:". The "Default Cache Read Ahead:" field is a text input box containing "61440" followed by "bytes". At the bottom right are "Apply" and "Cancel" buttons.

Step 2 Enter the Remote Server Name: Select **File Server 2** from the drop-down list. If the remote server is not in the list, toggle the radio button and enter it manually in the text field.

Step 3 Enter a Local WXA Name: **WXA-4000-CS-2**
Then add a **period** after the name

Step 4 Click **Apply**.

The Update Domain Records pop-up window displays:

The screenshot shows a dialog box titled "Update Domain Records" with a close button (X) in the top right corner. It contains the following text: "Adds any missing domain records and removes stale records required for the correct functioning of WFS Acceleration." Below this is a prompt: "Enter the username and password of a domain Administrator or other suitably qualified user." There are two text input fields: "Username:" and "Password:". At the bottom right are "Update Records" and "Cancel" buttons.

Step 5 Enter your Administrator credentials.

Step 6 Click the **Update Records** button.

Configure the WXA 2000 appliance on the Branch Site

When configuring the Branch Site to access a file server on the Central Site, the Remote Server Name entered on the Branch Site must match the Local WXA Name of the Central Site's WXA appliance. This allows the Central Site WXA appliance to provide accelerated access for the particular file server in question.

Add File Server 1:

Step 1 Navigate to the **WAN Acceleration > WFS Acceleration > Shares** tab.

Step 2 Click the **Add Server** button.

The Add Server pop-up window displays:

The 'Add Server' dialog box features a title bar with a close button. Below the title bar, there are two radio buttons for selecting the Remote Server Name. The first radio button is selected and points to a dropdown menu with a 'Look Up' button to its right. The second radio button points to a text input field. A warning icon and message are displayed: 'The WXA appliance is not specifically trusted to present delegated credentials to the remote server: serverX.wanoptDogfood.local. This may be corrected by using the 'Update Domain Records' function.' Below this, there is a text input field for the Local WXA Name. At the bottom, there are four checkboxes: 'Default Cache Enabled' (checked), 'Default Cache Read Ahead' (set to 61440 bytes), 'Add All Shares' (checked), and 'Update Domain Records' (checked). At the very bottom right, there are 'Apply' and 'Cancel' buttons.

Step 3 Enter the Remote Server Name: Select **WXA-4000-CS-1** from the drop-down list. If the remote server is not in the list, toggle the radio button and enter it manually in the text field.

Step 4 Enter a Local WXA Name: **WXA-2000-RS-1**
Then add a **period** after the name

Step 5 Click **Apply**.

The Update Domain Records pop-up window displays:

The 'Update Domain Records' dialog box has a title bar with a close button. Below the title bar, there is a warning message: 'Adds any missing domain records and removes stale records required for the correct functioning of WFS Acceleration.' Below this, there is an instruction: 'Enter the username and password of a domain Administrator or other suitably qualified user.' There are two input fields: 'Username:' and 'Password:'. At the bottom right, there are 'Update Records' and 'Cancel' buttons.

Step 6 Enter your Administrator credentials.

Step 7 Click the **Update Records** button.

Add File Server 2:

Step 1 Click the **Add Server** button.

The Add Server pop-up window displays:

The 'Add Server' dialog box has a title bar with a close button. It contains the following elements:

- Remote Server Name:** A radio button next to a dropdown menu, and another radio button next to a text input field. A 'Look Up' button is to the right of the dropdown.
- Warning:** A yellow triangle icon followed by the text: "The WXA appliance is not specifically trusted to present delegated credentials to the remote server: serverX.wanoptDogfood.local. This may be corrected by using the 'Update Domain Records' function."
- Local WXA Name:** A text input field.
- Default Cache Enabled:** A checked checkbox.
- Default Cache Read Ahead:** A text input field containing '61440' followed by 'bytes'.
- Add All Shares:** A checked checkbox.
- Update Domain Records:** A checked checkbox.
- Buttons:** 'Apply' and 'Cancel' buttons at the bottom right.

Step 2 Enter the Remote Server Name: Select **WXA-4000-CS-2** from the drop-down list. If the remote server is not in the list, toggle the radio button and enter it manually in the text field.

Step 3 Enter a Local WXA Name: **WXA-2000-RS-2**
Then add a **period** after the name

Step 4 Click **Apply**.

The Update Domain Records pop-up window displays:

The 'Update Domain Records' dialog box has a title bar with a close button. It contains the following elements:

- Description:** "Adds any missing domain records and removes stale records required for the correct functioning of WFS Acceleration."
- Prompt:** "Enter the username and password of a domain Administrator or other suitably qualified user."
- Username:** A text input field.
- Password:** A text input field.
- Buttons:** 'Update Records' and 'Cancel' buttons at the bottom right.

Step 5 Enter your Administrator credentials.

Step 6 Click the **Update Records** button.

The Shares tab displays the configured file servers:

WAN Acceleration / **WFS Acceleration** Configuration Mode: Basic Advanced

Configuration Statistics Domain Details **Shares** Tools

Apply Changes Add Server Add Domain Records

Remote Server Name	Local WXA Name	Default Cache Enabled	Default Cache Read Ahead	Configure								
WXA-4000-CS-1	WXA-2000-RS-1	<input checked="" type="checkbox"/>	61440									
<div style="border: 1px solid #ccc; padding: 5px;"> <p>Shares Add New Share...</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Cache Enabled</th> <th>Cache Read Ahead</th> <th>Configure</th> </tr> </thead> <tbody> <tr> <td>-ALL SHARES-</td> <td><input checked="" type="checkbox"/></td> <td>61440</td> <td> </td> </tr> </tbody> </table> </div>					Name	Cache Enabled	Cache Read Ahead	Configure	-ALL SHARES-	<input checked="" type="checkbox"/>	61440	
Name	Cache Enabled	Cache Read Ahead	Configure									
-ALL SHARES-	<input checked="" type="checkbox"/>	61440										
WXA-4000-CS-2	WXA-2000-RS-2	<input checked="" type="checkbox"/>	61440									
<div style="border: 1px solid #ccc; padding: 5px;"> <p>Shares Add New Share...</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Cache Enabled</th> <th>Cache Read Ahead</th> <th>Configure</th> </tr> </thead> <tbody> <tr> <td>-ALL SHARES-</td> <td><input checked="" type="checkbox"/></td> <td>61440</td> <td> </td> </tr> </tbody> </table> </div>					Name	Cache Enabled	Cache Read Ahead	Configure	-ALL SHARES-	<input checked="" type="checkbox"/>	61440	
Name	Cache Enabled	Cache Read Ahead	Configure									
-ALL SHARES-	<input checked="" type="checkbox"/>	61440										

Verifying the WFS Acceleration Configuration

This section details how to verify that the WFS Acceleration service is configured correctly.



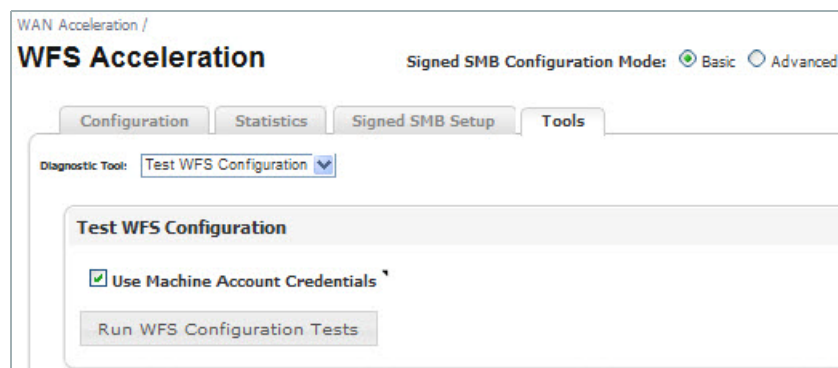
Note These verification procedures only apply to systems using Signed SMB.

After completing the step-by-step WFS Acceleration configuration procedures. Verify WFS Acceleration is working by using the Test Configuration tool available in Basic and Advanced modes.

Verifying WFS Acceleration in Basic Mode

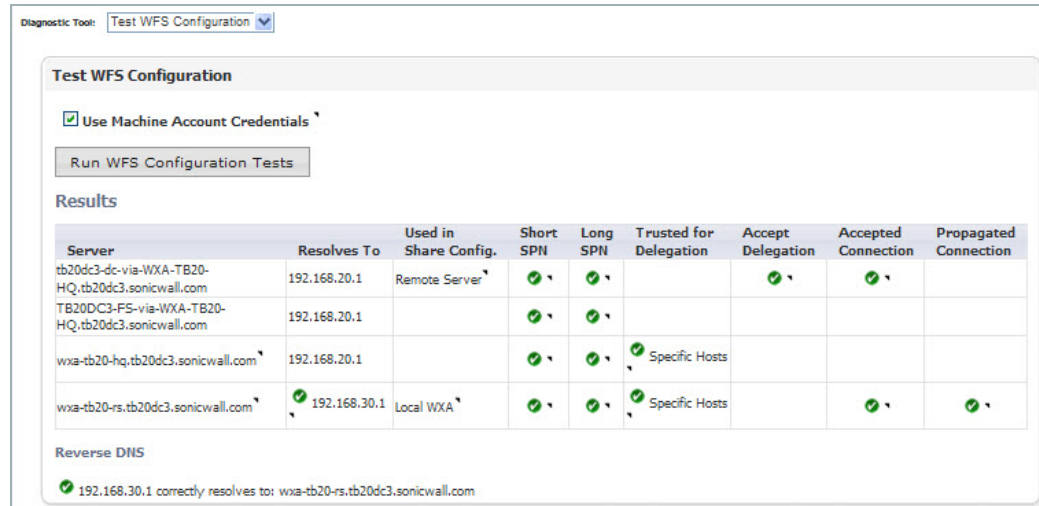
To verify that the WFS Acceleration service was successful using the WFS Acceleration > Tools tab in Basic mode, perform the following steps:

- Step 1** Navigate to the **WAN Acceleration > WFS Acceleration**.
- Step 2** Click the **Tools** tab.



- Step 3** In the **Diagnostic Tools** drop-down, select **Test WFS Configuration**.
- Step 4** Click **Run WFS Configuration Test**.

The results display when the test is complete.



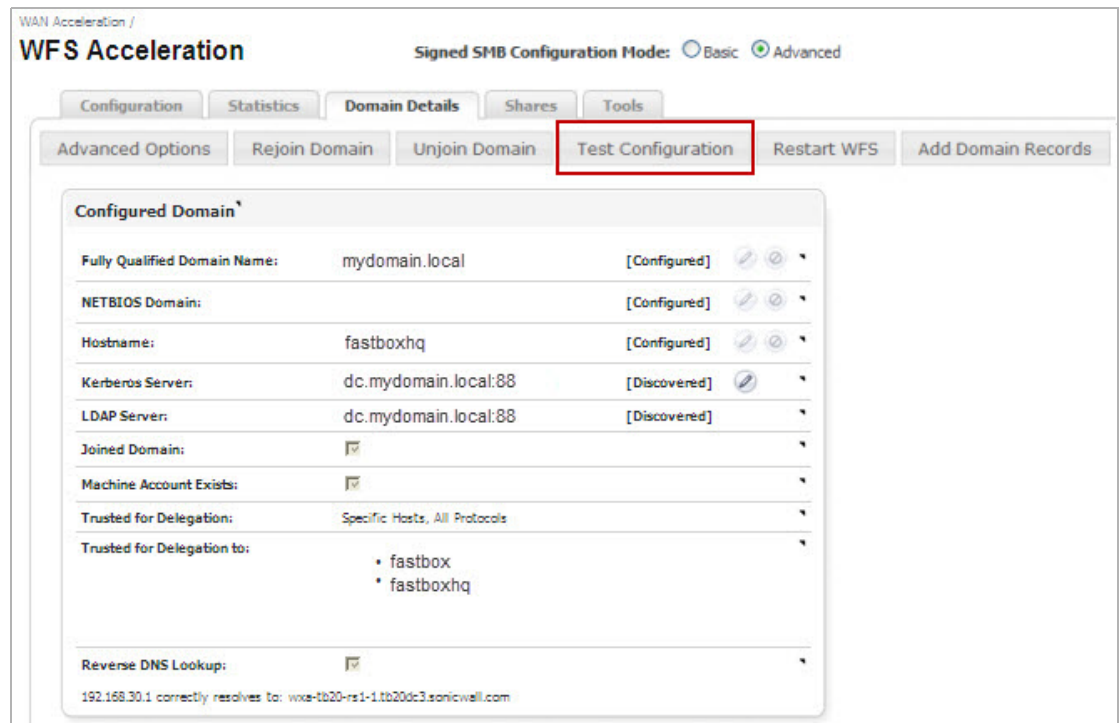
The Test WFS Configuration page displays the test results for the WFS Acceleration service. A green circle indicates a successful configuration, and a red circle indicates an error. Hover over the circle icons to display the details for that configuration. The results are listed in a table with the following columns:

Name	Description
Server	Display the remote server or local WXA names.
Resolves To	Displays the IP address that the WXA series appliance is resolved to.
Used in Share Config.	Displays the server that is used for sharing. This can be an actual server, or a WXA series appliance.
Short SPN	Verifies a short SPN is present on the machine account.
Long SPN	Verifies a long SPN is present on the machine account.
Trusted for Delegation	Lists the general server or specific hosts that are trusted for delegation by the WXA series appliance.
Accept Delegation	Displays the hosts that are trusted to present delegated credentials to the WXA series appliance.
Accepted Connection	Verifies the server accepted an authenticated connection.
Propagated Connection	Verifies the server propagated an authenticated connection.
Reverse DNS	Displays the Reverse DNS address path.

