▷ COMPREHENSIVE INTERNET SECURITY

SonicWALL Internet Security Appliances

SonicWALL TZ 180 Recommends Guide

SONICWALL®

SonicWALL Recommends Guide

Recommended Solutions for the SonicWALL TZ 180

SonicOS 3.8 Standard and Enhanced

Table of Contents

Recommends Guide Overview

Welcome to the 'SonicWALL Recommends' Guide for the SonicWALL TZ 180 security appliance. This guide is designed to help you configure the TZ 180 security appliance to provide reliable, secure, and trouble-free connectivity. This guide is not intended as a replacement for the Getting Started Guide or the Administrator's Guide, but rather as an addendum to both guides. The SonicWALL Recommends Guide for the SonicWALL TZ 180 security appliance can significantly simplify and enhance the installation and operation of the TZ 180 security appliance.

This SonicWALL Recommends Guide contains the following sections:

- "Registering and Enabling Support" section on page 4 – This section provides instructions for verifying that the TZ 180 security appliance is properly registered, keeping proper backups of critical files, and retrieving updated firmware files.
- "Security Best Practices for TZ 180 Running SonicOS Standard" section on page 9 – This section provides instructions for configuring security settings for the TZ 180 security appliance and its nterfaces.
- "Troubleshooting TZ 180 Configuration and Settings Issues " section on page 13 – This section provides troubleshooting for the most common configuration issues, as reported by SonicWALL's Technical Support department.
- "SonicWALL Solutions Integration" section on page 27 – This section provides information about SonicWALL's suite of products that are complementary to the TZ 180 security appliance and describes how they can be easily integrated into your network environment.
- "Obtaining Technical Support" section on page 35 – This section provides contact information for SonicWALL Technical Support.

The guide provides instructions and information to quickly configure and use a SonicWALL TZ 180 security appliance. For details about the features introduced in this guide, refer to the SonicOS Enhanced or SonicOS Standard Administrator's Guide and SonicWALL's online library of technical notes, available on SonicWALL's Web site at http://www.sonicwall.com/us/support.

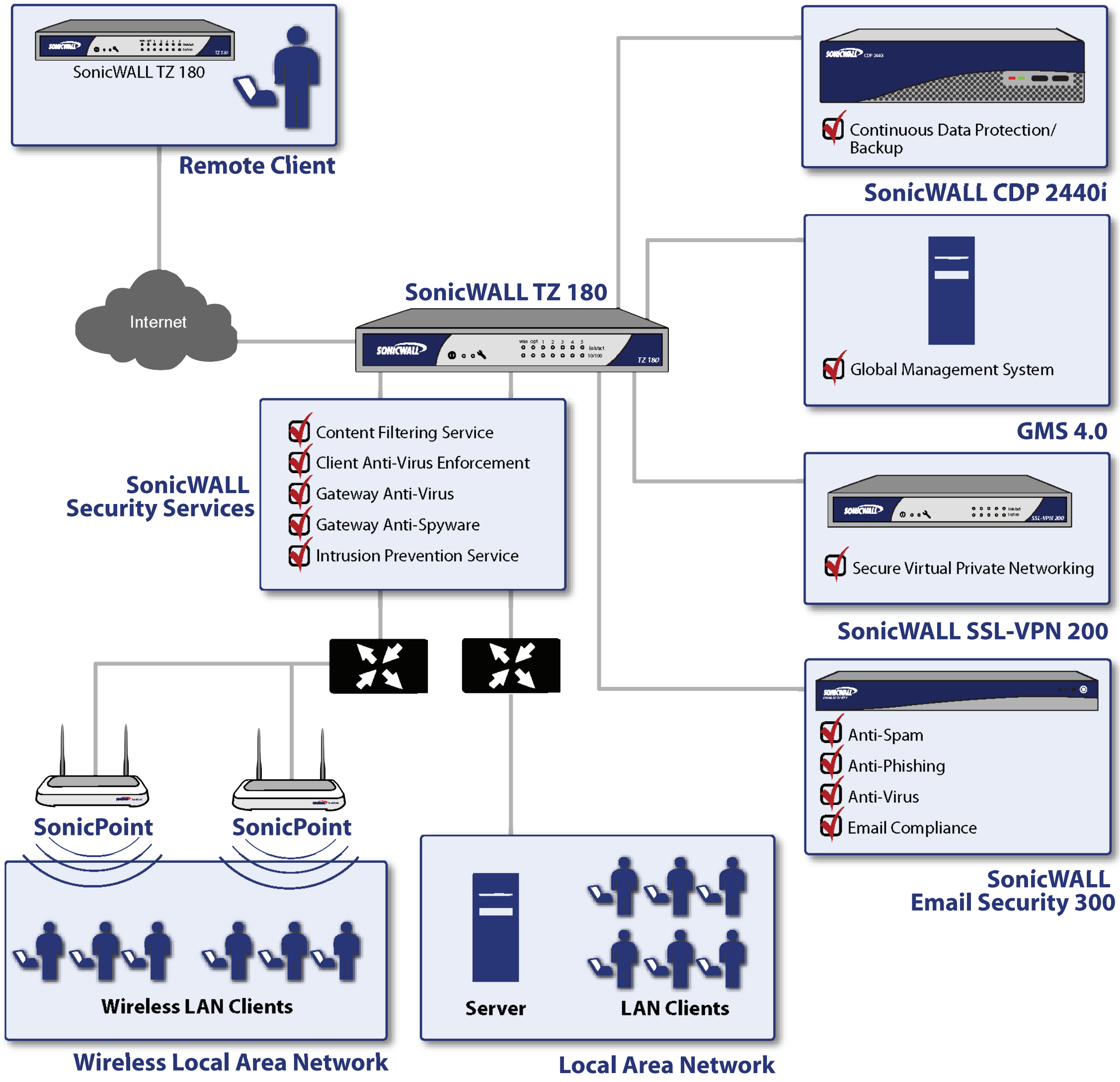
Document Scope

This 'SonicWALL Recommends' Guide describes how to how to plan, design, implement, and manage the TZ 180 security appliance on your network.

This document contains the following sections:

SonicWALL TZ 180 Network Topology

Figure 1 SonicWALL TZ 180 Sample Network Topology



Registering and Enabling Support

Your TZ 180 network security appliance provides 90 days of free software updates and technical support. To activate your free software updates and technical support, you must register your security appliance at mysonicwall.com before you install the appliance on your network. This process takes no more than a few minutes and significantly reduces future runtime and support issues with the appliance. Registering at mysonicwall.com also provides you access to new firmware patches and new firmware versions with added features.

It is critical to register the TZ 180 security appliance. If the TZ 180 security appliance is not registered, you cannot install new firmware or access new firmware updates on the MySonicWALL portal. As with other networking devices, the TZ 180 is shipped with the most current software possible; however, it is difficult to predict how much time may have elapsed since shipping. During this time it's possible that SonicWALL has updated the firmware. It is recommended that you visit mysonicwall.com to check for a more current version.

Once registered, SonicWALL products provide dynamic support by periodically checking with SonicWALL's security portal for firmware updates, and security services signature updates on appropriately licensed appliances. This ensures that your network, users, and data are protected from emerging threats. The communications channel between the SonicWALL security appliance and the security portal is SSL encrypted for confidentiality, and no sensitive or private data is exchanged.

Note Turn off pop-up blockers on your Web browser when accessing MySonicWALL Web site or the management interface of your TZ 180 security appliance.

Note Your SonicWALL TZ 180 security appliance should be operational and have Internet connectivity prior to enabling support. Refer to the *SonicWALL TZ 180 Getting Started Guide* to set up your SonicWALL TZ 180 security appliance for the first time. For additional setup information, refer to the "Basic SonicWALL Security Appliance Setup" section in the *SonicOS Standard 3.8 Administrator's Guide*.

To enable support on a SonicWALL TZ 180 network security appliance, perform the following steps:

Step 1 Navigate to https://www.mysonicwall.com or navigate to **Wizards > License and Registration Wizard** in the SonicWALL TZ 180 management interface.

Step 2 Click the **Click here** link in **If you are not a registered user, Click Here**.

Step 3 Fill out the registration fields, including a working email address.

Note Your email address is used to send you important update information related to your TZ 180 and is not used for spam. Provide a working email address.

Step 4 To be a beta tester and be provided access to pre-release firmware updates for your TZ 180 security appliance, check the box next to **Yes, I would like to be a Beta Tester**.

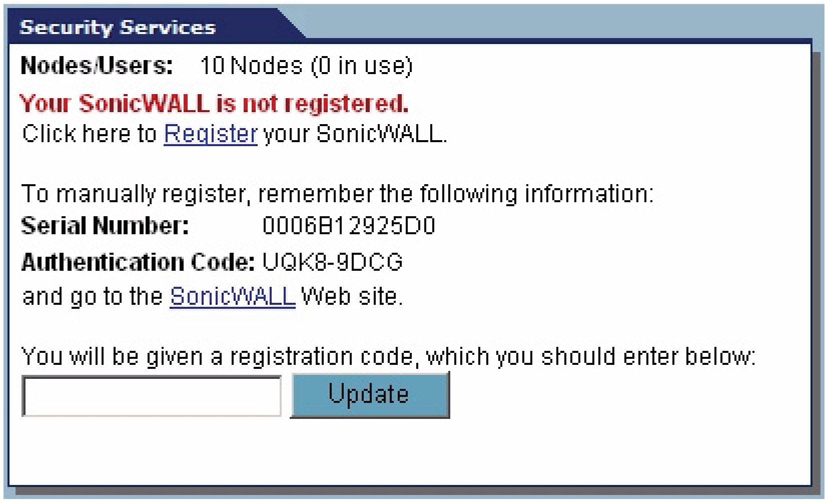
Step 5 Locate the serial number and authentication code of the appliance, located on the bottom of the appliance and on the **System > Status** page of the management interface of the security appliance.

Note The management interface can be accessed by default at http://192.168.168.168, using the LAN interface of the TZ 180 security appliance. Login using the default username **admin** and default password **password**.

Step 6 You can register appliance from the **System > Status** page, using the **Registration & License Wizard**, or directly from mysonicwall.com. To register your TZ 180, log into MySonicWALL, enter your username and password, and enter the serial number of the TZ 180 in the **Quick Registration** field in the lower-left side of the page. Fill out the fields when prompted. A registration code is generated.