Verifying WFS Acceleration in Advanced Mode

To verify that the WFS Acceleration was successful using the Domain Details tab in Advanced mode, perform the following steps:

- Step 1** Navigate to the **WAN Acceleration > WFS Acceleration** page.
- Step 2** Select **Advanced** configuration mode.
- Step 3** Select the **Domain Details** tab.



- Step 4** Click **Test Configuration**.

The WFS Configuration Test Results pop-up window displays when the test is complete:

Server	Resolves To	Used in Share Config.	Short SPN	Long SPN	Trusted for Delegation	Accept Delegation	Accepted Connection	Propagated Connection
tb20dc3-dc-via-WXA-TB20-HQ.tb20dc3.sonicwall.com	192.168.20.1	Remote Server	✓	✓		✓	✓	
TB20DC3-FS-via-WXA-TB20-HQ.tb20dc3.sonicwall.com	192.168.20.1		✓	✓				
wxa-tb20-hq.tb20dc3.sonicwall.com	192.168.20.1		✓	✓	Specific Hosts			
wxa-tb20-rs.tb20dc3.sonicwall.com	192.168.30.1	Local WXA	✓	✓	Specific Hosts		✓	✓

Reverse DNS
 192.168.30.1 correctly resolves to: wxa-tb20-rs.tb20dc3.sonicwall.com

The WFS Configuration Test Results page displays the test results for the WFS Acceleration service. A green circle indicates a successful configuration, and a red circle indicates an error. Hover over the circle icons to display the details for that configuration. The results are listed in a table with the following columns:

Name	Description
Server	Display the remote server or local WXA names.
Resolves To	Displays the IP address that the WXA series appliance is resolved to.
Used in Share Config.	Displays the server that is used for sharing. This can be an actual server, or a WXA series appliance.
Short SPN	Verifies a short SPN is present on the machine account.
Long SPN	Verifies a long SPN is present on the machine account.
Trusted for Delegation	Lists the general server or specific hosts that are trusted for delegation by the WXA series appliance.
Accept Delegation	Displays the hosts that are trusted to present delegated credentials to the WXA series appliance.
Accepted Connection	Verifies the server accepted an authenticated connection.
Propagated Connection	Verifies the server propagated an authenticated connection.
Reverse DNS	Displays the Reverse DNS address path.

If the WFS Acceleration service is not functioning properly, refer to [WAN Acceleration > WFS Acceleration](#) on page 97 and check the configuration settings.

Web Cache

Viewing the Web Cache Page

WAN Acceleration > Web Cache

This chapter is an overview of the WAN Acceleration > Web Cache management interface page. The Web Cache page offers the Status, Statistics, and Tools tabs for configuring and testing the Web Cache service.

Name	Description
Status Tab	Displays the Web Cache status and provides configuration options to enable, restart, flush, and select the caching strategy for the web cache. See Status Tab on page 124 for details.
Statistics Tab	Displays data and graphs detailing the Web Cache data size, total data reduction, WAN capacity increase factor, cache size cache free space, and number of cached objects. See Statistics Tab on page 126 for details.
Tools Tab	Offers DNS Name Lookup and Web Request diagnostics tools to test the Web Cache performance. See Tools Tab on page 129 for details.

Status Tab

WAN Acceleration / **Web Cache**

Status | Statistics | Tools

Apply Changes | Restart Web Cache | Flush Cache | Admin Email

Web Cache

Enable Web Cache

Client Inclusion Address Object: Any

Server Exclusion Address Object: None

Caching Strategy: Moderate

Note: enabling the WXA Web Cache affects settings on the [Network/Web Proxy](#) page.

Cache Status

Operational Status: ● Web Cache service is running normally

Web Requests: ● Response Time: 4.01 seconds

Cache Size: 0.00 KB

Cache Free Space: 59.57 GB

Number of Cached Objects: 0

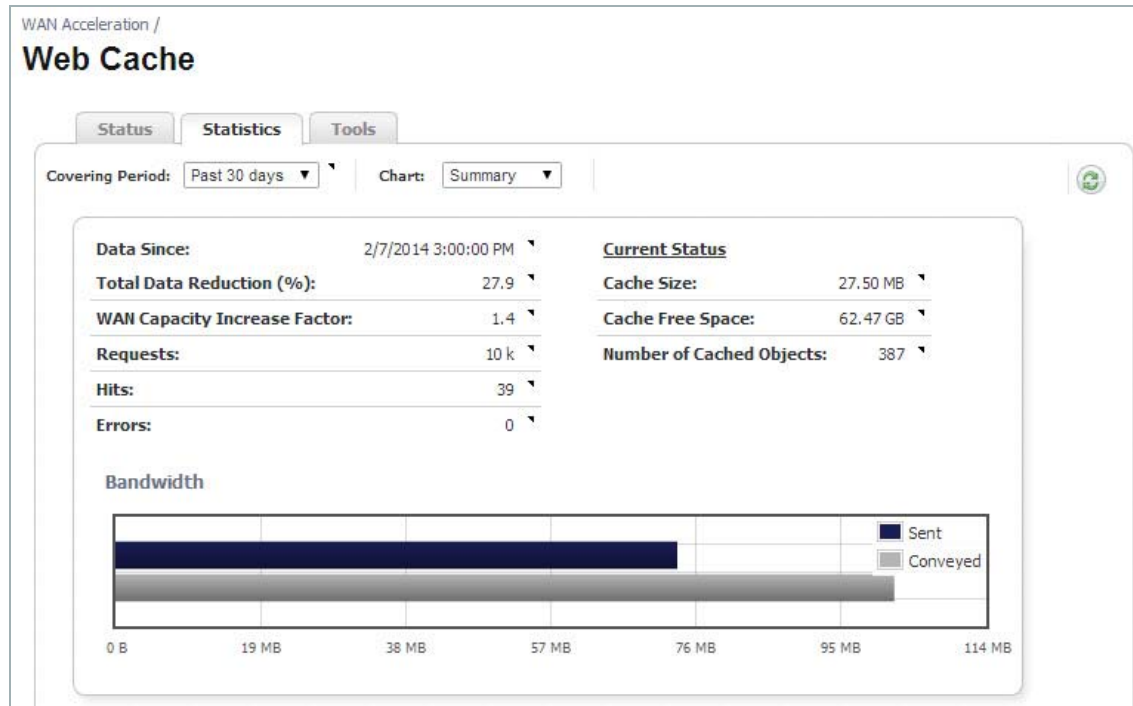
Name	Description
Apply Changes Button	Applies the latest configuration changes.
Restart Web Cache Button	Restarts the Web Cache service. This disconnects any currently open connections.
Flush Cache Button	Removes all the data from the Web Cache. This also restarts the Web Cache service, disconnecting any open connections.
Admin Email Button	Configures the Administrator's Email address. The Administrator's Email address is shown in the Web Cache error pages, these are presented to a network user in the event of an error.
Refresh Button	Refreshes the Web Cache status information.

Name	Description
Web Cache Panel	<p>Enable or Disable directing web traffic passing through the NSA/TZ series appliance to the WXA Web Cache via the Enable Web Cache checkbox.</p> <p>When the Web Cache is enabled, NAT policies are automatically created. If they cause any problems in your network, you can include or exclude objects to fix it by using the following options:</p> <ul style="list-style-type: none"> • In the Client Inclusion Address Object drop-down menu you can select the Address Object or Group that represents the local subnets whose web traffic should be diverted via the Web Cache. You can also choose “Any” and the traffic from any source IP address is forwarded to the WXA. • In the Server Exclusion Address Object drop-down menu you can select the Address Object or Group that contains the destination address of web servers for which traffic should not be diverted via the Web Cache. If you select “None” no web server is excluded and all appropriate traffic is sent via the WXA. <p>The Caching Strategy determines which objects are placed into the web cache and how long they stay there. Three options are available for the Caching Strategy: Minimal, Moderate, and Aggressive. The following describes the different Caching Strategies:</p> <ul style="list-style-type: none"> • Minimal - All objects are cached unless the HTTP header specifically says not to, such as “no cache” or an “expire” time that occurs in the past. • Moderate - This is the default web caching strategy. In Moderate caching mode, the Web Cache keeps objects in the cache for longer than in Minimal mode. The Web Cache also enforces a minimum age of 7 days on objects that don't include any 'no caching' control options (such as no-cache, no-store or an explicit expiry time) in the HTTP header. • Aggressive - In Aggressive mode, the Web Cache ignores explicit expiry time (enforcing a minimum age of 7 days), reload and no-cache options in HTTP headers. <p>Note: The Web Cache never caches any data marked as “private” or “auth” (requiring authorisation to access) in the HTTP header. When switching from Aggressive or Moderate mode to Minimal mode, any already cached objects that do not meet the Minimal caching strategy will be refreshed by the cache.</p> <p>YouTube caching is implemented in both Moderate and Aggressive caching modes.</p>
Cache Status Panel	<p>Provides read-only data for the Following:</p> <ul style="list-style-type: none"> • Operational Status - Displays the operational status of the Web Cache service. • Web Requests - Displays the response time in a value of seconds. • Cache Size - Displays the current size of the cache used by the Web Cache. • Cache Free Space - Displays the amount of disk space available to the Web Cache. • Number of Cached Objects - Displays the number of objects currently stored in the Web Cache.



Caution The Aggressive mode should be used with caution, it violates the HTTP standard and may lead to unwanted consequences.

Statistics Tab

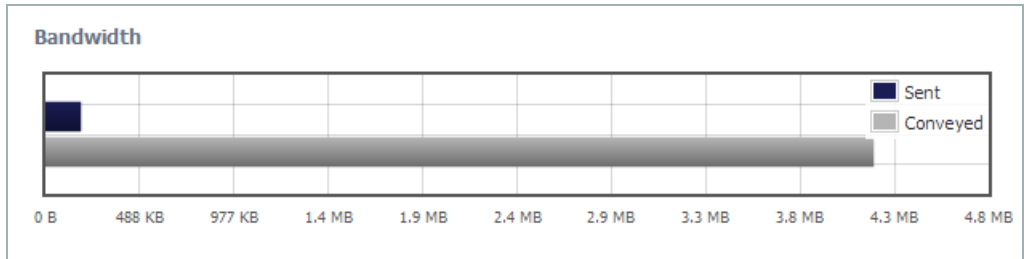


Name	Description
Covering Period Drop-Down Menu	Click the Covering Period drop-down menu and select the period of time the data displays on the Statistics tab.
Chart: Drop-Down Menu	Selects what data displays in the graph. For details on the different chart types, see Graphs on page 127.
Refresh Button	Refreshes the Web Cache > Statistics tab.
Data Since	Displays the actual period covered using the statistics shown in the data and graphs. Note: This might differ from the chosen covering period, depending on the data stored and available on the appliance.
Total Data Reduction (%)	Displays the difference between the data conveyed and the data sent, represented as a percentage.
WAN Capacity Increase Factor	Displays the ratio of the amount of data conveyed to the amount actually sent. This can be used as a guide to how much extra capacity the WAN gained without any increase in bandwidth.
Requests	The number of requests made during the selected period.
Hits	The number of requests that were served from the Web Cache during the selected period.
Errors	The total number of errors encountered during the selected period.
Cache Size	Displays the current size of the cache used by the Web Cache.
Cache Free Space	Displays the amount of disk space available to the Web Cache.
Number of Cached Objects	Displays the number of objects currently stored in the Web Cache.

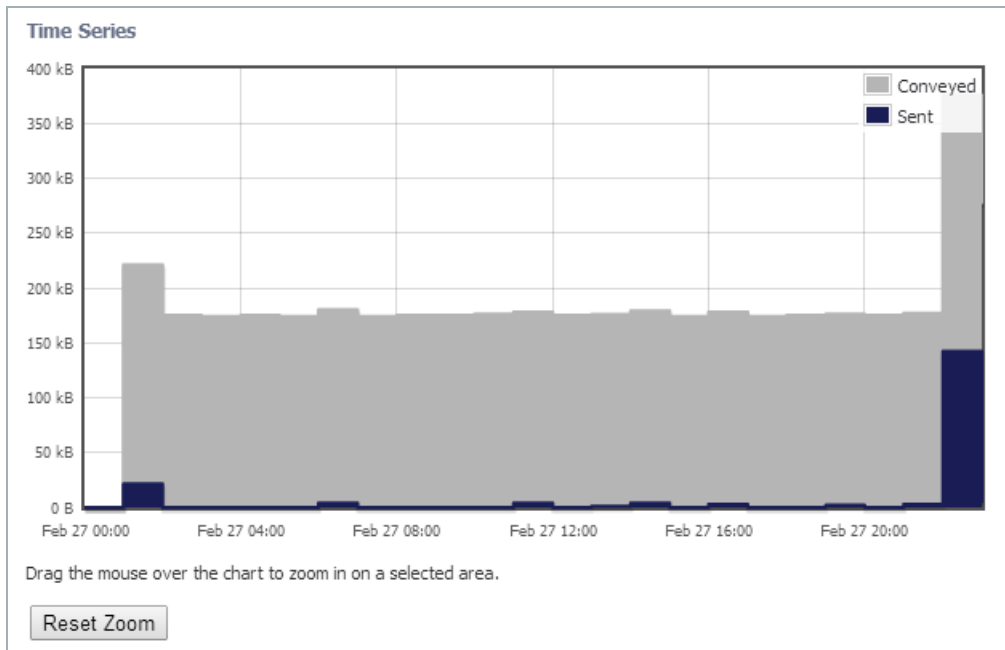
Graphs

The Statistics graphs display the Web Cache data for the selected Covering Period and Chart. The Conveyed data is the number of bytes that would be sent from a web server without the use of the WXA series appliance's Web Cache. The Sent data is the bytes that are actually sent from web servers in response to the user's web request, with the remainder being served from the cache. A "Hit" is when an object is served from the Web Cache instead of fetched from the internet. The following Chart types are available:

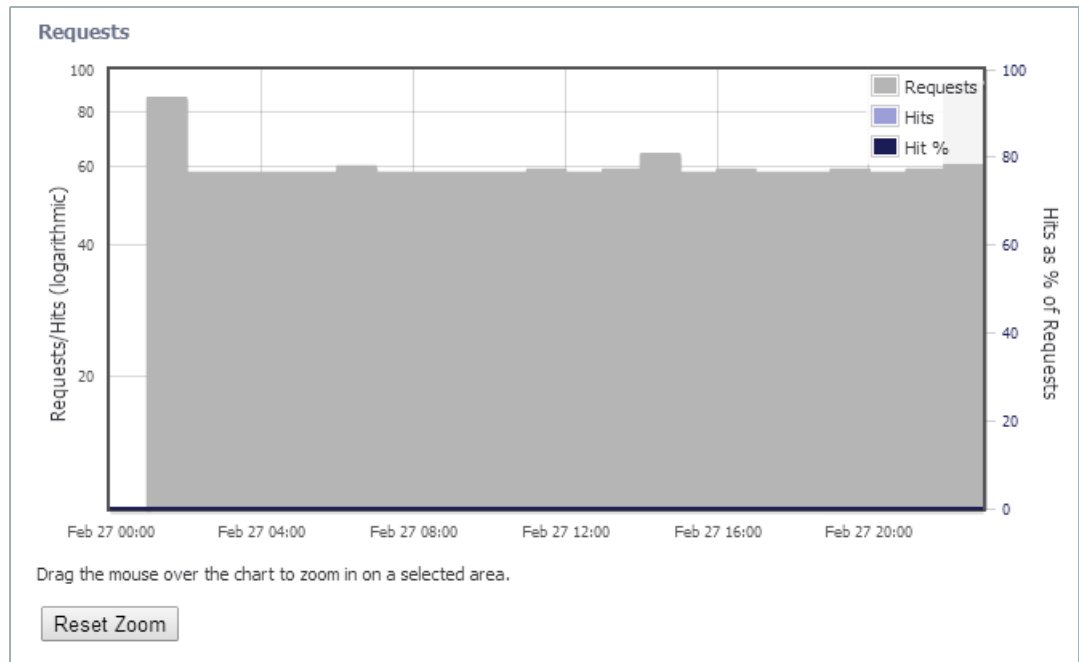
- **Summary**— The Summary chart graphically displays the sent and conveyed bandwidth data.



- **Time Series**— The Time Series chart graphically displays the sent and conveyed data over a specified period of time. You can drag the mouse over the chart to zoom in on a selected area. To zoom back out, click the **Reset Zoom** button.



- **Requests**— The Requests chart graphically displays the number of requests, hits, and hits% over a selected period of time. You can drag the mouse over the chart to zoom in on a selected area. To zoom back out, click the **Reset Zoom** button



Tools Tab

Test the performance or diagnose the Web Caching feature by using the DNS Name Lookup or Web Request diagnostic tools and viewing the results.



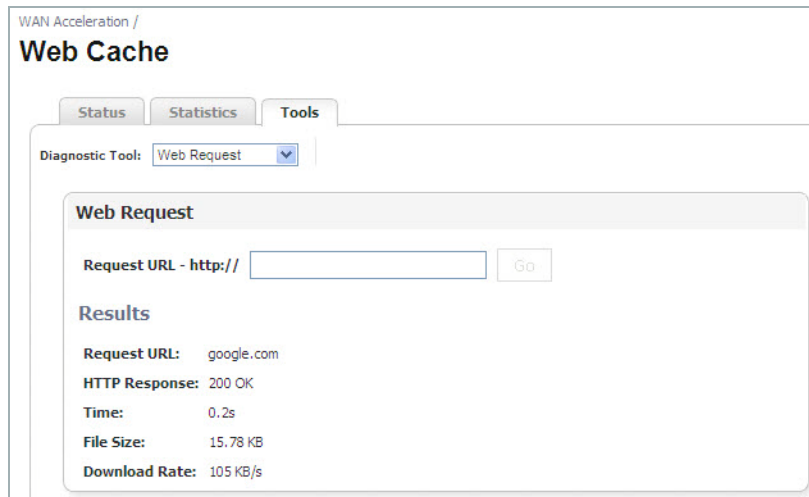
Note The Tools tab management interface options change depending on which diagnostic tool (DNS Name Lookup or Web Request) is selected from the Diagnostic Tool drop-down menu.

The DNS servers used in these lookups are the DNS servers inherited from the NSA/TZ series appliance's settings. They may be different to the DNS servers actually used on a user's PC.

The screenshot shows the 'WAN Acceleration / Web Cache' interface. Under the 'Tools' tab, the 'Diagnostic Tool' is set to 'DNS Name Lookup'. The configuration shows a Primary DNS of 192.168.20.251 and a Secondary DNS field. Below this is a 'Lookup Name or IP' text field with a 'Go' button. The 'Results' section displays the following information:

Address:	techpubs@sonicwall.com
DNS Server:	192.168.20.251
Resolved:	Resolved
Approx Time:	7881 ms

Name	Description
Diagnostic Tool > DNS Name Lookup	Selects the tool type from the Diagnostic Tool drop-down menu.
Primary DNS (read only)	Displays the primary DNS IP address.
Secondary DNS (read only)	Displays the secondary DNS IP address.
Lookup Name or IP Text Field	Enter the DNS name or IP address you wish to look up.
Go Button	Initiates the search for the DNS name or IP address entered in the "Lookup Name or IP" text field. This button is greyed out until a DNS name or IP address is entered into to "Lookup Name or IP" text field.
Results	Display the following results for the IP/Name Lookup: <ul style="list-style-type: none">• Address• DNS Server• Resolved• Approximate Time



Name	Description
Diagnostic Tool > Web Request	Selects the tool type from the Diagnostic Tool drop-down menu.
Request URL - http:// Text Field	Enter the URL you wish to test.
Go button	Initiates the test for the requested URL. This button is greyed out until a URL is entered into to "Request URL" text field
Results	Displays the following results for the requested URL: <ul style="list-style-type: none"> • Request URL • HTTP Response • Time • File Size • Download Rate

Configuring the Web Cache

WAN Acceleration > Web Cache

The Web Cache page provides options to enable, configure, view results, diagnose, and test performance of the Web Cache feature. By enabling the Web Cache service, the NSA/TZ series appliance immediately begins transparently forwarding HTTP connections to the WXA series appliance and saving bandwidth.

Consider the following when configuring the Web Cache service:

- When the Web Cache checkbox is enabled, the Web Proxy fields are automatically populated in the Network > Web Proxy page in the SonicOS management interface.
- There is no need to configure the HTTP clients with proxy settings since the NSA/TZ series appliance transparently redirects standard HTTP connections onto the proxy.
- When the Web Cache is enabled, the NSA/TZ series appliance disables redirection of HTTP connections to the WXA series appliance if it becomes unavailable.
- The Web Cache service is not available in WXA 500 Live CD Memory Mode.

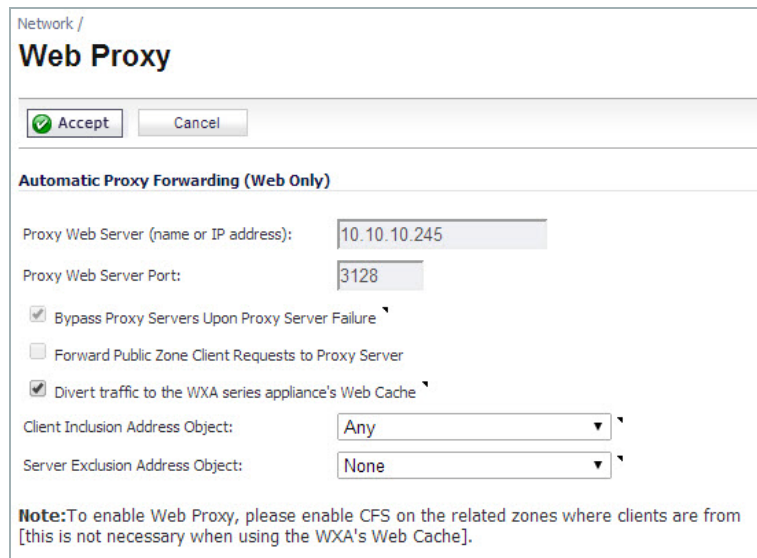
To configure the Web Cache service, refer to the following sections:

- [Configuring the Web Cache](#) on page 132
- [Verifying Web Cache Operation](#) on page 134
- [Diagnosing and Testing Performance of the Web Cache](#) on page 135

Configuring the Web Cache

To configure the Web Cache page, perform the following:

- Step 1** Login to the managing NSA/TZ series appliance, and then navigate to the **Network > Web Proxy** page.
- Step 2** Select the **Divert traffic to the WXA series appliance's Web Cache** checkbox. This enables the use of the associated WXA series appliance as a caching web proxy. Selecting this option automatically fills in the **Proxy Web Server** and **Proxy Web Server Port** text-fields.
- Step 3** NAT rules are automatically created for directing traffic via the WXA series appliance.
- Step 4** Click the **Accept** button.



Network /

Web Proxy

Automatic Proxy Forwarding (Web Only)

Proxy Web Server (name or IP address):

Proxy Web Server Port:

Bypass Proxy Servers Upon Proxy Server Failure

Forward Public Zone Client Requests to Proxy Server

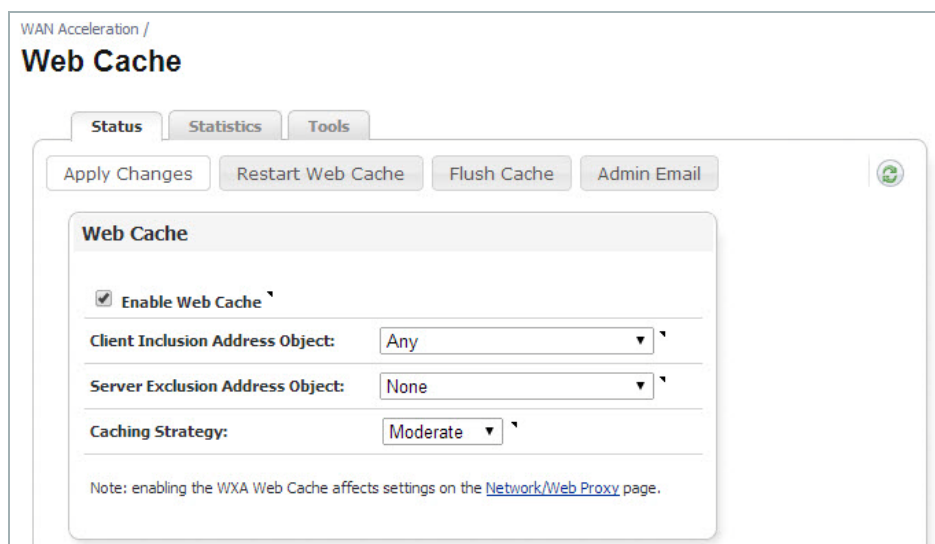
Divert traffic to the WXA series appliance's Web Cache

Client Inclusion Address Object:

Server Exclusion Address Object:

Note: To enable Web Proxy, please enable CFS on the related zones where clients are from [this is not necessary when using the WXA's Web Cache].

- Step 5** Navigate to the **WAN Acceleration > Web Cache** page.
- Step 6** Select the **Enable Web Cache** checkbox.



WAN Acceleration /

Web Cache

Status **Statistics** **Tools**

Web Cache

Enable Web Cache

Client Inclusion Address Object:

Server Exclusion Address Object:

Caching Strategy:

Note: enabling the WXA Web Cache affects settings on the [Network/Web Proxy](#) page.

- Step 7** In the **Client Inclusion Address Object** drop-down menu you can select the Address Object or Group that represents the local subnets whose web traffic should be diverted via the Web Cache. You can also choose “Any” and the traffic from any source IP address is forwarded to the WXA.
- Step 8** In the **Server Exclusion Address Object** drop-down menu you can select the Address Object or Group that contains the destination address of web servers for which traffic should not be diverted via the Web Cache. If you select “None” no web server is excluded and all appropriate traffic is sent via the WXA.
- Step 9** The Caching Strategy determines which objects are placed into the web cache and how long they stay there. Click the **Caching Strategy** drop-down menu, and then select one of the web caching strategies:
- **Minimal** - All objects are cached unless the HTTP header specifically says not to, such as “no cache” or an “expire” time that occurs in the past.
 - **Moderate** (default) - This is the default web caching strategy. In Moderate caching mode, the Web Cache keeps objects in the cache for longer than in Minimal mode. The Web Cache also enforces a minimum age of 7 days on objects that don't include any 'no caching' control options (such as no-cache, no-store or an explicit expiry time) in the HTTP header.
 - **Aggressive** - In Aggressive mode, the Web Cache ignores explicit expiry time (enforcing a minimum age of 7 days), reload and no-cache options in HTTP headers.