Step 7 Navigate to the **System > Status** page on the appliance management interface. Under **Security Services**, your registration code in the field below the message **You will be given a registration code, which you should enter below:**, illustrated in Figure 2, and click **Update**.

Figure 2 Unregistered TZ 180 Security Appliance



Security Services

Nodes/Users: 10 Nodes (0 in use)

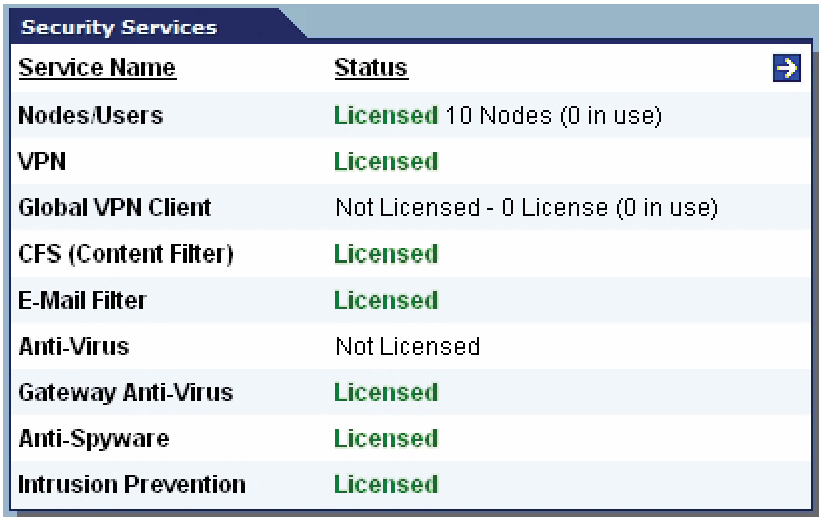
Your SonicWALL is not registered.
Click here to Register your SonicWALL.

To manually register, remember the following information:
Serial Number: 0006B12925D0
Authentication Code: UQK8-9DCG
and go to the SonicWALL Web site.

You will be given a registration code, which you should enter below:

When the registration process is complete, the **Security Services** section displays the status of current licenses. Figure 3 provides a view of a registered TZ 180 appliance.

Figure 3 Registered TZ 180 Security Appliance

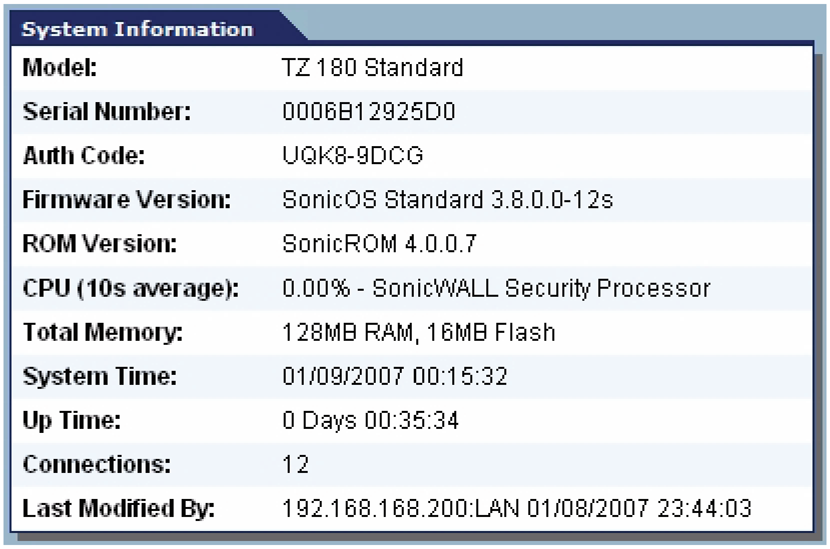


Security Services

Service Name	Status
Nodes/Users	Licensed 10 Nodes (0 in use)
VPN	Licensed
Global VPN Client	Not Licensed - 0 License (0 in use)
CFS (Content Filter)	Licensed
E-Mail Filter	Licensed
Anti-Virus	Not Licensed
Gateway Anti-Virus	Licensed
Anti-Spyware	Licensed
Intrusion Prevention	Licensed

Step 8 Determine what firmware version is on the TZ 180 security appliance by navigating to the **System > Status** page of the management interface. Figure 4 provides a view of the System Information tab.

Figure 4 Determining the TZ 180 Current Firmware



System Information

Model:	TZ 180 Standard
Serial Number:	0006B12925D0
Auth Code:	UQK8-9DCG
Firmware Version:	SonicOS Standard 3.8.0.0-12s
ROM Version:	SonicROM 4.0.0.7
CPU (10s average):	0.00% - SonicWALL Security Processor
Total Memory:	128MB RAM, 16MB Flash
System Time:	01/09/2007 00:15:32
Up Time:	0 Days 00:35:34
Connections:	12
Last Modified By:	192.168.168.200:LAN 01/08/2007 23:44:03

Step 9 Log into mysonicwall.com and select the TZ 180 security appliance you just registered. Download the most recent version of firmware, if applicable.

Note When your support contract expires, you will only be able to download the last current version available upon expiration and will not have access to subsequent versions until a software support contract has been renewed. To renew, contact the reseller you purchased the TZ 180 from, or contact SonicWALL.

Note Before updating the firmware on the TZ 180 security appliance, always perform these steps: Create a backup, store the current settings, store a copy of the current firmware, and record the details of the appliance along with the details of the MySonicWALL account the appliance has been registered under. This ensures that you can return the security appliance to a known-good state if any errors occur during the installation of new firmware.

Step 10 Navigate to **System > Settings** in the management interface and click the **Create Backup Settings...** button to create a restorable backup of the current appliance settings.

Note The TZ 180 security appliance can store one backup.

Step 11 Manually download the preferences file of the TZ 180 to a safe location by clicking **Export Settings**. Provide the preferences file a name that you can recognize, for example, tz180settings18jan2006-440pm.exp.

Step 12 Click the **Download** icon next to **Current Firmware** to manually download a copy of the current firmware.

Step 13 Navigate to **System > Diagnostics**. Check all four boxes and generate the Tech Support Report. Save the file, which contains the serial number, auth code, registration code, and all other administrator settings, to your computer.

Step 14 Make a note of the serial number of the appliance, the authorization code, the registration code, the name and password of the MySonicWALL account the appliance is registered under, and the date when the software support contract expires for the appliance.

Save all files on a secure network resource that is backed up on a regular basis. Refer to "SonicWALL Backup and Recovery Solutions" section on page 28 for information about how a SonicWALL CDP appliance to perform this task.

If any problems occur, restore using the backup snapshot. If this fails, reload the firmware and preferences manually using SafeMode.

Step 15 If you found and downloaded a more recent firmware version, navigate to the **System > Settings** page on the management interface and click on the **Upload New Firmware...** button. Click **Browse** and find the firmware file you downloaded.

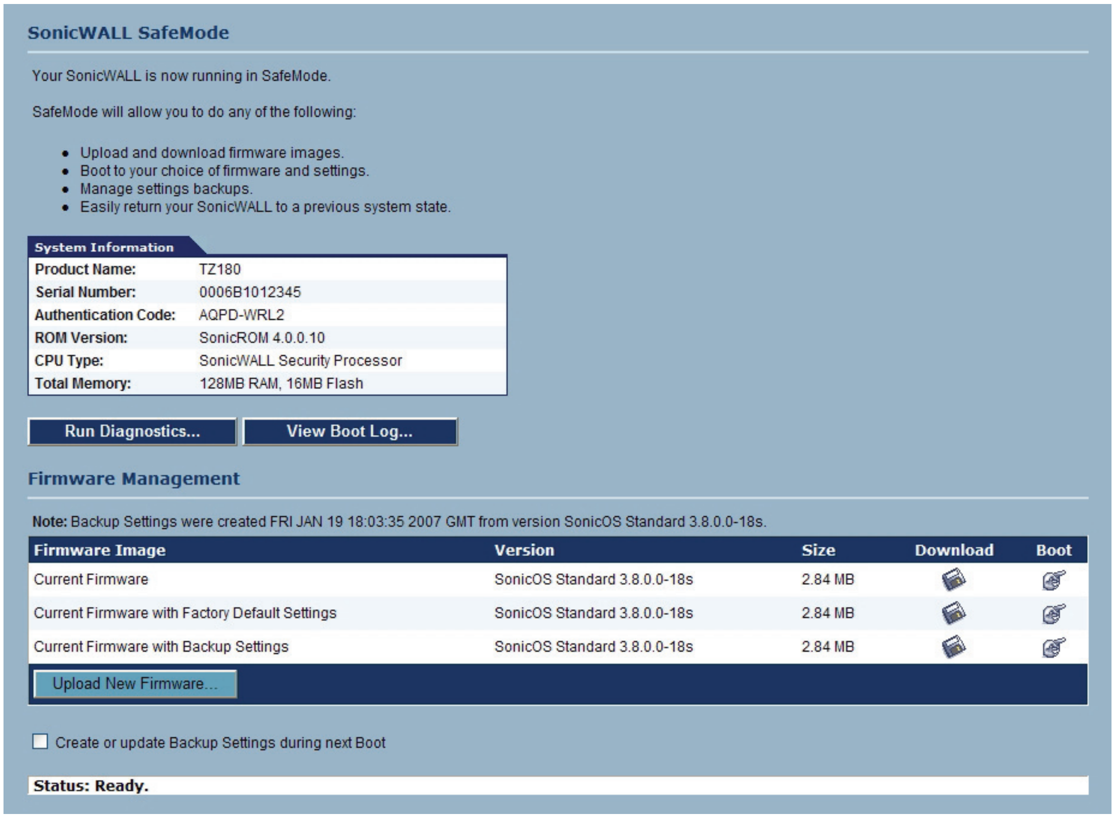
Step 16 After approximately two days, if the new firmware has had no issues, copy the new files. Refer to the backup section above and save a copy of the new firmware and the new settings, making sure to differentiate them from the older versions. It is recommended that you keep multiple sets of 'known-good' firmware.