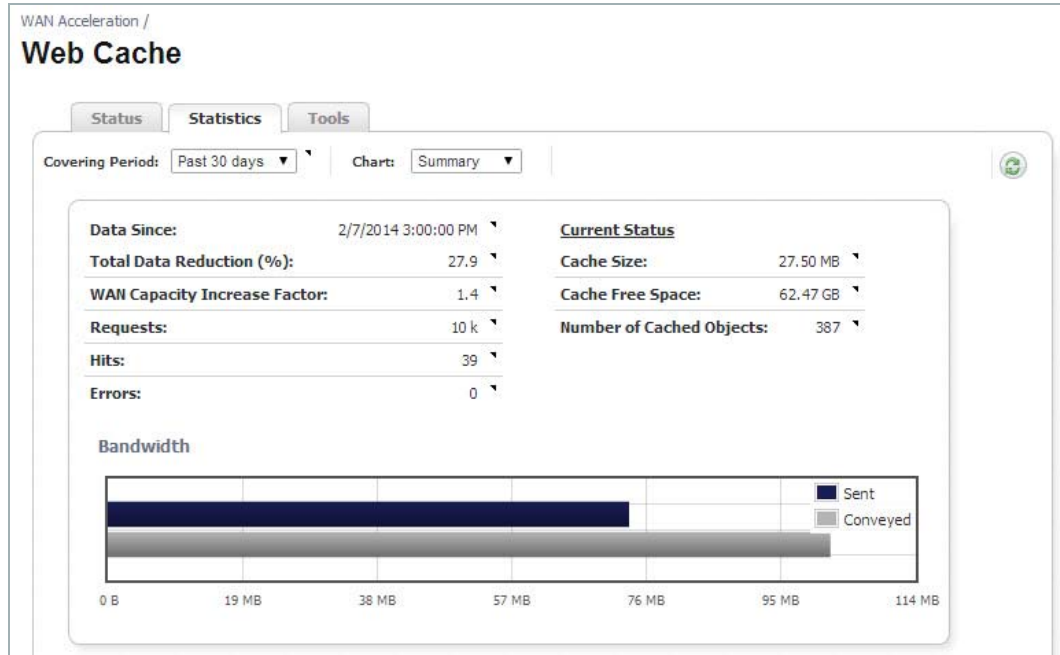
Caution The Aggressive mode should be used with caution, it violates the HTTP standard and may lead to unwanted consequences.

- Step 10** Click the **Apply Changes** button.
- Step 11** Verify the Web Cache service is working, see [Verifying Web Cache Operation](#) on page 134 for details.

Verifying Web Cache Operation

After Configuring the Web Cache service, perform the following verification steps:

Step 1 Navigate to the **Web Cache > Statistics** tab.



Step 2 View the number of cached objects to confirm the Web Cache service is working.

Diagnosing and Testing Performance of the Web Cache

Test the performance or diagnose the Web Caching features on the Web Cache > Tools tab by using the Web Request diagnostic tools and viewing the results.

DNS Lookups are not used in the operation of the Web cache, but there is a DNS Name Lookup tool provided on this page for the Administrator.

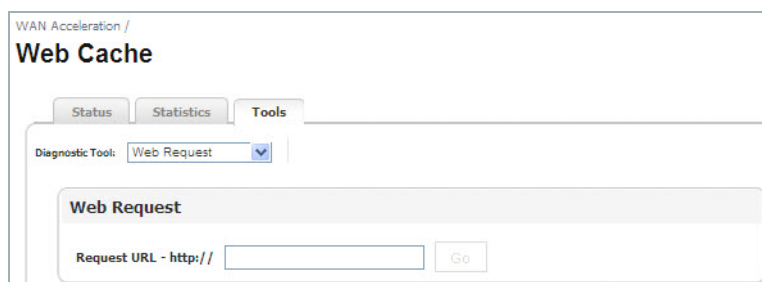
This section contains the following subsections:

- [Web Request](#) on page 135
- [DNS Name Lookup](#) on page 136

Web Request

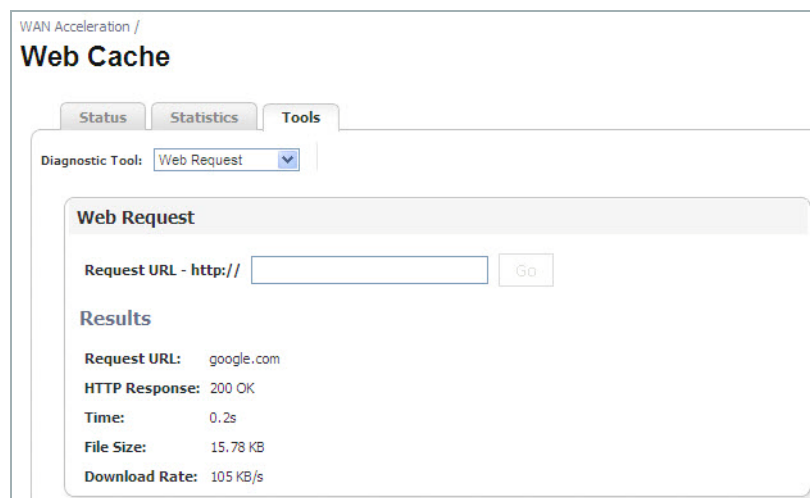
The Web Request panel sends a request for the entered URL and displays the results including the requested URL, HTTP response, process time, file size, and download rate. To configure the Web Request panel, perform the following:

-
- Step 1** Navigate to the **Web Cache > Tools** tab.
 - Step 2** Click the **Diagnostic Tools** drop-down menu and select **Web Request**.



- Step 3** Enter a URL (e.g. *google.com*) in the **Request URL - http://** text-field.
- Step 4** Click the **Go** button.

The test results display:

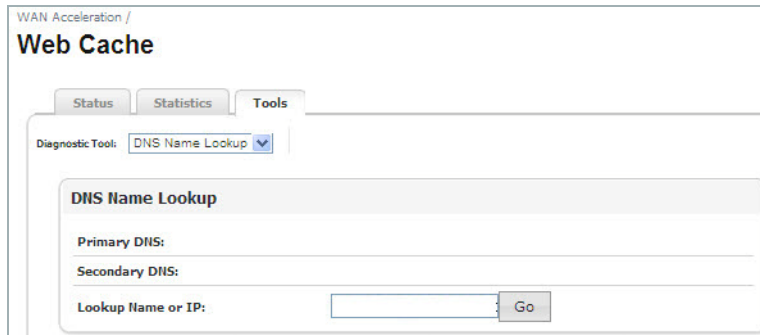


DNS Name Lookup

The DNS Name Lookup panel searches for a name or IP address and displays results including the address, DNS server, resolved status, and lookup time. The DNS servers used in these lookups are the DNS servers inherited from the NSA/TZ series appliance's settings. They may be different to the DNS servers actually used on a user's PC.

To configure the DNS Name Lookup panel, perform the following:

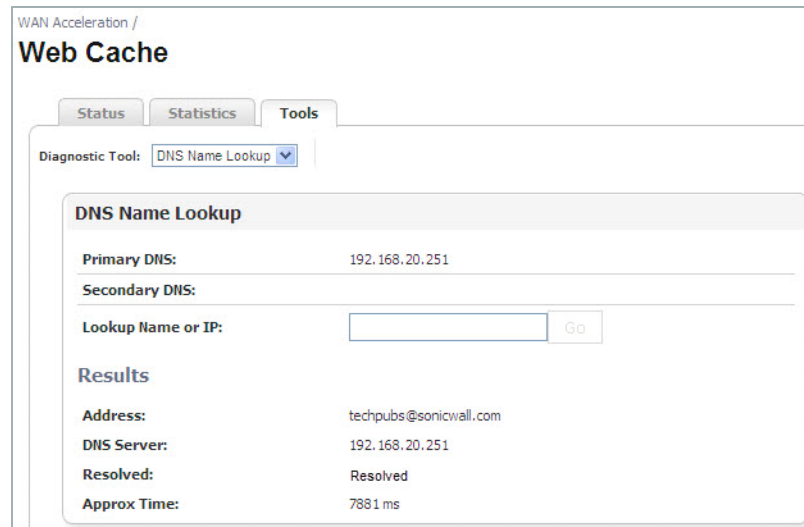
- Step 1** Navigate to the **Web Cache > Tools** tab.
- Step 2** Click the **Diagnostic Tool** drop-down menu and select **DNS Name Lookup**.



The screenshot shows the 'Web Cache' diagnostic tool interface. At the top, there are tabs for 'Status', 'Statistics', and 'Tools'. Below the tabs, a 'Diagnostic Tool' dropdown menu is set to 'DNS Name Lookup'. The main panel is titled 'DNS Name Lookup' and contains three input fields: 'Primary DNS:', 'Secondary DNS:', and 'Lookup Name or IP:'. A 'Go' button is located to the right of the 'Lookup Name or IP:' field.

- Step 3** Enter a name or IP address (e.g. *www.sonicwall.com*) in the **Lookup Name or IP** text-field.
- Step 4** Click the **Go** button.

The test results display:



The screenshot shows the 'Web Cache' diagnostic tool interface after a successful lookup. The 'Diagnostic Tool' dropdown menu is still set to 'DNS Name Lookup'. The main panel is titled 'DNS Name Lookup' and displays the following information:

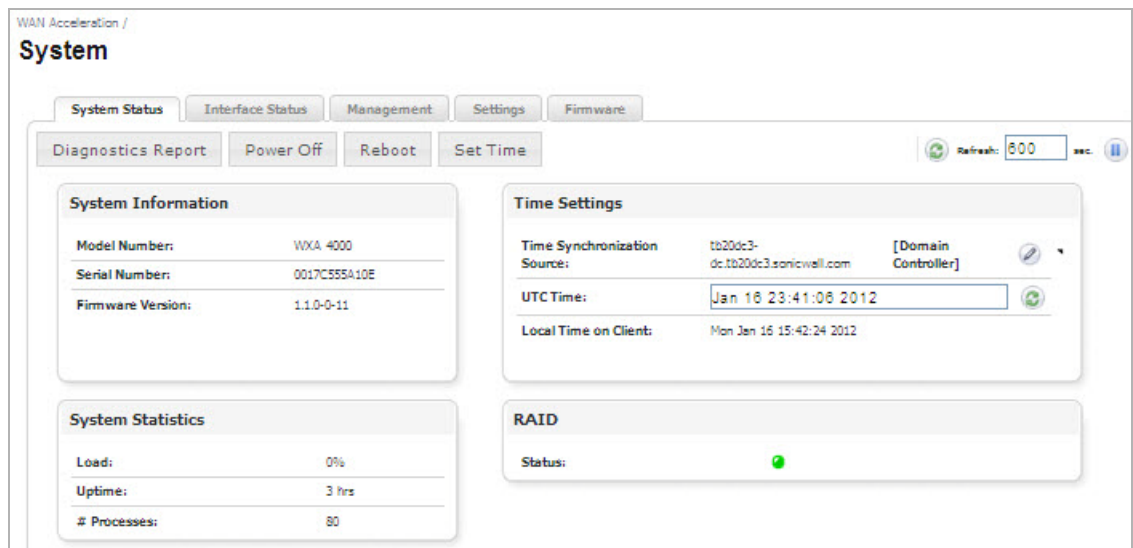
Primary DNS:	192.168.20.251
Secondary DNS:	
Lookup Name or IP:	
Results	
Address:	techpubs@sonicwall.com
DNS Server:	192.168.20.251
Resolved:	Resolved
Approx Time:	7881 ms

System

Viewing the System Page

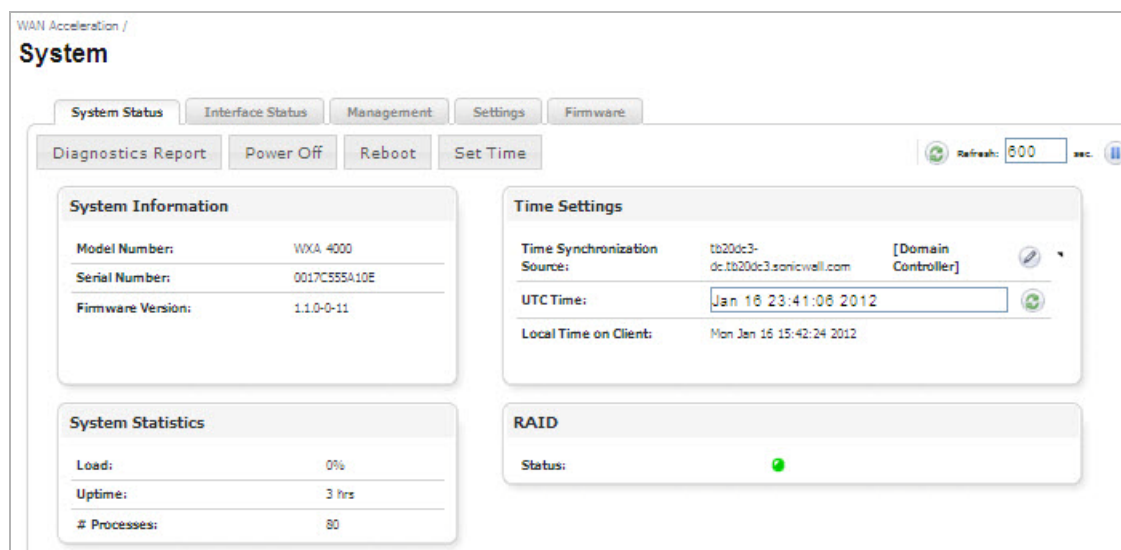
WAN Acceleration > System

The System page provides options to monitor and change the WAN Acceleration system settings. This chapter details the management interface functions of the System Status, Interface Status, Management, Settings, and Firmware tabs.



Name	Description
System Status Tab	Displays the system details about the WXA series appliance including system information, time settings, and system statistics. See the System Status Tab on page 140 for details.
Interface Status Tab	Monitors the WAN Acceleration interface by displaying the status and statistics. See the Interface Status Tab on page 142 for details.
Management Tab	Displays details about the configuration of the Simple Network Management Protocol (SNMP) and the Syslog Server functions. See the Management Tab on page 143 for details.
Settings Tab	Displays details about the configuration of the WXA series appliance and provides an option to browse for policies to upload. A settings file is an XML document that captures the current configuration settings of the WXA series appliance. The configuration settings can then be restored on the WXA series appliance after a firmware upgrade or factory reset is performed. See the Settings Tab on page 144 for details.
Firmware Tab	Displays details about the current firmware and the steps for upgrading. See the Firmware Tab on page 145 for details.

System Status Tab



Name	Description
System Information Panel	(Read-only) Displays the following information: <ul style="list-style-type: none"> • Model Number • Serial Number • Firmware Version.
Time Settings Panel	Configure the time synchronization source , refresh the UTC time , or view the local time on client. It is recommended to synchronize the time between the WXA series appliance and the domain controller. However, you can configure an NTP server to synchronize time with the WXA series appliance if WFS Acceleration (Signed SMB) is not required. NTP servers issue time as UTC, and time zones do not affect the time received by the NTP servers.
System Statistics Panel	(Read-only) Displays the following information: <ul style="list-style-type: none"> • Load • Uptime • Number of processes
RAID Panel	Indicates the RAID status (for the WXA 4000 only). A green circle indicates the RAID is ok. A red circle indicates the RAID is inoperable, unknown, or degraded. A yellow circle indicates the RAID is recovering, initializing, initializing-paused, verifying, verifying-paused, rebuilding, or rebuilding-paused.
Refresh Button	Refreshes the System Status tab. The refresh interval can be entered in the box to the right of the Refresh symbol. The interval can be increased to a maximum of 999 seconds. Click the Refresh button to manually update the System Status tab. Click the Pause button to stop updates on the page.
Diagnostics Report Button	Downloads a diagnostics report file. This file can be sent to Technical Support and reviewed for diagnostic help.
Power Off Button	Shuts down the WXA series appliance.
Reboot Button	Reboots the WXA series appliance.
Set Time Button	Resets the time on the appliance. If using a time synchronization source (domain controller or NTP server) it will overwrite the time set manually.

Figure 30 Time Settings > Time Synchronization Pop-up Window

Time Synchronization

Choose between using the Domain Controller (recommended for WFS) and a specified NTP Server as the source for time synchronization on the WXA.

Use the Domain Controller for time synchronization

NTP Server:

Validate

Apply Cancel

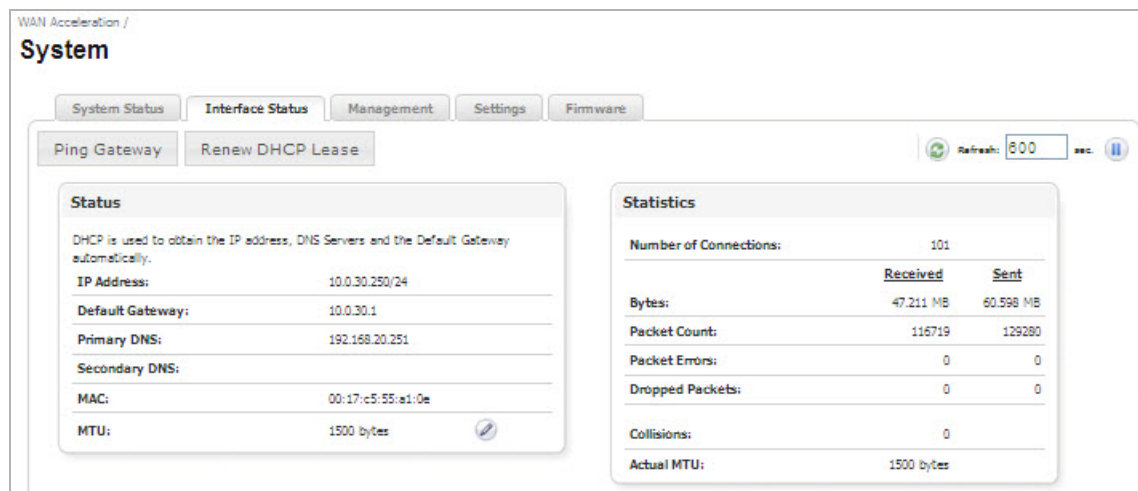
- **Use the Domain Controller for Time Synchronization: Checkbox** — Select this checkbox to use the domain controller as the time synchronization source.
- **NTP Server: Text Field** — Override the domain controller synchronization by specifying an NTP server.



Note If WFS Acceleration Signed SMB is not enabled, the NAT policies that give the WXA access to the network are not created. Therefore, time synchronization using the NTP server will not work unless the Administrator creates the NAT rules manually.

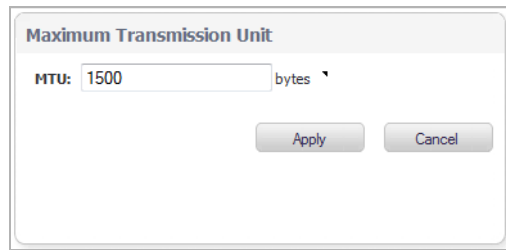
- **Validate Button** — Validates that an NTP server is a valid time server and can be reached.
- **Apply Button** — Applies all changes.
- **Cancel Button** — Cancels the operation.

Interface Status Tab



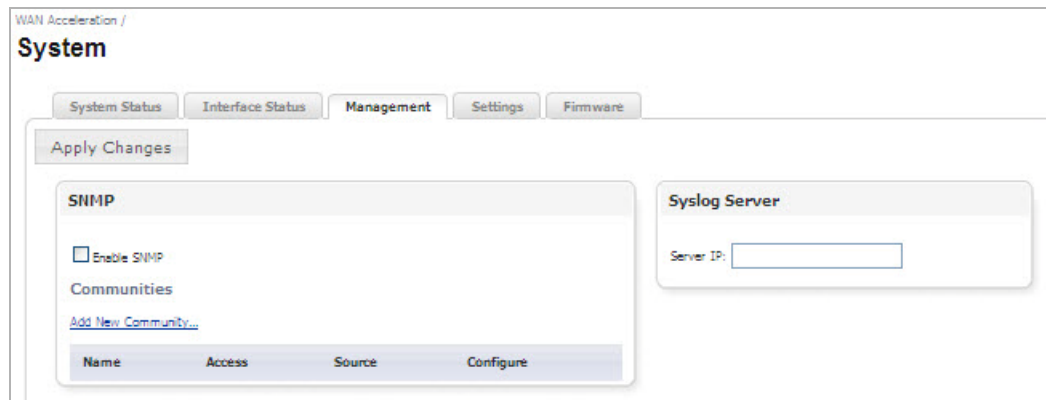
Name	Description
Refresh	Refreshes the Interface Status tab. The refresh interval can be entered in the text field. The interval can be increased to a maximum of 999 seconds. Click the Refresh button to manually update the Interface Status tab. Click the Pause button to stop updates on the page.
Status Panel	Displays the following (Read-Only) information: <ul style="list-style-type: none"> • IP Address • Default Gateway • Primary DNS Server • Secondary DNS Server • MAC • MTU DHCP is used to obtain some of this information. You can also configure the MTU in this panel, see on page 143 .
Statistics Panel	Displays the following (Read-Only) information: <ul style="list-style-type: none"> • Packet flow information using active flows • Number of bytes • Packet Count • Packet Errors • Dropped Packets • Collisions • Actual MTU
Ping Gateway	Sends a ping request to the NSA/TZ series appliance. The WXA series appliance uses Address Resolution Protocol (ARP) to ping the gateway.
Renew DHCP Lease	Renews the DHCP lease for the WXA series appliance. Note: This can drop existing accelerated connections if a static lease has not been configured (or has been changed) and the WXA address changes as a result.

Figure 31 Maximum Transmission Unit



- **MTU: Text Field** — The Maximum Transmission Unit (MTU).
- **Apply Button** — Applies all changes.
- **Cancel Button** — Cancels the operation.

Management Tab



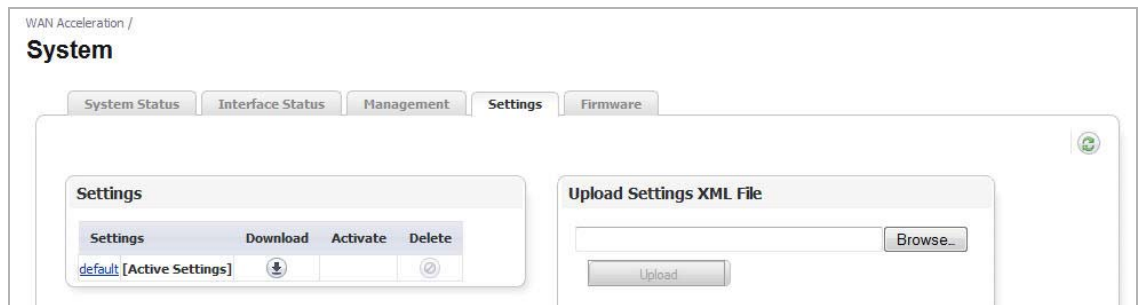
SNMP

Name	Description
SNMP Panel	<p data-bbox="716 1295 1495 1346">Enables the simple network monitoring protocol server. Add read-only and read-write communities for a specific client IP or subnet:</p> <div data-bbox="727 1367 1252 1646" style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> <p>Add New Community ✕</p> <p>Community Name: <input type="text"/></p> <p>Access: <input type="text" value="read-only"/> ▼</p> <p><input checked="" type="radio"/> Any Source</p> <p><input type="radio"/> Source: <input type="text"/> / 32</p> <p style="text-align: right;"><input type="button" value="Apply"/> <input type="button" value="Cancel"/></p> </div> <ul data-bbox="716 1667 1495 1898" style="list-style-type: none"> • Community Name—Enter the community name being used to communicate with the SNMP feature. • Access—Select none, read-only, or read-write. • Any Source—Select the Any Source checkbox remove all source restrictions. • Source—Select the Source checkbox to enter a source manually. • Apply—Applies all changes. • Cancel—Cancels the operation.

Syslog Server

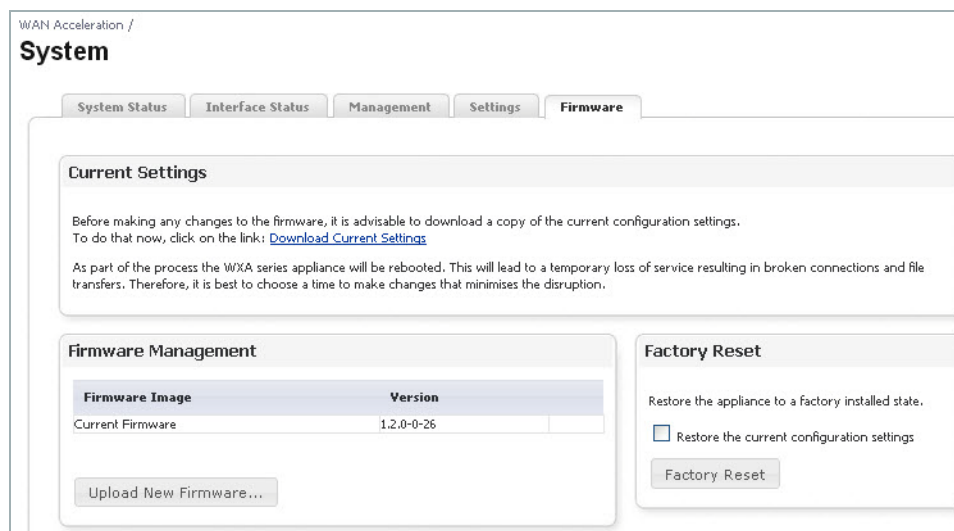
Name	Description
Syslog Server Panel	Sets the server IP address to which log messages are sent.
Apply Changes Button	Applies all changes.

Settings Tab



Name	Description
Refresh	Refreshes the Settings tab.
Settings Panel	Manage the settings by downloading new settings or delete old/unused settings.
Upload Settings XML File Panel	Search for settings XML file to upload from your PC. Once settings are uploaded, they are added to the Settings panel and may be activated.

Firmware Tab



Name	Description
Current Settings Panel	Allows you to download a copy of the current settings. Perform this before making any changes to the firmware.
Firmware Upgrade Panel	Configures the WXA series appliance with the latest firmware. A step-by-step procedure walks you through the firmware upgrade process.
Factory Reset Panel	Restores the WXA series appliance to the factory default settings. A reset option is available to restore the current configuration settings.



Note When performing a firmware upload, do **NOT** navigate away from the System > Firmware tab. This could stop the uploading process or cause the management interface to become unresponsive.