Your TZ 180 security appliance has a protected boot loader that allows you to reset the security appliance, even if the firmware has become inoperable or corrupted. To access SafeMode, connect a computer to one of the LAN interfaces on the TZ 180 security appliance using a standard crossover Ethernet cable and assign this computer a static IP address of 192.168.168.200 with a netmask of 255.255.255.0. If the SafeMode interface does not display, wait 10-15 seconds and try again. When the link is active, unplug the power cable to the TZ 180 and insert a straightened-out paperclip into the small opening next to the power port until you feel a small switch depress. Keep this small switch depressed and plug the power cable back in. Hold the small switch in for about 20 seconds until the "wrench light" on the front of the TZ 180 flashes, then release it. The security appliance is now in SafeMode.

For more information on SafeMode, refer to the "Resetting the SonicWALL Security Appliance Using SafeMode" chapter in the *SonicOS Standard 3.8 Administrator's Guide*.

Open a Web browser and navigate to the default SafeMode address at http://192.168.168.168. Figure 5 provides an example of SafeMode view.

Figure 5 SafeMode



SonicWALL SafeMode

Your SonicWALL is now running in SafeMode.

SafeMode will allow you to do any of the following:

- Upload and download firmware images.
- Boot to your choice of firmware and settings.
- Manage settings backups.
- Easily return your SonicWALL to a previous system state.

System Information

Product Name:	TZ180
Serial Number:	0006B1012345
Authentication Code:	AQPD-WRL2
ROM Version:	SonicROM 4.0.0.10
CPU Type:	SonicWALL Security Processor
Total Memory:	128MB RAM, 16MB Flash

Firmware Management

Note: Backup Settings were created FRI JAN 19 18:03:35 2007 GMT from version SonicOS Standard 3.8.0.0-18s.

Firmware Image	Version	Size	Download	Boot
Current Firmware	SonicOS Standard 3.8.0.0-18s	2.84 MB	💾	⏻
Current Firmware with Factory Default Settings	SonicOS Standard 3.8.0.0-18s	2.84 MB	💾	⏻
Current Firmware with Backup Settings	SonicOS Standard 3.8.0.0-18s	2.84 MB	💾	⏻

□ Create or update Backup Settings during next Boot

Status: Ready.

In SafeMode, you can boot the security appliance with the current firmware with default settings, or you can click on the **Upload New Firmware** button and load a newer or previously known-good version. Once the security appliance has successfully booted, you can then restore the settings file from the management interface.

No matter what happens to the TZ 180's firmware or settings, you can return to this SafeMode menu and get the appliance running again. It is recommended that you save your known-good settings and firmware for this purpose.

Security Best Practices for TZ 180 Running SonicOS Standard

By default the TZ 180s security appliance is available with a number of security settings enabled and disabled to provide a moderate level of initial security to protect your network environment and the appliance, while simultaneously allowing basic and commonly used outbound network communications. Some of the security settings can have a potentially disruptive effect if configured incorrectly. Always activate, deactivate, and change settings with consideration and care. Table 1 provides an overview of the settings available on the TZ 180 security appliance.

Table 1 Security Settings Best Practices

Solution	Description	Related Information
Secure management access to the appliance from any interface, including across the public Internet	Navigate to the **Firewall > Access Rules** page and modify the default rule for HTTPS management. Click the **Configure** icon, change the **Source** drop-down from **LAN** to *****, and click **OK** to save and activate the change.	For more information on secure management access, refer to the "Configuring Network Access Rules" chapter in the *SonicOS Standard 3.8 Administrator's Guide*.
Create a secure default administrator name	Navigate to the **System > Administration** page and change the **Administrator Name**. Make a note of your new administrator name. Change the password to something complex (for example, a combination of letters, numbers and/or symbols at least six characters in length).	For more information on changing default Administrator names, refer to the "Using System Administrator" chapter in the *SonicOS Standard 3.8 Administrator's Guide*.
Verify time settings	Navigate to the **System > Time** page and verify that the time zone settings are correct based on the location of the appliance. The use of NTP for accuracy is recommended. Accurate time settings are crucial for the logging and reporting functions of the appliance.	For more information on verifying time settings, refer to the "Setting System Time" chapter in the *SonicOS Standard 3.8 Administrator's Guide*.
Configure DNS settings	Navigate to the **Network > Settings** page and verify that the appliance has valid DNS server(s) configured (if running Enhanced, the DNS server(s) can be found on the configuration page of the WAN interface). This is crucial for the logging, lookup, DHCP, and reporting functions of the appliance. If you do not know your ISP DNS servers, you can temporarily use 4.2.2.1 and 4.2.2.2, but discontinue use once your ISP has provided you with the correct DNS server address.	For more information on configuring DNS settings, refer to the "Configuring Network Settings" chapter in the *SonicOS Standard 3.8 Administrator's Guide*.

Solution	Description	Related Information
Use Dynamic DNS (DDNS) to make your WAN IP address easily resolvable	Navigate to the **Network > Dynamic DNS** page and configure the security appliance for DDNS. You can find a technote on how to do this on the SonicWALL support site. This feature makes remote management and VPN connectivity significantly easier, especially if your TZ 180 has a dynamically-obtained (DHCP, PPPoE, L2TP) WAN IP address.	For more information on using Dynamic DNS, refer to the "Configuring Dynamic DNS" chapter in the *SonicOS Standard 3.8 Administrator's Guide.*
Audit your firewall access rules monthly	Navigate to the **Firewall > Access** rules page, and perform an audit of rules on a monthly basis. It is strongly recommended to re-evaluate your settings and policies at regular intervals for optimum functionality.	For more information on auditing your firewall access rules, refer to the "Configuring Network Access Rules" chapter in the *SonicOS Standard 3.8 Administrator's Guide.*
Enable better support for Microsoft networks	Navigate to the **Firewall > Advanced** page. If you have a Microsoft networking environment that spans across the LAN and OPT/DMZ interfaces of the TZ 180, and security has been set to allow this, check the boxes to allow NetBIOS broadcast for **LAN to DMZ** and **DMZ to LAN**. Microsoft networking relies on NetBIOS broadcasts to identify and register network resources such as servers and printers, so enabling these checkboxes can resolve network connectivity issues.	For more information on enabling support for Microsoft Networks, refer to the "Configuring Advanced Rule" chapter in the *SonicOS Standard 3.8 Administrator's Guide.*
Properly configure advanced firewall features	Navigate to the **Firewall > Advanced** page. Some security features can cause issues if arbitrarily enabled. For example, enabling Stealth Mode causes the appliance to silently drop any unauthorized connection to the WAN interface, instead of sending a deny back to the source (that tells the source that there is a security appliance at that address). Enabling the Randomize IP ID scrambles the packet identification sequence and prevents "fingerprint" detection toolkits from determining the appliance's make and model. Enabling both is recommended. Checksum enforcement options should only be enabled if the network security policy of your organization requires it, because it can lead to significant connectivity issues with certain applications that do not conform to TCP/IP standards.	For more information on configuring advanced firewalls, refer to the "Configuring Advanced Rule Options" chapter in the *SonicOS Standard 3.8 Administrator's Guide.*

Solution	Description	Related Information
Optimize your firewall access rules	On any firewall rule, enable fragmented packet handling, and verify that the connection timeout for the rule is appropriate to the referenced service. For example, telnet connections tend to be long-lasting, so TCP timeout should be set accordingly. Similarly, timeout can be set lower for short-lived services, thus keeping the connection cache clean.	For more information on firewall access, refer to the "Configuring Network Access Rules" chapter in the *SonicOS Standard 3.8 Administrator's Guide*.
Optimize your VPN settings	Navigate to the **VPN > Advanced** page and verify that fragmented packet handling/NAT traversal/IKE DPD is enabled, and if you use Microsoft networking across VPN tunnels, uncheck the box next to **Disable all VPN Windows Networking (NetBIOS) Broadcasts**. When creating VPN policies, be sure to check the box next to **Enable Windows Networking (NetBIOS) Broadcasts** on the **Advanced** tab of the VPN policy.	For more information on VPN settings, refer to the "Configuring Advanced VPN Settings" chapter in the *SonicOS Standard 3.8 Administrator's Guide*.
Audit your User accounts	Navigate to the **Users > Local Users** page and audit user entries at least once a month to verify there are not inappropriate accounts. Also enforce the use of complex passwords, and require users to change passwords on a regular basis. Three months is the recommended interval. Do not allow the use of common accounts, in which the username and password are known to a wide audience.	For more information on user accounts, refer to the "Configuring Local Users" chapter in the *SonicOS Standard 3.8 Administrator's Guide.*
Establish, a logging baseline	On the **Log > View** page, it is recommended to enable all categories and alerts for at least the first few days of a new installation, allowing a better understand the various functions. This generates a lot of log messages, so after a few days, configure logs a level appropriate for your environment.	For more information on logging baselines, refer to the "Viewing Log Events" chapter in the *SonicOS Standard 3.8 Administrator's Guide.*
Deliver logs and alerts by email	On the **Log > Automation** page, enter in the fully-qualified domain name (FQDN) or IP address of a mail server that you relay SMTP mail through, and a working email address that the appliance uses to notify in case of alerts, and to email the logs to on a periodic basis. This is strongly recommended.	For more information on logs and alerts, refer to the "Configuring Log Automation" chapter in the *SonicOS Standard 3.8 Administrator's Guide.*

Solution	Description	Related Information
Map logged IP address to machine name for identification	On the **Log > Name** Resolution page, set it to **DNS then NetBIOS** and click the **Apply** button in the upper-right-hand part of the screen to save and activate the change. This lets the appliance apply more a "friendly" name to the IP address in the log, including the NetBIOS names of systems on the LAN, which is easier than using a non-fixed IP address. Do not use this setting if you are using DNS servers supplied by your ISP.	For more information on mapping a logged IP address, refer to the "Configuring Name Resolution" chapter in the *SonicOS Standard 3.8 Administrator's Guide*.
Keep backups	Store known-good preferences and firmware in a safe place that is accessible in the event of problems with the appliance, and verify the appliance is always under a valid service and software support contract. Disaster recovery can be fairly painless if you follow these policies.	For more information on keeping backups, refer to the "Configuring System Settings" chapter in the *SonicOS Standard 3.8 Administrator's Guide*.
Control physical access	Other measures are irrelevant if you do not limit physical access to the security appliance itself, as it can be easily reset and illegally accessed if an intruder can get to the security appliance.	For more information on controlling physical access, refer to the "Mounting Instructions" chapter in the *SonicWALL TZ 180 Series Getting Started Guide*.