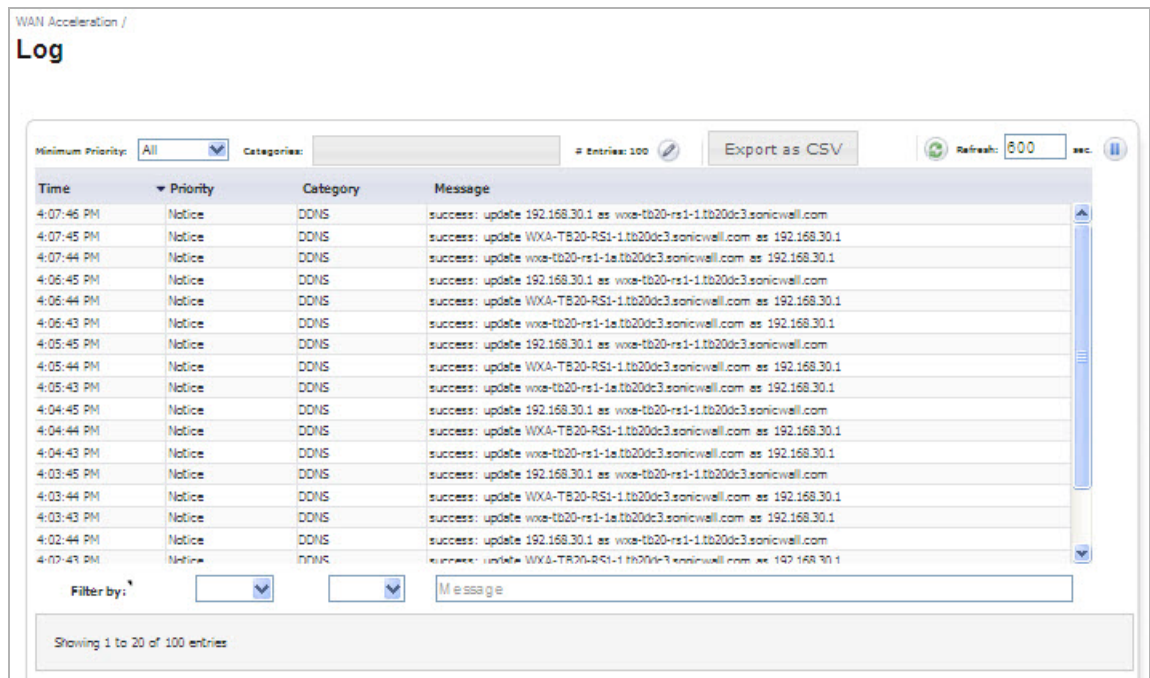
Log

Chapter 12

Viewing the Log Page

WAN Acceleration > Log

The Log page provides a detailed list of log event messages and provides multiple options to change how the log messages display. The Minimum Priority and Categories drop-down menus are used to determine which logs are retrieved from the WXA. The filters at the bottom of the table then determine which of those entries are actually shown on the screen. Use the scroll function to load more log entries as you scroll down the page.



Action Items

Name	Description
Minimum Priority	Displays the log entries of the selected priority or higher by using severity.
Categories	Displays the log entries of the selected categories.
# Entries	Selects the number of entries retrieved and displayed in the logs list. Depending on the number selected, you may need to scroll through the table to view all the log entries.
Refresh	Refreshes the WAN Acceleration > Logs page. The refresh interval can be entered in the box to the right of the Refresh symbol. The interval can be increased to a maximum of 999 seconds. Click the Refresh button to manually update the Logs page. Click the Pause button to stop updates on the page

Name	Description
Filter by	Filter the results by selecting from the drop-down lists and entering text into the priority, category, and message text fields. The filters you select determine which of the log entries retrieved from the WXA series appliance are displayed on the Log screen.
Export as CSV	Download all logs as comma separated values for the time, priority, category, and message fields.

Column Headings

Name	Description
Time	Displays the time the event was logged.
Priority	Organizes the log entries by priority.
Category	Organizes the log entries by category.
Message	Displays the log message.

Appendices

Appendix A: Configuring the WXA to the Domain Without Using the WXA Management Interface

This appendix contains procedures to configure the WXA series appliance to the domain without using the WAN Acceleration management interface.



Note Although this type of configuration is supported, Dell SonicWALL does not recommend configuring the domain this way.

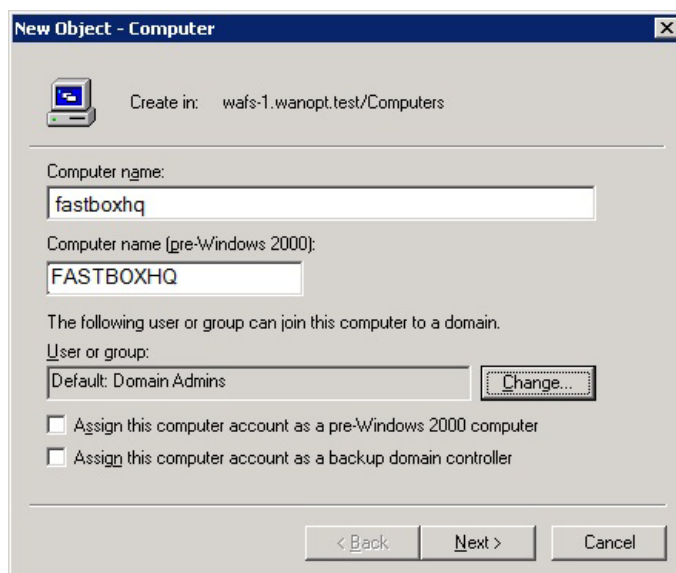
This appendix contains the following subsections:

- [Automatically Joining the Domain](#) on page 153
- [Configuring Custom Zones for WXA](#) on page 156
- [Configuring Reverse Lookup](#) on page 157
- [Manually Adding SPN Hostnames in DNS](#) on page 158

Automatically Joining the Domain

To automatically join the WXA series appliance to the domain, perform the following steps:

- Step 1** Access the domain controller and create a computer account. The computer account must use the default hostname or a hostname specified in the Domain Details tab (the name of the WXA series appliance). If a new hostname is entered in the Domain Details tab in the WAN Acceleration management interface, it overrides the default hostname. The authentication code should be used as the password for the computer account.

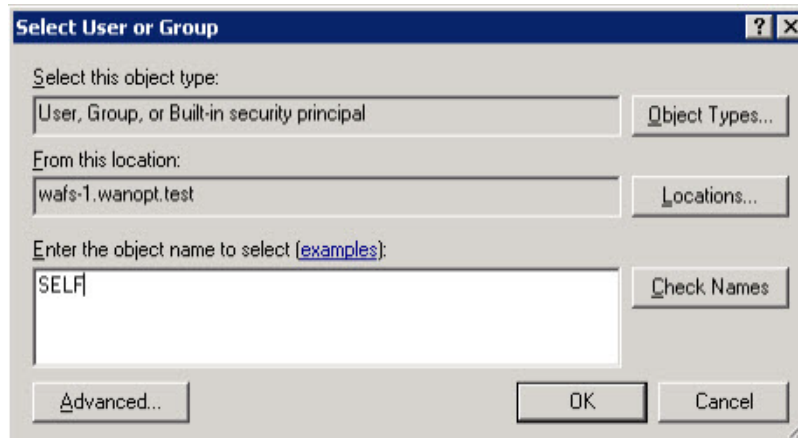


- Step 2** Click **Change...**

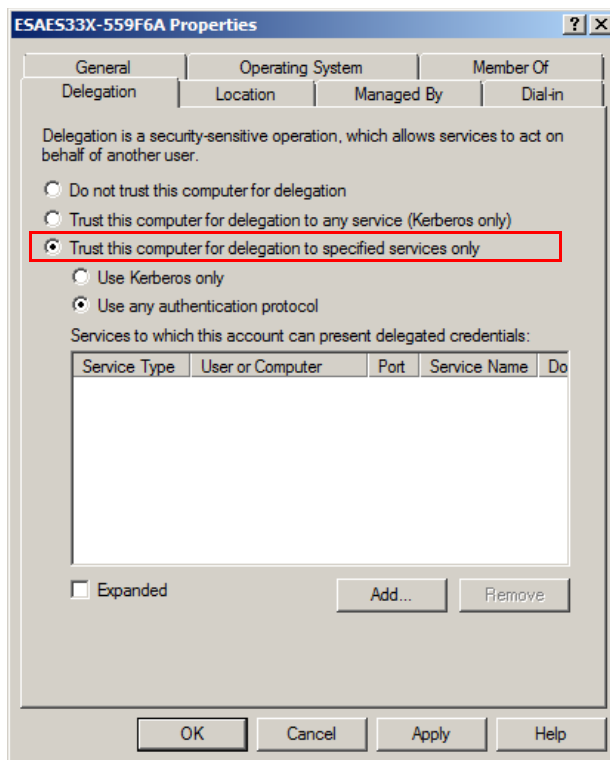
Step 3 In the **Enter the object name to select** text field, enter **SELF**, and then click **OK**.



Note This is also required when manually joining using a non-admin account.



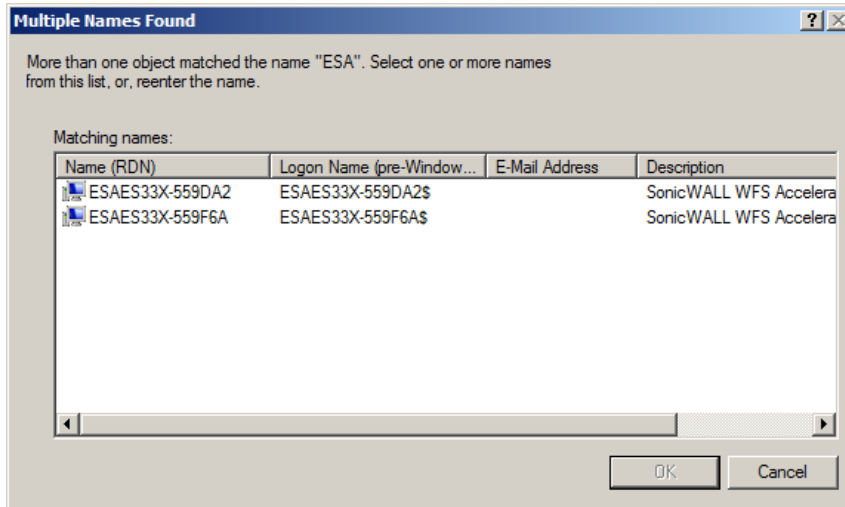
Step 4 Right click on the computer account, go to **Properties**.



Step 5 Select the setting **Trust this computer for delegation to specified services only**.

Step 6 Select the setting **Use any authentication protocol**.

Step 7 Click the **Add...** button.

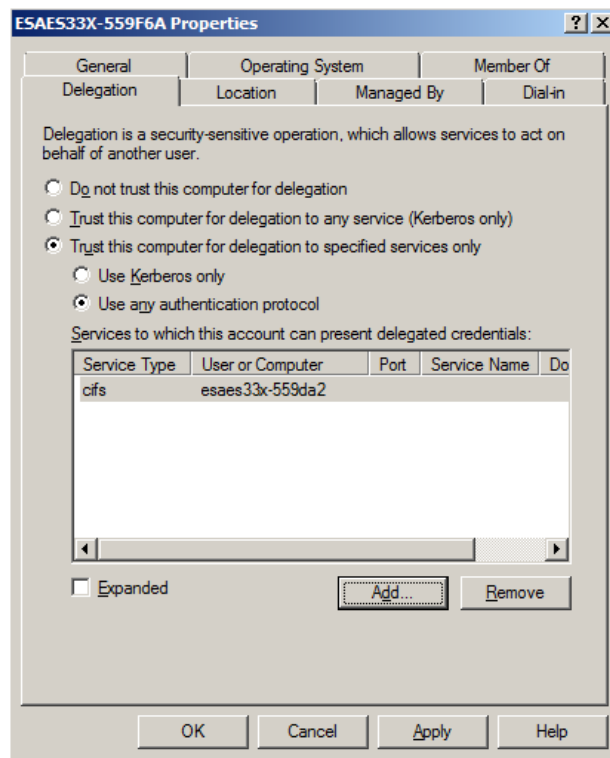


Step 8 Select the computer account to which the WXA series appliance computer account can present delegation credentials. For example, if you were performing this configuration for a central site, you would select the WXA series appliance computer account on the branch site. This enables the branch site to connect to the central site, and then onto the domain controller/file server for accelerated sharing.

Step 9 Select **CIFS** for the service.

Step 10 Click the **OK** button.

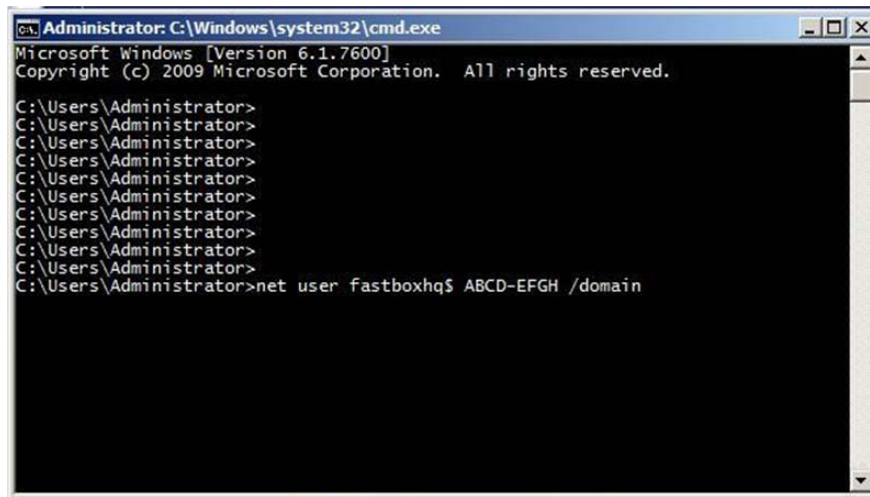
The computer account properties window populates with the configured account:



If you typed **SELF** in the computer account for step 3, perform steps 11 and 12.