Troubleshooting TZ 180 Configuration and Settings Issues

This section provides troubleshooting information for the six most common issues reported by SonicWALL technical support for the TZ 180 security appliance running SonicOS Standard firmware. If you need to troubleshoot an issue that is not listed below, or if the suggestions below do not resolve your issue, visit SonicWALL's support Web site at www.sonicwall.com to review the SonicOS Administrator's Guides and technotes. Another resource is SonicWALL's interactive online Knowledge Portal.

Note The six issues listed below have detailed technotes available on www.sonicwall.com.

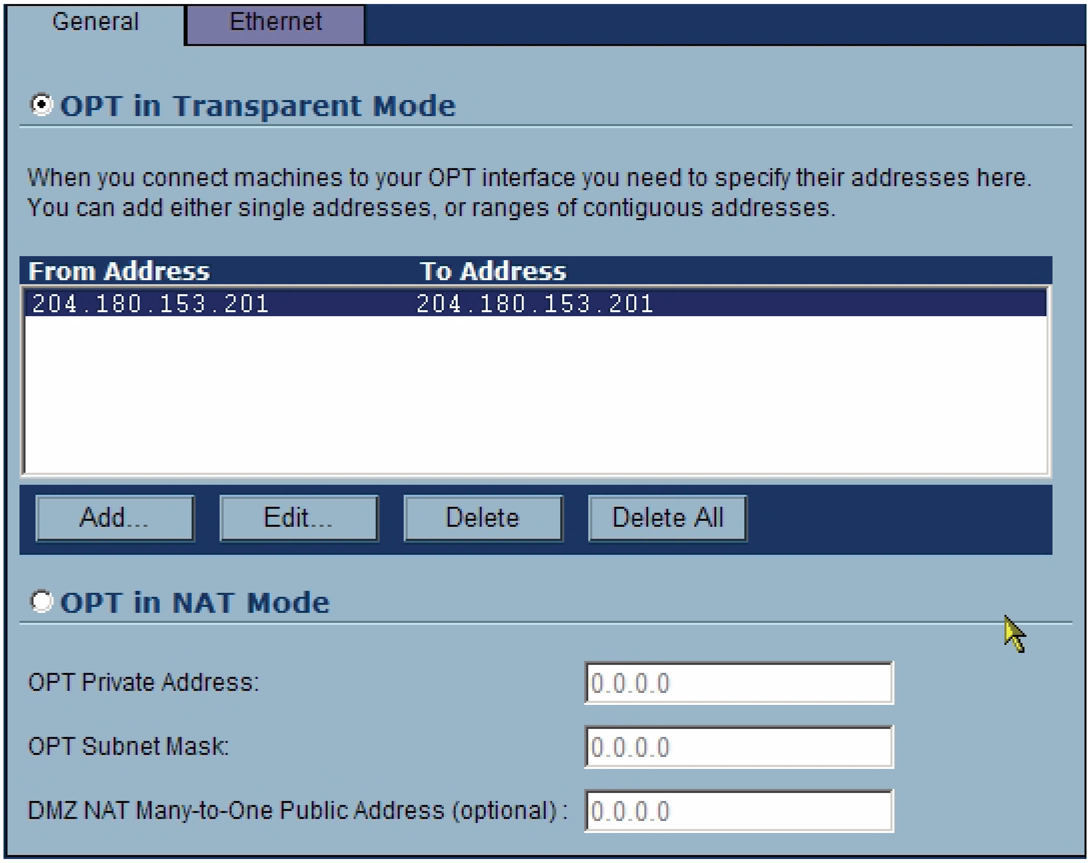
This section provides troubleshooting for the SonicWALL TZ 180 security appliance. This section contains the following subsections:

DMZ/OPT Port Troubleshooting

Symptom: I Am Having Problems Installing a Public Server on the DMZ/OPT Port

There are two options for the DMZ/OPT port: Transparent Mode, which allows you to configure the server with a public IP address (useful for machines where it's difficult or unfeasible to change the IP address), and NAT Mode, which is the default setting. In Transparent Mode, verify the public IP address or the firewall will not provide it access. Figure 6 provides an example of a deployment of a Web server with a public IP address of 204.180.153.201 attached to the OPT interface.

Figure 6 OPT Port in Transparent Mode



● OPT in Transparent Mode

When you connect machines to your OPT interface you need to specify their addresses here. You can add either single addresses, or ranges of contiguous addresses.

From Address	To Address
204.180.153.201	204.180.153.201

○ OPT in NAT Mode

OPT Private Address: 0.0.0.0

OPT Subnet Mask: 0.0.0.0

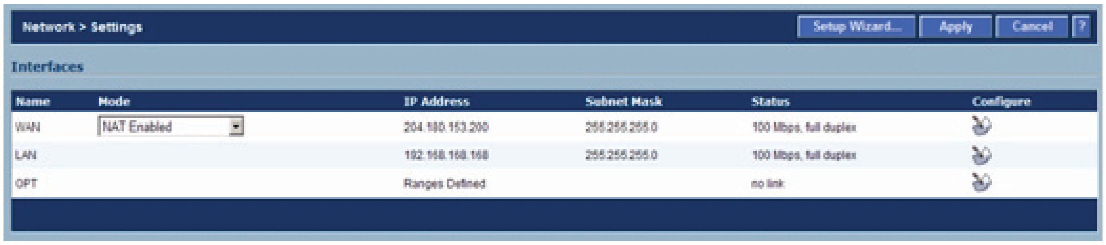
DMZ NAT Many-to-One Public Address (optional) : 0.0.0.0

In NAT mode, use an address from the private ranges (10.0.0.0/8, 172.16.0.0/16, 192.168.0.0/24) and assign the OPT interface a private address from this range. This is the address you'll use as the gateway for devices attached to the OPT interface. By default, the firewall allows LAN resources to access the OPT resources, but not the other way around. If the appliances on the OPT interface need to access LAN appliances, a firewall policy to allow it must be created. Likewise, if resources on the OPT interface need to be accessed from the WAN, a firewall rule will have to be created. It is recommended that you use the Public Server Wizard to do this, because it creates the necessary rules for NAT, firewall, and loopback (the special rule that allows internal resources to contact the server on the OPT interface using its WAN IP address).

Verify that the OPT Interface Is Connected

Navigate to the **Network > Settings** page and verify that the **Status** displays as **connected**. For example, Figure 7 provides a view the OPT interface as **no link**, indicating a connectivity problem. Check the cabling and any other network equipment that joins the two together.

Figure 7 OPT Interface Is Down



Interfaces

Name	Mode	IP Address	Subnet Mask	Status	Configure
WAN	NAT Enabled	204.180.153.200	255.255.255.0	100 Mbps, full duplex	
LAN		192.168.168.168	255.255.255.0	100 Mbps, full duplex	
OPT		Ranges Defined		no link	

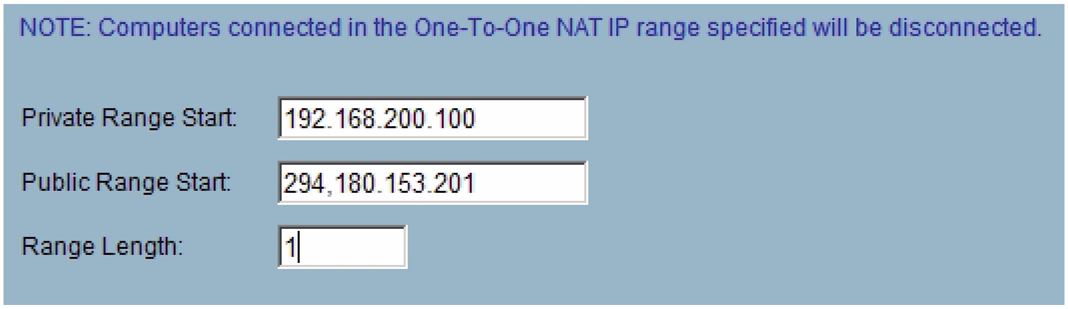
Symptom: I Have One Public WAN IP Address, the TZ 180 Is Already Using the HTTP and HTTPS Ports for Management, and the Ports Are Needed for an Internal Server

Navigate to the **System > Administration** page and set the HTTP and HTTPS Web management ports to something non -standard, for example, 8080 and 40443. When accessing the appliance using the management interface, append these ports onto the end of the management interface address.

Symptom: I Want to Assign a Unique Public IP Address to the Resource on the OPT Interface

Verify that the OPT interface is in NAT mode, then navigate to the **Network > One to One NAT** page, check the box next to **Enable One to One NAT**, and create an entry that associates the public WAN IP address with the private (remapped) internal IP address of the resource on the WAN. For example, in Figure 8 the public IP address 204.180.153.201 is associated with the internal IP of 192.168.200.100.

Figure 8 Associating a Public IP Address with an Internal IP Address



NOTE: Computers connected in the One-To-One NAT IP range specified will be disconnected.

Private Range Start: 192.168.200.100

Public Range Start: 294,180.153.201

Range Length: 1

Click **Apply** on this page to save and activate the change. Create a firewall policy to allow access to the server. Enabling NAT only associates the IP addresses; it does not enable connectivity.

Symptom: Internal Users Are Having Problems Accessing the Server on the OPT Port

Create a loopback rule to allow internal users on the LAN interface to access the server on the OPT interface using its WAN IP address. The easiest way to do this is to use the Public Server Wizard.

Symptom: Users Across a Site-to-Site VPN Tunnel Unable to Access a Server on the OPT Interface

Select the radio button on the VPN policy’s **Advanced** tab to allow the tunnel to terminate at the LAN/OPT interface; by default, it only attaches to the LAN interface. Enter the OPT interface subnet into the remote side’s VPN **Destination Networks** policy.

Global VPN Client Troubleshooting

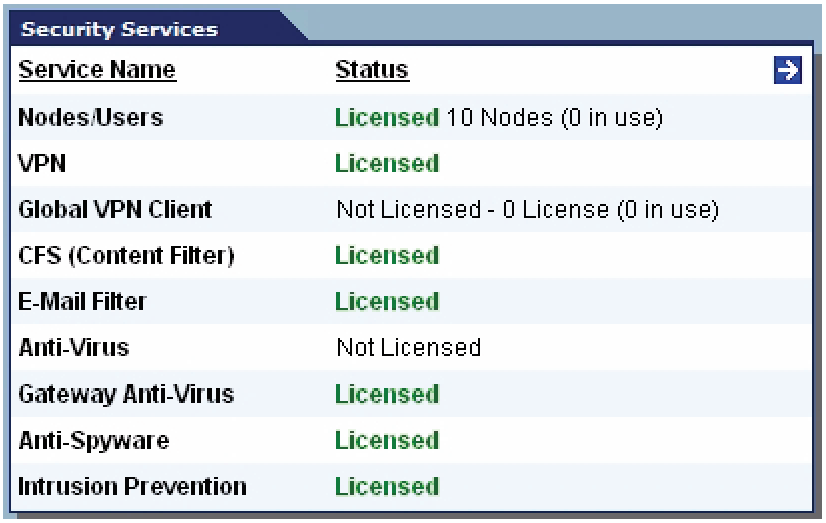
Symptom: GlobalVPN Clients Are Unable to Access the Server on the OPT Interface

Select the radio button on the GroupVPN policy’s **Advanced** tab to allow the tunnel to terminate at the LAN/OPT interface; by default, it only attaches to the LAN interface. Verify that the GroupVPN policy is enabled.

Symptom: I Cannot Get the Global VPN Client Working

Verify that the TZ 180 has licenses for the GlobalVPN client. The appliance does not have default licenses for SonicWALL's Global VPN client (GVC), so the appropriate licenses must be purchased and installed. Navigate to the **System > Status** page and review the **Security Services** section. As an example, the TZ 180 shown in Figure 9 does not have GVC licensed.

Figure 9 TZ 180 with No Global VPN Licenses



Security Services

Service Name	Status
Nodes/Users	Licensed 10 Nodes (0 in use)
VPN	Licensed
Global VPN Client	Not Licensed - 0 License (0 in use)
CFS (Content Filter)	Licensed
E-Mail Filter	Licensed
Anti-Virus	Not Licensed
Gateway Anti-Virus	Licensed
Anti-Spyware	Licensed
Intrusion Prevention	Licensed

Verify that You Have Not Exceeded the Active License Count

Licenses for the Global VPN client are used on a concurrent basis and not on a per-user basis, which means while you may have 40 unique users installed, if you only had a 10 user GVC license, only 10 of those users could connect at once. Determine the maximum "peak" number of users and plan appropriately. You do not need to get a license for every unique user, but you do need enough licenses to support your peak of concurrent users.

Verify that GVC Is Enabled

Navigate to the **VPN > Settings** page and verify that the box next to **Enable** is checked, then click the **Apply** button in the upper-right-hand corner. Verify that global VPN capability is enabled.

Verify that the GVC Policy is Configured Correctly

There are a number of important settings on this policy. It is recommended that you download the GVC technote from the SonicWALL support site at http://www.sonicwall.com, for full details on this topic.

Symptom: The GlobalVPN Client Asks for a Key on First Connection

Provide users with the shared secret key when using this feature. To simplify this, you can navigate to the **Advanced** tab and enable the **Use Default Key for Simple Client Provisioning** option, which allows users to only enter a username and password to connect.

Symptom: The GlobalVPN Client Displays a Tmeout with a DHCP Error

If you are using the Virtual Adapter, verify that the appliance is set for DHCP over VPN, and then verify that the appliance has a DHCP scope set up, or is pointed to an internal DHCP server that can issue an address to the GlobalVPN's Virtual Adapter. This is found on the **VPN > DHCP over VPN** page. Click the **Configure** button next to **Central Gateway** and specify if the appliance should assign from an internal pool or using an external DHCP server.

Symptom: The GlobalVPN Client Has Connectivity Issues or Reports Unusual Messages upon Failure

Visit the MySonicWALL portal to see if you are using the most current version.

Symptom: GlobalVPN Users Have Problems Accessing Microsoft Networking Resources over the Connection

Use a resolving mechanism such as WINS, Active Directory/DNS, or static HOSTS/LMHOSTS files for the GVC. The easiest solution is to provide the appropriate WINS and DNS entries in the DHCP scope, and to use the Virtual Adapter capability of the GroupVPN policy. The GlobalVPN clients receive the correct IP address in the DHCP lease.

Registration Troubleshooting

Symptom: I Am Having Registration Problems with the TZ 180

Review the "Registering and Enabling Support" section on page 4, which provides instructions for registering the TZ 180 security appliance.

If you are attempting to use the Registration & Licensing Wizard, or the registration link on the **System > Status** page, there may be a connectivity issue. The most common issue is that the DNS address is not set properly. Navigate to the **Network > Settings** page and verify that the DNS is set to a valid, known-good DNS server that the appliance can reach. If you do not know your ISP DNS servers, you can use 4.2.2.1 and 4.2.2.2 temporarily. Also verify that the appliance is set to the proper time zone. The security appliance cannot contact the registration servers unless these settings are correct.

Verify that the Security Appliance Is Able to Connect to the Internet

Navigate to the **System > Diagnostics** page and use the **TraceRoute** utility to see if the appliance has a working connection, using a known-good public IP address or name on the Internet (for example, www.sonicwall.com).

Symptom: The Appliance Is Reporting that the Security Appliance Is Already Registered

If you get this message, the appliance is registered to another MySonicWALL account. If you have multiple accounts, login to each of your accounts to determine the appliance registration account. If you no longer know which account the appliance is registered to, contact SonicWALL technical support and ask for the appliance serial number to be unregistered.

Symptom: The Appliance Reports that the Connection Timed Out

During peak periods, the appliance may be unable to connect to the MySonicWALL portal. Wait 15 minutes before attempting to connect again.

VPN Troubleshooting

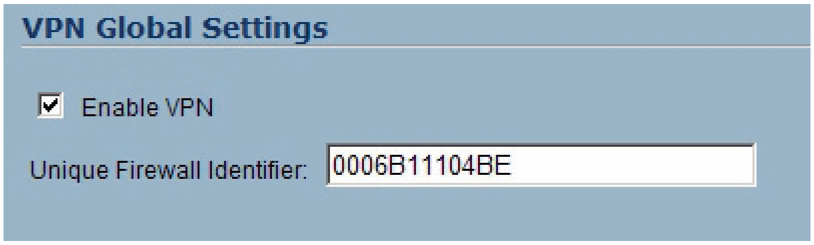
Symptom: I Cannot Get Site-to-Site VPN to Work

For a VPN tunnel to successfully negotiate, a number of settings must exactly match on both sides, otherwise the tunnel fails to negotiate. The following is a list of settings to verify on both sides.

Verify that the VPN is Enabled on the SonicWALL Security Appliance

VPN is enabled by default but can be shut off inadvertently. Navigate to the **VPN > Settings** page and verify that the checkbox next to **Enable VPN** is checked. Figure 10 provides a view of the VPN Global Settings section. Verify that the **Enable** checkbox to the right of your VPN Policy is also checked.

Figure 10 SonicWALL VPN Global Settings with UFI



VPN Global Settings

☑ Enable VPN

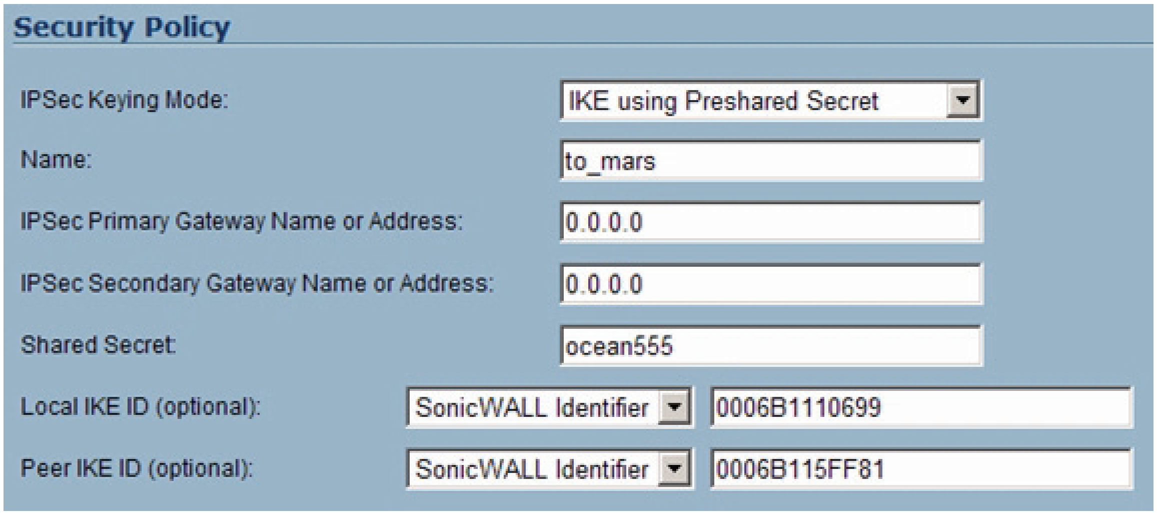
Unique Firewall Identifier: 0006B11104BE

Fix Incorrect UFI Settings

If one side of the VPN tunnel is a SonicWALL security appliance with a WAN IP address that is obtained dynamically, then Aggressive Mode must be used. For detailed information about configuring site-to-site SonicWALL security appliances for VPN tunnels, refer to the *Configuring VPNs Between SonicOS Standard and SonicOS Enhanced* technote document.

When a SonicWALL security appliance negotiates Aggressive Mode VPN tunnels, it uses the Unique Firewall Identifier (UFI), illustrated in Figure 10, as its identity. Both sides must be set to know the other side's UFI. In SonicOS Standard, this is done by naming the VPN Policy with the remote peer's UFI. In SonicOS Enhanced, it is controlled by setting the Local and Peer IKE IDs, as illustrated in Figure 11, in the VPN policy's **General** tab.