Step 11 Open a cmd.exe window.

Step 12 Set the password for the computer account, where *ABCD-EFGH* is the auth code.



```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>
C:\Users\Administrator>
C:\Users\Administrator>
C:\Users\Administrator>
C:\Users\Administrator>
C:\Users\Administrator>
C:\Users\Administrator>
C:\Users\Administrator>
C:\Users\Administrator>
C:\Users\Administrator>
C:\Users\Administrator>
C:\Users\Administrator>
C:\Users\Administrator>net user fastboxhq$ ABCD-EFGH /domain
```



Note The password for the computer account must be the auth code found on the **WAN Acceleration > Status** page on the NSA/TZ security appliance.

Configuring Custom Zones for WXA

Dell SonicWALL recommends setting a LAN zone for the zone properties of the interface to which the WXA appliance is connected to. Setting the WXA appliance to a LAN zone is recommended because the default access rules associated with that zone allow traffic between the WXA appliances at both locations; therefore, there is no need for additional configuration to the access rules. Set a WAN > LAN zone if using Layer 2 Bridge mode.



Note Access rules are necessary for the traffic coming from VPN>LAN and LAN>VPN to be open for WXA associated traffic and the default zone properties of the LAN takes care of handling traffic without manually adding or modifying any access rules. Both WXA appliances deployed at each location should be able to communicate with each other without being blocked by access rules or firewall policies.

If you need to customize a zone for WFS acceleration, make sure VPN remote users are allowed to access the WXA appliance. If additional domain controllers and file servers are located in any zone other than the LAN, necessary access rules must be configured to allow traffic from and to the WXA appliance to those zones as well as from and to the NSA/TZ security appliance.

For example consider, at the central site, if the WXA appliance is deployed in the DMZ zone, the access rules must be configured to allow traffic from VPN>DMZ and LAN>DMZ so that traffic to the WXA appliance from the VPN and from the LAN zones are allowed to the WXA appliance.

Configuring Reverse Lookup

After both WXA appliances are added to the domain, corresponding Computer Accounts for WXA appliances, DNS Host name, and Pointer (PTR) records are automatically created on the DC and DNS servers. For PTR records to be updated, relevant Reverse Lookup Zones must be configured on the DNS servers. Networks used for Reverse Lookup Zones depend on whether WFS acceleration is using NAT. If using NAT, the WXA appliance uses the NAT IP for WFS services and only the X0 subnets are used as networks in Reverse Lookup Zones. If the WXA appliances are not using NAT, the Reverse Lookup Zone network must also be configured for WXA subnets on both locations.

To add a PTR record, perform the following steps:

-
- Step 1** Navigate to your DNS on the data center and remote locations.
 - Step 2** Expand the Reverse Lookup Zones folder.
 - Step 3** Right-mouse click on the subnet you want to add a new PTR.
 - Step 4** Select New Pointer (PTR)... in the pop-up menu.
The New Resource Record window appears.
 - Step 5** Enter the subnet in the Host IP number field.
 - Step 6** Enter the Host (A) record name in the Host name text field, and then click OK.
 - Step 7** Verify that the PTR record is created in the Reverse Lookup Zone folder.

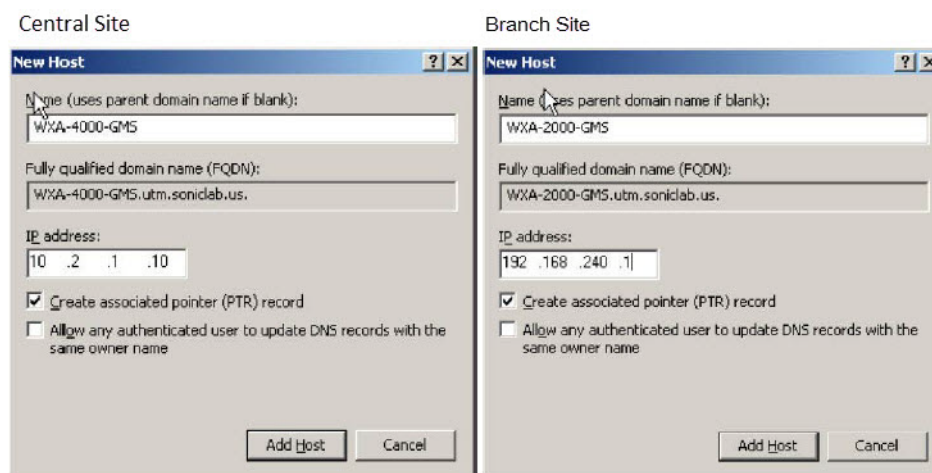
Manually Adding SPN Hostnames in DNS

In the event that SPN hostnames are not added automatically, the Domain Administrator can manually add SPN hostnames in the DNS. Perform the following steps:

- Step 1** Navigate to the DNS on the central and branch sites.
- Step 2** Expand the Forward Lookup Zones.
- Step 3** Right click on the subnet you wish to add a new *Host (A)* record.
- Step 4** Select **New Host (A)**... in the pop-up menu.
The New Host window is displayed.
- Step 5** Enter the hostname for the central and remote DNS servers.



Note The newly created hostname for the central and branch sites should be updated with the NAT IP of the X0 interface on the NSA/TZ series appliance that is located at the central and branch site, respectively.



- Step 6** Ping the IP addresses at the central and branch sites to verify correct connectivity.
E.g. The WXA-4000 resolves to *X.X.1.100* and the WXA-2000 resolves to *A.A.240.1*.

Appendix B: Configuring the NetExtender WAN Acceleration Client

This appendix provides configuration procedures for activating, installing, and enabling the NetExtender WAN Acceleration Client (WXAC). The configuration procedures are split into two parts: one for the Administrator enabling/allowing NetExtender WAN Acceleration Clients to connect to the central site, and one for the client configuring the NetExtender WXAC on a remote PC. Both of these configurations must be complete for the NetExtender WXAC to work.

This appendix contains the following sections:

- [Overview](#) on page 159
- [Requirements / Prerequisites](#) on page 159
- [Deployment Considerations](#) on page 159
- [Enabling WXAC on the Central Site](#) on page 160
- [Configuring WXAC on a Remote PC](#) on page 164

Overview

The NetExtender Client allows remote PCs to connect to the central site via a VPN connection, the NetExtender WAN Acceleration Client (WXAC) is an addition to the NetExtender Client, and accelerates traffic through the VPN connection. Using the NetExtender WXAC on a remote PC means the traffic at the central site will pass through the central site's WXA appliance.

Requirements / Prerequisites

The NetExtender WXAC requires the following:

- A SonicOS NSA/TZ series appliance running SonicOS 5.9 firmware.
- A WXA series appliance running WXA 1.2 or higher firmware.
- The WXA series appliance is connected and configured to the managing NSA/TZ series appliance.
- The TCP Acceleration service is enabled on the WXA appliance.

Deployment Considerations

Please consider the following when deploying the NetExtender WXAC:

- When a user tries to enable WXAC, while PPP software compression is on, a dialog pops up and the user needs to choose whether to reconnect the SSL VPN session. But the user doesn't need to enter the server information and credentials if he chooses to reconnect the session.
- The NetExtender WXAC is supported on all NSA/TZ series appliances except the following:
 - TZ 100 series
 - TZ 105 series
 - TZ 200 series

- If the WXA appliance is not connected to a Dell SonicWALL NGFW, the WXAC tab will not display in the NetExtender management interface.
- A link to install the WXAC will display on the NetExtender WXAC tab if WXAC is licensed and enabled on the managing NSA/TZ series appliance, but not yet installed on the client side.
- If the WXAC is disabled or not supported at the central site, the WXAC tab will not display in the NetExtender Client on the remote PC.

Enabling WXAC on the Central Site

The NetExtender WXAC is used on remote PCs connecting to a central site. At the central site, the Administrator has to allow those NetExtender WAN Acceleration Clients to connect to the central site (location of the WXA, managing NSA/TZ, and server).

Please do the following to enable/allow WAN Acceleration Clients:

Activating the WXAC

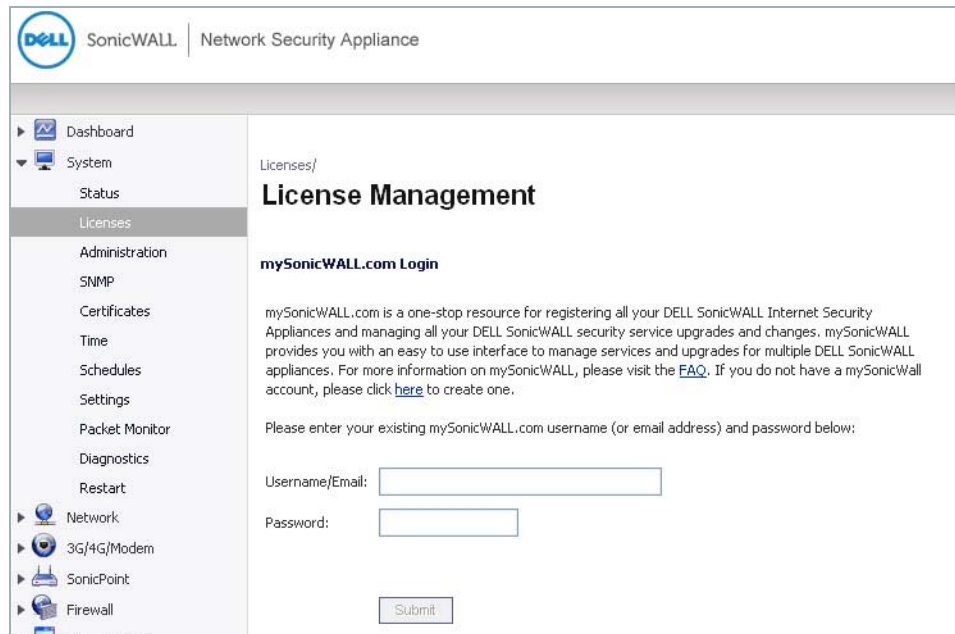
Step 1 Login to the managing NSA/TZ series appliance.

Step 2 Navigate to the **System > Licensing** page.



Step 3 Scroll down to the Manage Security Services Online section, then click the link to Activate, Upgrade, or Renew services.

The License Management page displays:



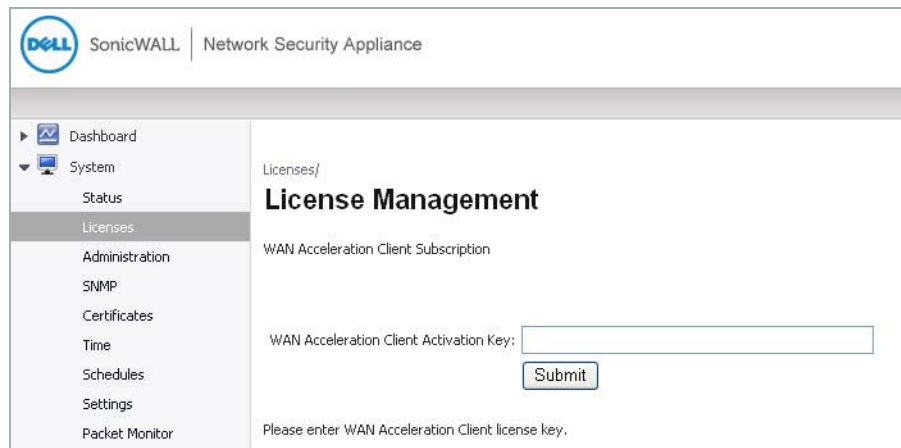
Step 4 Enter your MySonicWALL credentials, then click the **Submit** button.

The Manage Online Services page displays:

Service Name	Status	Manage Service
Security Service	Licensed	
Nodes/Users	Licensed	
App Control	Not Licensed	
Kaspersky: Enforced Client Anti-Virus and Anti-Spyware	Not Licensed	Activate
McAfee: Client/Server Anti-Virus Suite		Activate
McAfee: Enforced Client Anti-Virus and Anti-Spyware	Not Licensed	Try Activate
App Visualization	Expired	
Gateway Anti-Virus, Anti-Spyware & Intrusion Prevention Service	Expired	Renew
Deep Packet Inspection for SSL (DPI-SSL)	Not Licensed	Try Activate
Virtual Assist	Not Licensed	Try Activate
VPN	Licensed	
Global VPN Client	Licensed	Upgrade
Global VPN Client Enterprise	Not Licensed	Activate
VPN SA	Licensed	Upgrade
SSL VPN	Licensed	Upgrade
WAN Acceleration Client	Not Licensed	Activate
WAN Acceleration Software	Not Licensed	Activate

Step 5 Click the **Activate** link in the Manage Service column for the WAN Acceleration Client.

The License Management page displays:



Step 6 In the WAN Acceleration Client Activation Key text-field, enter your WAN Acceleration Client license key, then click the **Submit** button.