Figure 11 SonicOS Enhanced: VPN Policy Aggressive Mode Using UFIs



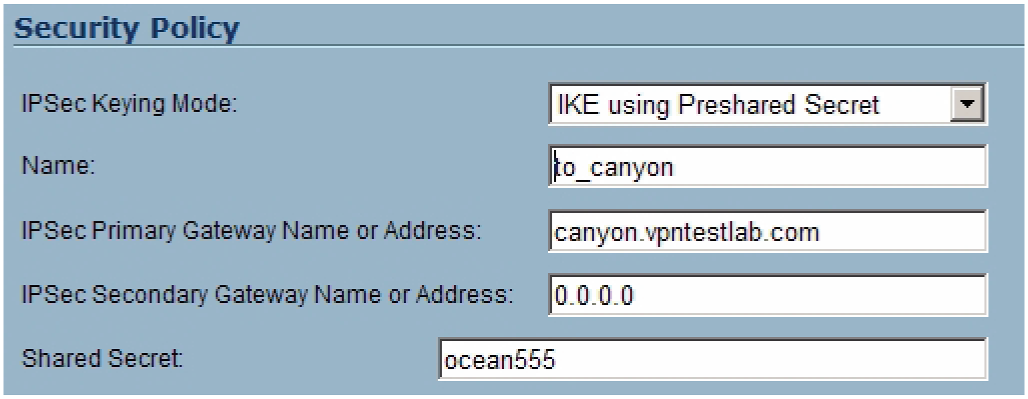
Security Policy

IPSec Keying Mode:	IKE using Preshared Secret	
Name:	to_mars	
IPSec Primary Gateway Name or Address:	0.0.0.0	
IPSec Secondary Gateway Name or Address:	0.0.0.0	
Shared Secret:	ocean555	
Local IKE ID (optional):	SonicWALL Identifier	0006B1110699
Peer IKE ID (optional):	SonicWALL Identifier	0006B115FF81

Navigate to the VPN policy **General** tab, verify that the **IPSec Keying Mode** is set the same on both sides, and verify that you are using the correct IP address or FQDN for the remote peer. Figure 12 provides a view of the Security Policy section. Verify that you have the same shared secret set on both sides.

Note The following log messages are additional indicators that you have used mismatched shared secrets: **Failed payload verification after decryption. Possible preshared key mismatch**, and **Received Notify: PAYLOAD_MALFORMED**.

Figure 12 VPN Policy General Settings

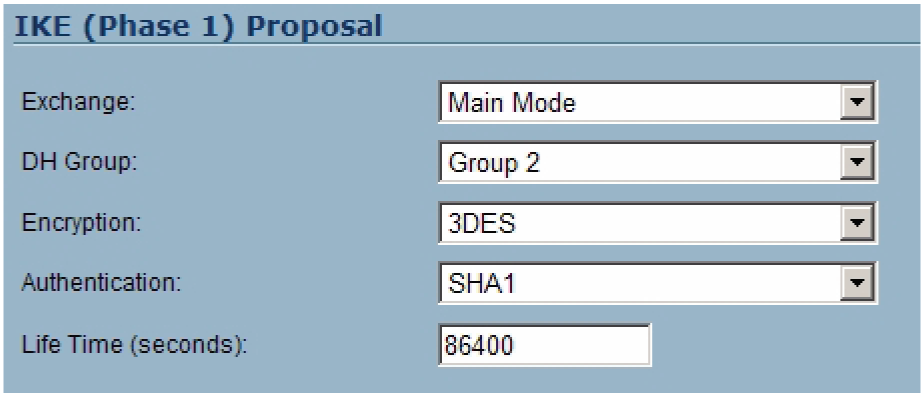


Security Policy

IPSec Keying Mode:	IKE using Preshared Secret
Name:	to_canyon
IPSec Primary Gateway Name or Address:	canyon.vpntestlab.com
IPSec Secondary Gateway Name or Address:	0.0.0.0
Shared Secret:	ocean555

If the SonicWALL security appliance logs display **NO_PROPOSAL_CHOSEN**, **IKE proposal does not match**, or **IKE negotiation aborted due to timeout**, the Phase 1 settings are probably incorrectly set on one or both sides. Most settings in the **Proposals** tab of the VPN policy must exactly match on each side, and if they do not match exactly, the tunnel fails in Phase 1 and Phase 2. The exception to this rule the **Life Time** setting; if these do not match, the VPN policy negotiates using the lower of the two settings. Figure 13 provides an example of Phase 1 setting.

Figure 13 VPN Policy Phase 1 Settings



IKE (Phase 1) Proposal

Exchange: Main Mode

DH Group: Group 2

Encryption: 3DES

Authentication: SHA1

Life Time (seconds): 86400

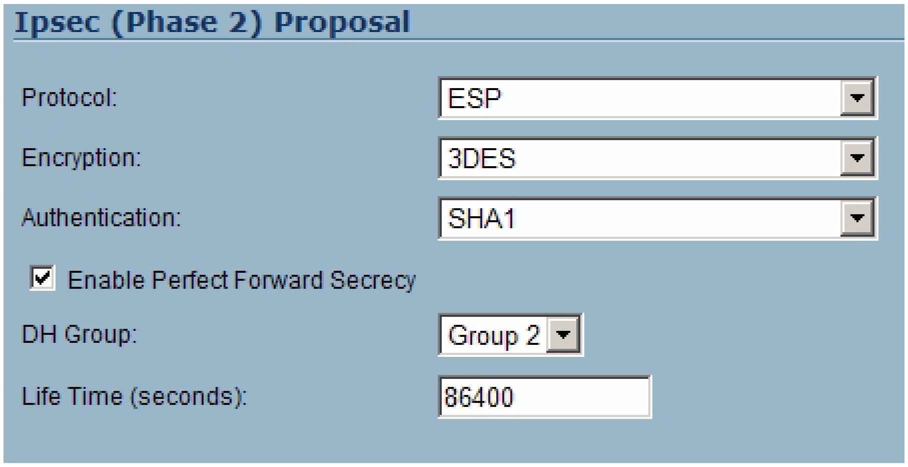
If you have implemented the troubleshooting solutions to this point with no success, there may be something between the two VPN devices that is blocking communication. If this is the case, verify that NAT Traversal is enabled on both SonicWALL security appliances, and that any firewall in between is set to pass UDP port 500 and UDP port 4500. If one of the sides is not a SonicWALL security appliance, it is necessary to open UDP port 500 and IP type 50, since NAT Traversal may not negotiate with the third-party security appliance.

Symptom: Phase 1 Settings Are Identical on Both Sides, but the Log Displays a Failure in Phase 2

For a VPN tunnel to successfully negotiate, most of the settings must exactly match on both sides. Below is a list of settings that must match.

Verify that both sides have their **Protocol**, **Encryption**, and **Authentication** settings set to match, or the tunnel fails. These settings are found by clicking the **Configure** icon next to the VPN policy and clicking on the **Proposals** tab. Figure 14 provides an example of Phase 2 settings.

Figure 14 Phase 2 Settings



Ipsec (Phase 2) Proposal

Protocol: ESP

Encryption: 3DES

Authentication: SHA1

☑ Enable Perfect Forward Secrecy

DH Group: Group 2

Life Time (seconds): 86400

Perfect Forward Secrecy (PFS) Mismatch - By default, PFS is disabled on SonicWALL security appliances. PFS is a security mechanism in IPsec that adds a layer of security to the VPN tunnel. To use PFS, check the box next to **Enable Perfect Forward Secrecy** on the VPN policy's **Proposals** tab, verify that the **DH Group** matches, and verify that the **Life Time (seconds)** field entry matches on both sides. If the **Life Time** settings do not match, the VPN policy negotiates using the lower of the two settings. Figure 14 provides a view of the **Life Time** field.

Incorrect destination network(s) -If an incorrect destination exists, for example, if one side of the connection has **Keep Alive** enabled and does not match one-to-one the destination networks configured on the peer, it displays the message **NO PROPOSAL CHOSEN**.

Missing 'Default LAN Gateway' Option - When running SonicOS Standard or Firmware 6.x on a SonicWALL security appliance at a main site, using the **Use this VPN Tunnel as default route for all Internet traffic** option (also referred to as tunnel-all mode), a LAN default gateway must be specified on the other side's VPN. This LAN default gateway cannot be the LAN IP address of the SonicWALL security appliance, and must be a separate internal router residing on the other side's LAN segment. To configure this feature, log into the main site's SonicWALL security appliance, navigate to the **VPN > Settings** page, click the **Configure** icon next to the VPN policy to the remote site that is set to tunnel-all to the main site, and click the **Advanced** tab. In the **Default LAN Gateway** field, enter the IP address of the third-party router on the main SonicWALL security appliance LAN segment. Click **OK**.

Note You do not need to update the Default LAN Gateway option when using SonicOS Enhanced.

Symptom: General, Phase 1, and Phase 2 Settings All Seem Correct on Both Sides but It Still Does Not Negotiate

There may be something in between the two VPN devices that is blocking communication. This can be hard to determine, since portions of the network path between the two VPN devices may lie underneath the control of external parties.

If this is the case, verify that NAT Traversal is enabled on both SonicWALL security appliances, and that any firewall, router or NAT security appliance in between is configured to pass UDP port 500 and UDP port 4500. If one of the sides is not a SonicWALL security appliance, it is also necessary to open UDP port 500 and IP type 50, since NAT Traversal may not negotiate with the third-party security appliance.

Symptom: The VPN tunnel Negotiated and Both Sides Show the Tunnel as Up, but I Cannot Reach Anything on Either Side of the Tunnel from the Other Side, Respectively

This problem can be the result of several factors, described below.

DHCP MTU Issues

If the SonicWALL security appliance WAN interface is receiving an IP address dynamically using DHCP, it may be necessary to lower the WAN interface MTU. DHCP is common among cable ISPs, and many of them require unconventionally low MTU settings.

Log into the SonicWALL security appliance management interface, navigate to the **Network > Settings** page, click on the **Configure** icon next to the WAN interface. On the page that displays, click the **Ethernet** tab, change the **WAN MTU** from 1500 to 1404, then click **OK**.

User-Level Authentication

Check the **Advanced** settings for the VPN policy to ensure that this feature is off (there are two checkboxes for **Require Authentication of Local Users** and **Require Authentication of Remote Users**.

TCP Settings

Some applications do not work with the default TCP enforcement settings on the SonicWALL. It may be necessary to deactivate one or more of these settings on both sides of the VPN tunnel.

Log into the SonicWALL security appliance management interface. Modify the management interface URL from **/main.html** to **/diag.html**, which opens the Diagnostics Settings Menu. When this menu displays, click on the **Internal Settings** button to the left and uncheck the box next to **Enable TCP Handshake Enforcement**. Click the **Apply** button in the upper-right-hand corner then click on the **Close** button in the lower-left-hand corner to return to the management interface.

Note In newer versions of SonicOS Standard, the checkbox for **Enable TCP Handshake Enforcement** is located on the **Firewall > Advanced** page.

Hardware Accelerated Cryptographic Miscalculations

If the VPN tunnel negotiates successfully but still does not pass traffic across the VPN tunnel, and the log is filled with **IPSec Authentication Failed** messages, the onboard hardware cryptographic acceleration chip may have not be processing traffic correctly.

To remedy this, log into the SonicWALL security appliance management interface.Modify the management interface URL from **/main.html** to **/diag.html**, which opens the Diagnostics Settings Menu. When the menu displays, click on the **Internal Settings** button to the left. On this menu, uncheck the boxes next **Enable inbound VPN hardware acceleration (if available)** and **Enable outbound VPN hardware acceleration (if available)**.

Click on the **Apply** button in the upper-right-hand corner, then click on the **Close** button in the lower-left-hand corner to return to the management interface. Restart the SonicWALL for the changes to take effect. With these settings disabled, the SonicWALL performs cryptography in software, which reduces VPN throughput but is still functional.

Note If disabling hardware cryptographic fixes the problem, contact SonicWALL technical support to arrange for further diagnostics.

Symptom: The VPN Tunnel Works but Needs to be Faster

A VPN tunnel is limited by the slowest point between the two links. This is often referred to as the chokepoint. For example, if you have a VPN tunnel between a central office that has a 1.5Mbps T1 connection to the Internet and a remote office that has a 256Kbps ADSL connection to the Internet, the VPN tunnel is going to be constrained by the ADSL connection speed and also by any traffic flowing in and out of that connection at any time (for example, if there is someone at the remote office downloading data in high volumes from the Internet, the VPN tunnel is likely to be even slower). Distance may also affect perceived throughput. The farther apart the two links, the slower it may seem, due to a number of factors, including latency, potential for packet loss and retransmission, or transient traffic in between the two points.

There are settings on the SonicWALL security appliance that may improve throughput.

Log into the SonicWALL security appliance management interface. Navigate to the **VPN > Advanced** page and check the boxes next to **Enable Fragmented Packet Handling** and **Ignore DF (Don't Fragment) Bit**. Click on the **Apply** button in the upper-right-hand corner then reboot the appliance for the changes to take effect.

For further assistance, refer to the *Site-to-site VPN Troubleshooting on SonicWALL Security Appliances* technote, available at:

http://www.sonicwall.com/downloads/site_to_site_vpn_troubleshooting_on_sonicwall_security_appliances.pdf

Internet Connectivity Troubleshooting

Symptom: I Do Not Have Internet Access from Behind the TZ 180

Verify the WAN Interface on the Appliance Is Connected Properly to the Security Appliance Providing Internet Access

Verify the **Status** section of the **System > Settings** page to see if the link is down or has a duplex. It is recommended that the speed and duplex be locked on both sides of the connection to prevent auto-negotiation problems.

Verify that the WAN Interface is Set to the Correct Mode

Contact your ISP to determine if your public Internet connection is set for Static IP, DHCP, PPPoE, L2TP, or PPTP. If the connection is Static IP, the ISP needs to provide you with one or more public IP addresses, a netmask, a gateway IP, and one or more DNS server address for the TZ 180 to successfully connect to the Internet.

Determine if the Security Appliance Is Upstream of the TZ 180 Already Performing NAT

Contact your ISP to determine how their equipment functions. It may be that the ISP security appliance is already acting as a Firewall/NAT security appliance, and should be re-configured to allow the SonicWALL security appliance to connect to the Internet. This is an increasingly common issue as ISPs provide xDSL and cable modem equipment with ‘all in one’ functionality. You may need to purchase a generic xDSL or cable modem and swap out the ISP equipment if it cannot be configured to allow the SonicWALL security appliance to work properly.

Verify if the WAN MTU is Set Correctly for Your Type of Connection

You may need to change the WAN MTU setting, found on the **WAN interface Ethernet** tab, to a value appropriate to your type of connection. For example, set it to 1492 for DHCP connections, and 1404 for PPPoE connections.

Verify that the TZ 180 Can Contact the Upstream Gateway

Use the tools found on the **System > Diagnostics** page to determine if the connectivity problem is between the TZ 180 and the upstream gateway, or farther upstream. It may not be an issue with the TZ 180, but with the ISP itself.

Verify that the Firewall and NAT Rules Are Configured Properly

Firewall rules can get changed or deleted inadvertently. Verify that the resources on the LAN and OPT interfaces have a rule allowing them to access the WAN. If there are resources on the OPT interface that have a unique public IP address, check the NAT rules.

Symptom: Users on the WAN Cannot Get to Servers on the OPT or LAN Interfaces, but the NAT/Firewall Rules Look Fine

Your ISP may be blocking specific inbound ports, which is an increasingly common problem. Contact your ISP. You may need to upgrade or replace your service to allow full connectivity.

Firmware Update Troubleshooting

Symptom: I Want to Update the Firmware on the TZ 180

For users of SonicOS Standard, refer to the "Registering and Enabling Support" section on page 4 section of this document, as it covers the process of downloading and installing firmware for the SonicWALL TZ 180 security appliance.

If you are upgrading to SonicOS Enhanced, refer the *SonicOS Standard to SonicOS Enhanced* technote on SonicWALL's support site.

Note Before upgrading, record the settings related to the security appliance. These settings will be manually re-entered when the appliance reboots with SonicOS Enhanced. Settings are not saved when upgrading to SonicOS Enhanced, and the preferences files between SonicOS Standard and SonicOS Enhanced are incompatible, and problems can arise if the proper upgrade procedure is not followed.

It is necessary to purchase a SonicOS Enhanced license. If you do not install the SonicOS Enhanced license prior to upgrading the security appliance, it boots in evaluation mode and connectivity is severely limited until a license is installed. You can purchase a license for SonicOS Enhanced from your reseller, channel distributor, or SonicWALL. The license must be installed and the appliance must be synchronized with the MySonicWALL portal before upgrading.

When installing SonicOS Enhanced the first time, select the **Reboot with factory defaults** option to ensure that the SonicOS Standard settings do not corrupt the security appliance preferences file. If the appliance reboots and the wrench light flashes amber for several minutes, you need to boot the box in SafeMode and then boot it with factory defaults. For more information, refer to the "Registering and Enabling Support" section on page 4.

SonicWALL Solutions Integration

Now that your TZ 180 has been successfully installed on your network, consider these other SonicWALL solutions that are designed for easy integration and quick deployment.

The following SonicWALL solutions are described in this section:

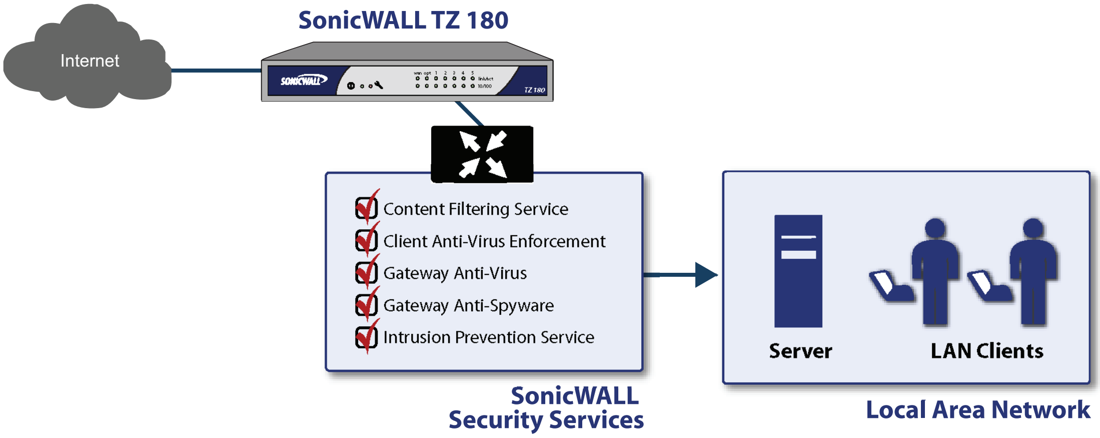
- SonicWALL Security Services, page 27
- SonicWALL Backup and Recovery Solutions, page 28
- SonicWALL Secure Remote Access Solutions, page 30
- SonicWALL Email Security Solution, page 31
- SonicWALL SonicPoint Wireless Access Points, page 32
- SonicWALL Global Management System (GMS), page 33

SonicWALL Security Services

There is an increasing number of gateway-based security services built right into SonicOS Standard and Enhanced, and you can maximize your TZ180 investment and security protection by subscribing to SonicWALL Unified Thread Management (UTM) services. These services require no extra software, just a software key for activating the features. With SonicWALL's security services, your network can be protected in a manner of minutes. Figure 15 provides the recommended deployment of SonicWALL security services with the TZ 180 security appliance.

To purchase and activate SonicWALL security services, log into the TZ 180 management interface and navigate to **Wizards > Registration & License Wizard**. The wizard walks you through the purchase and installation procedures. You can also purchase the security services from your reseller or channel distributor.

Figure 15 SonicWALL Security Services



SonicWALL Content Filter Service (CFS)

SonicWALL Content Filtering Service (CFS) provides businesses and schools with greater control to transparently enforce productivity and protection policies and block inappropriate, illegal and dangerous Web content. Featuring a dynamic rating and caching architecture, SonicWALL CFS blocks multiple categories of objectionable Web content, providing the ideal combination of control and flexibility to ensure the highest levels of productivity and protection.