For reference, the table below displays the maximum numbers of supported client licences per appliance:

Appliance	Number of Supported Clients
WXA 500 Live CD	20
WXA 2000	60
WXA 4000	120
WXA 5000 Virtual Appliance	120
WXA 6000 Software	120



Note Lower end NSA/TZ series appliances may support less clients.

The WAN Acceleration Client now displays as “Licensed”:

Security Service	Status	Manage Service	Users
Nodes/Users	Licensed		Unlimited
App Control	Licensed		
Kaspersky: Enforced Client Anti-Virus and Anti-Spyware	Not Licensed	Activate	
McAfee: Client/Server Anti-Virus Suite		Upgrade Renew	
McAfee: Enforced Client Anti-Virus and Anti-Spyware	Expired	Upgrade Renew Share	10
App Visualization	Licensed		
Gateway Anti-Virus, Anti-Spyware & Intrusion Prevention Service	Licensed	Renew	
Deep Packet Inspection for SSL (DPI-SSL)	Not Licensed	Try Activate	
Virtual Assist	Licensed	Upgrade	1
E-Mail Filtering Service	Licensed		
VPN	Licensed		
Global VPN Client	Licensed	Upgrade	10
Global VPN Client Enterprise	Not Licensed	Activate	
VPN SA	Licensed	Upgrade	75
SSL VPN	Licensed	Upgrade	2
WAN Acceleration Client	Licensed	Upgrade	5
WAN Acceleration Software	Not Licensed	Activate	

Configuring SSL VPN for the NetExtender WXAC Connection

Step 7 Navigate to the **SSL VPN > Server** page, and then configure the server settings.

Step 8 Navigate to the **SSL VPN > Client** page, and then configure the client settings.

Refer to the *SonicOS 5.9 Administrator's Guide* for details on configuring the server and client settings.

Configuring the User Credentials for the NetExtender WXAC

Step 9 Navigate to the **Users > Local Users** page and configure user credentials for the clients that will be using the NetExtender WXAC.

Refer to the *SonicOS 5.9 Administrator's Guide* for details on configuring user credentials.

Enabling WXAC on the WXA Appliance

Step 10 Navigate to the **WAN Acceleration > Status** page.

Step 11 Click the **Settings** tab.

WAN Acceleration /
Status

Status Settings

Apply Changes Probe for WXA Create static DHCP lease for WXA

WXA Appliance Configuration

Enable WAN Acceleration

WXA Interface: X2

WXA IP Address: 192.168.10.244

WXAC

Enable NetExtender WAN Acceleration Client (WXAC)

Active Licenses Currently in Use: 53

Step 12 Select the **Enable NetExtender WAN Acceleration Client (WXAC)** checkbox.

Step 13 Click the **Apply Changes** button.

Configuring WXAC on a Remote PC

This section shows the client user how to download and install the NetExtender Client (if not already done), and then download, install, and enable NetExtender WXAC. These procedures are performed on a remote PC that is connecting to a central site.

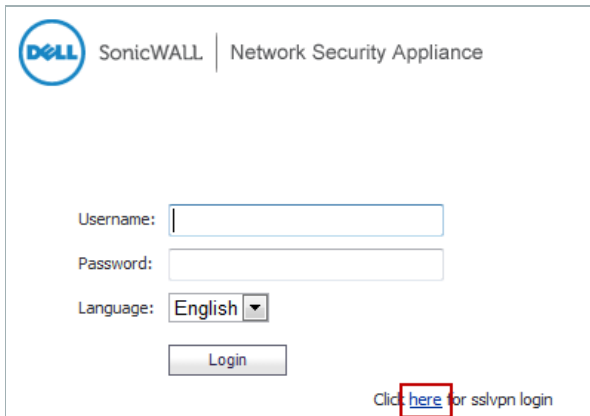
Downloading / Installing the NetExtender Client

If you already have the NetExtender Client installed on your PC, upgrade to version 7.0.197 or higher.

If you do not have the NetExtender Client installed on your PC, perform the following:

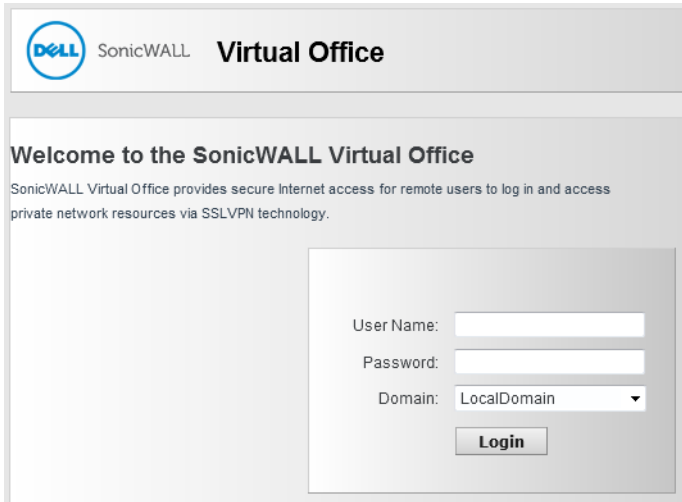
-
- Step 1** Open a Web browser, and then enter the WAN IP address of the NSA/TZ appliance that is on the central site.

The NSA/TZ appliance login page displays:



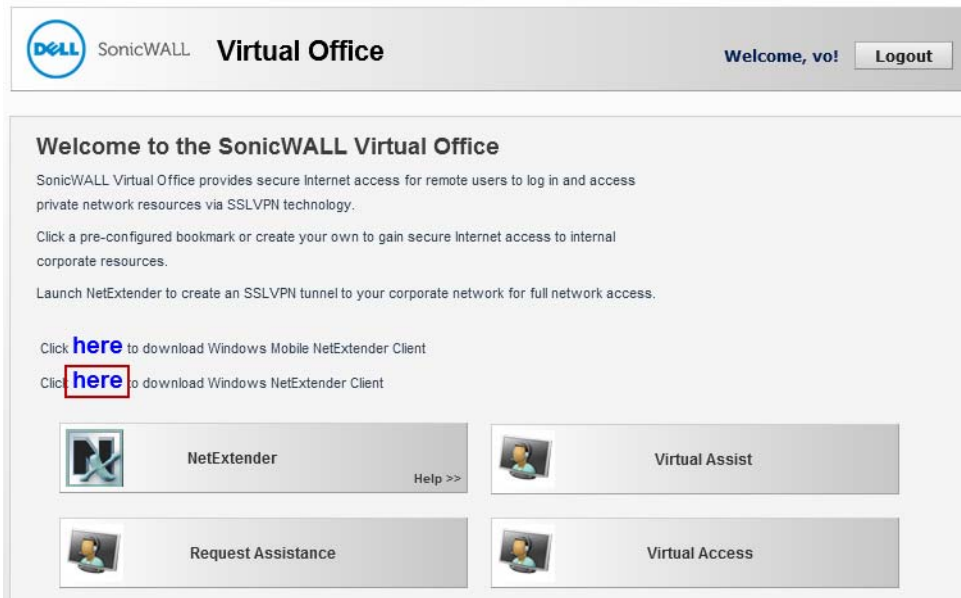
- Step 2** Click the **Here** link to login to sslvpn.

The Virtual Office login page displays:



- Step 3** Enter the Username and Password to log into the Virtual Office.

The Virtual Office main page displays:

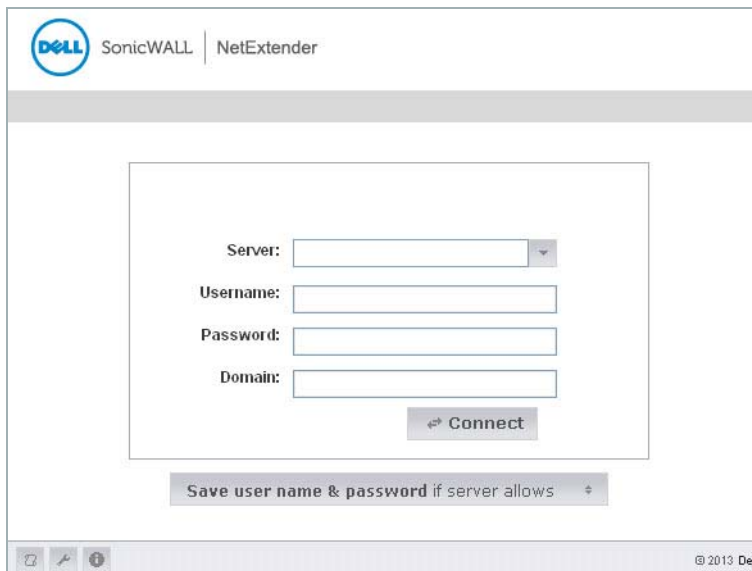


Step 4 Click the **Here** link to download the NetExtender Client.

Step 5 Run the NetExtender Setup Wizard to install the NetExtender Client. Refer to the *SonicOS 5.9 Administrator's Guide* for details on the NetExtender Setup Wizard.

Downloading / Installing the NetExtender WXAC in the NetExtender Management Interface

Step 6 Open the NetExtender Client.



Step 7 Enter the following in the text-fields:

Server—the WAN IP address of the managing NSA/TZ appliance that is on the site where the WXA appliance and server are located. Enter a colon (:) after the WAN IP address, and then enter the server port number.

Username—the username created by the Administrator.

Password—the password created by the Administrator.

Domain—the domain name displayed in the **SSL VPN > Server Settings** page of the managing NSA/TZ appliance's management interface.

Step 8 Click the **Connect** button.

Step 9 Once the NetExtender Client is connected, click the **WXAC** tab, and then click the **Install WAN Acceleration Client** button.



If the WXAC is already installed, there will be an option to upgrade to the latest version.

Step 10 Once the WXAC is installed, click the **Disconnect** button.

The NetExtender Client login page displays:

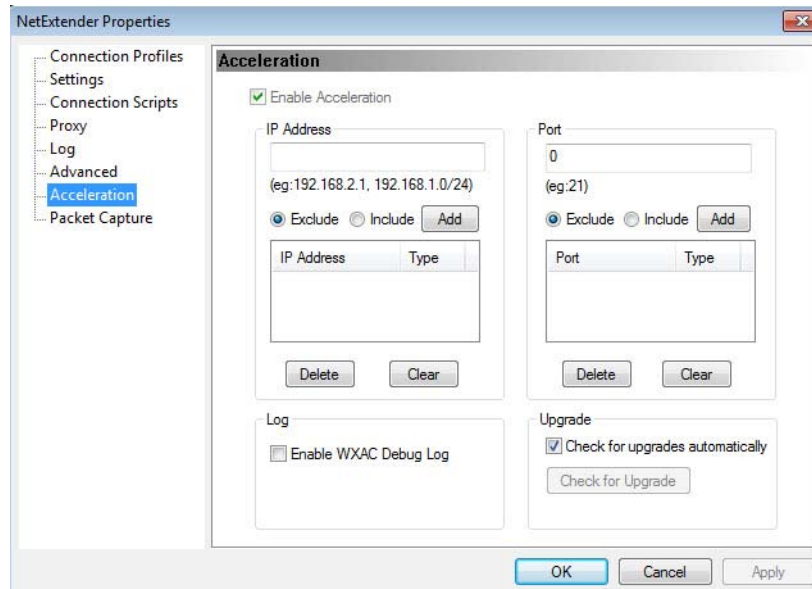


Step 11 Enter the information from Step 4 in the text-fields, then click the **Connect** button

This reconnects you to the server, which is required in order to activate WAN Acceleration.

Step 12 Once you are connected, click the **Properties** button, then select **Acceleration** from the left-navigation menu.

The Acceleration screen displays:



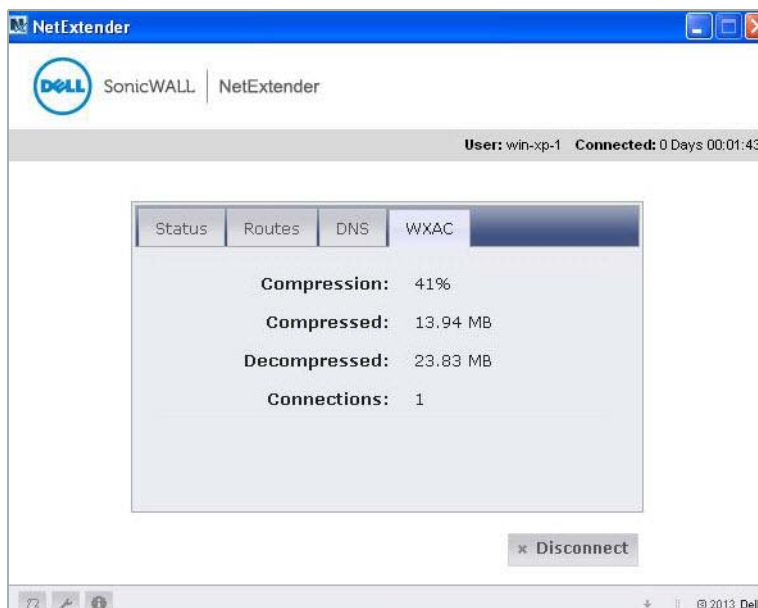
Step 13 Verify that the **Enable Acceleration** checkbox is selected.



Note The Enable Acceleration checkbox is selected by default.

Step 14 Exit the NetExtender Properties window, and then click the **WXAC** tab.

From this tab, you can view the WXAC data of files downloading from the server.



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