For more information about CFS, refer to the *SonicWALL CFS Administrator's Guide*.

Enforced Client Anti-Virus and Anti-Spyware

Developed in partnership with McAfee, SonicWALL Enforced Client Anti-Virus and Anti-Spyware delivers enforced and auto-updated desktop protection through automatic system-wide updates of virus definitions, eliminating the need for time-consuming, machine-by-machine anti-virus deployments. Combining the enforced desktop security in SonicWALL Enforced Client Anti-Virus and Anti-Spyware with advanced server protection, the SonicWALL Client and Server Anti-Virus Suite leverages the award-winning McAfee NetShield and GroupShield applications for networks with Windows-based file, print and Exchange servers. By delivering very fast response during rapid virus outbreaks, SonicWALL anti-virus solutions reduce the time and costs associated with administering an anti-virus policy throughout your entire network.

For more information about SonicWALL Enforced Client Anti-Virus and Anti-Spyware, refer to the *SonicWALL Client-Server AV Product Guide*.

Gateway Anti-Virus Anti-spyware and Intrusion Prevention Service

SonicWALL Gateway Anti-Virus, Anti-Spyware and Intrusion Prevention Service delivers intelligent, real-time network security protection against a comprehensive array of dynamic threats including viruses, spyware, worms, Trojans and software vulnerabilities such as buffer overflows, as well as back door exploits and other malicious code.

As an added layer of security, this powerful solution provides application layer attack protection not only against external threats, but also against those originating inside the network. SonicWALL Gateway Anti-Virus, Anti-Spyware and Intrusion Prevention Service closes potential back doors by inspecting ba multitude of email, Web, file transfer and stream-based protocols as well as instant messaging (IM) and peer-to-peer (P2P) applications.

For more information about Gateway Anti-Virus, Anti-Spyware and Intrusion Prevention Service, refer to the *SonicWALL GAV 2.0 Administrator's Guide* and *SonicWALL IPS 2.0 Administrator's Guide.*

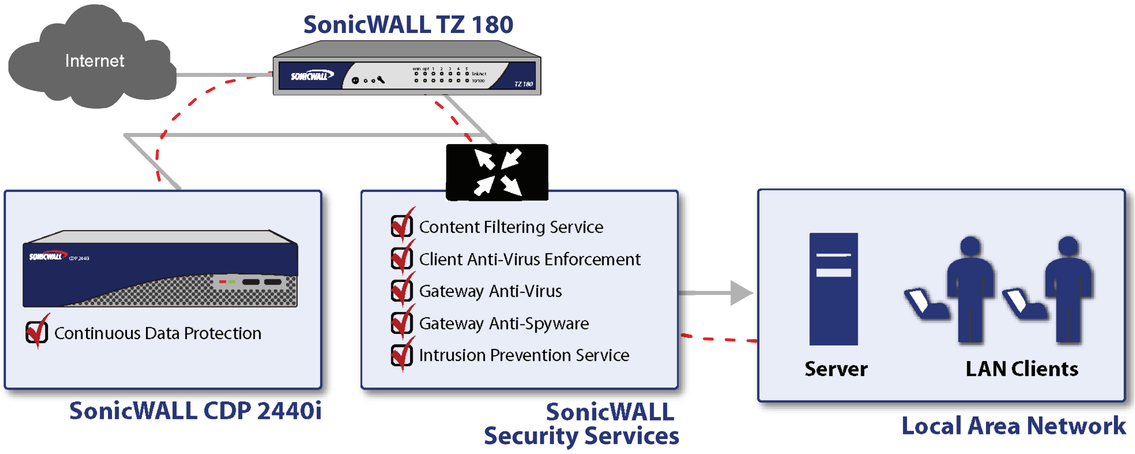
SonicWALL Backup and Recovery Solutions

SonicWALL Continuous Data Protection (CDP) is a tapeless, enterprise-level backup and recovery appliance that provides deep protection for businesses and remote offices. This hands-free, disk-based data protection solution provides automatic continuous data backup for servers, laptops and PCs, both locally and off site. By combining the advantages of local disk-based backup (instant recovery) with off site backup (insurance against local disasters), SonicWALL CDP is the first solution that eliminates, not just mitigates, exposure to threats of data loss. SonicWALL CDP also includes central management and remote administration features that enable IT administrators to more effectively and efficiently protect an organization's data.

SonicWALL's CDP1440i and 2440i appliances are ideal for TZ 180-based networks. Install the CDP appliance directly into one of the LAN interfaces on the TZ 180, install the software-based agents onto your servers and workstations, and immediately benefit from the protection that CDP provides. Figure 16 provides an example of the recommended deployment of a CDP 1440i or 2440i appliance with a TZ 180 security appliance.

For more information, refer to the *SonicWALL CDP Enterprise Manager Administrator's Guide.*

Figure 16 SonicWALL CDP Solution


SonicWALL TZ 180
Internet
Continuous Data Protection
SonicWALL CDP 2440i
Content Filtering Service
Client Anti-Virus Enforcement
Gateway Anti-Virus
Gateway Anti-Spyware
Intrusion Prevention Service
SonicWALL Security Services
Server
LAN Clients
Local Area Network

Backup TZ 180 settings, firmware, and username and password files

As noted in the "Registering and Enabling Support" section on page 4, it is critical that you store known-good versions of TZ 180 firmware, settings files, and documents that detail the username and login information of the TZ 180 as well as the MySonicWALL account the security appliance is registered under. You can place these into a folder that the CDP Agent monitors, and then mark this file for the SonicWALL Offsite Backup service, ensuring backup of the files necessary for disaster recovery of your TZ 180.

Backup remote users using GVC

As long as remote users can connect using SonicWALL GVC to the TZ 180 security appliance, they can synchronize their monitored folders and applications to the CDP 1440i or 2440i appliance.

Backup remote users across site-to-site VPN tunnels

You can maximize the purchase of your CDP 1440i or 2440i appliance by extending the backup and restore capabilities to systems on the other side of VPN tunnels. While it is faster to have a local CDP appliance for these systems, it is not feasible in many network environments.

Backup and restore SonicWALL's Global Management System (GMS)

You can use the SonicWALL CDP to create real-time snapshots and restore points for both the files and Microsoft SQL databases of SonicWALL's GMS. This can dramatically speed the restore and recovery time in the event that the GMS system become inoperable due to hardware or software failure.

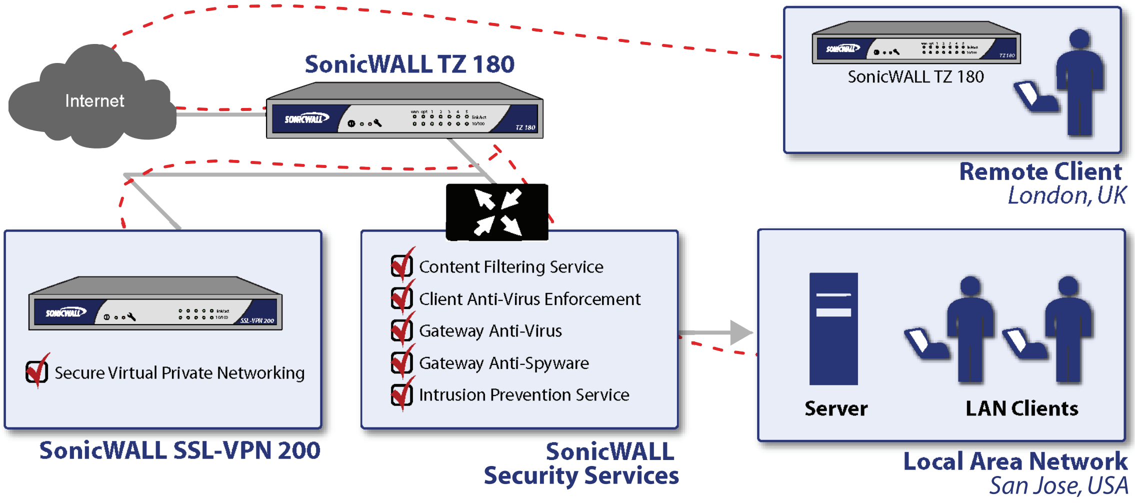
SonicWALL Secure Remote Access Solutions

The SonicWALL SSL-VPN series provides organizations of any size with an affordable, simple and secure clientless remote network and application access solution that requires no pre-installed client software. Utilizing only a standard Web browser, users can easily and securely access email, files, intranets, applications, remote desktops, servers and other resources on the corporate LAN from any location. SonicWALL SSL-VPN solutions integrate seamlessly into virtually any wired or wireless network topology to deliver powerful, scalable and affordable remote access to corporate resources.

For more information about SonicWALL SSL-VPN, refer to the *SonicWALL SonicOS SSL-VPN Administrator's Guide.*

The SonicWALL SSL-VPN 200 appliance is a perfect complement to your TZ 180 security appliance to add Web browser-based remote access and management for your users. Figure 17 provides an example of the recommended deployment using SonicWALL SSL-VPN and TZ 180 security appliance. The SSL-VPN 200 allows users to access their desktops, your internal servers, and many other network devices, from anywhere they need to – home, on the road, from a public Internet kiosk, and other remote locations – all without the need to install or constantly update a VPN client. You don't need a separate public IP address, because you can utilize the TZ 180 WAN IP address for access, or you can configure the IP to be dynamically obtained.

Figure 17 SonicWALL SSL-VPN Solution



The SSL-VPN 200 can be installed and configured in minutes. For example, configure the TZ 180 OPT port for NAT Mode and assign it an address of 192.168.200.2 with a netmask of 255.255.255.0. Then, deactivate any HTTP and HTTPS access firewall policies for the WAN interface, which is used to allow remote users to access to the SSL-VPN 200. Run the Public Server Wizard and specify the IP address of the SSL-VPN 200, 192.168.200.1 by default, and HTTP/HTTPS as the services to which access is provided. If the TZ 180 WAN IP address is dynamically obtained, use the DDNS feature to map a fully-qualified domain name (FQDN) to the IP address so your users can enter the FQDN (for example, sslvpn.ddnsservice.com) to access the SSL-VPN portal.

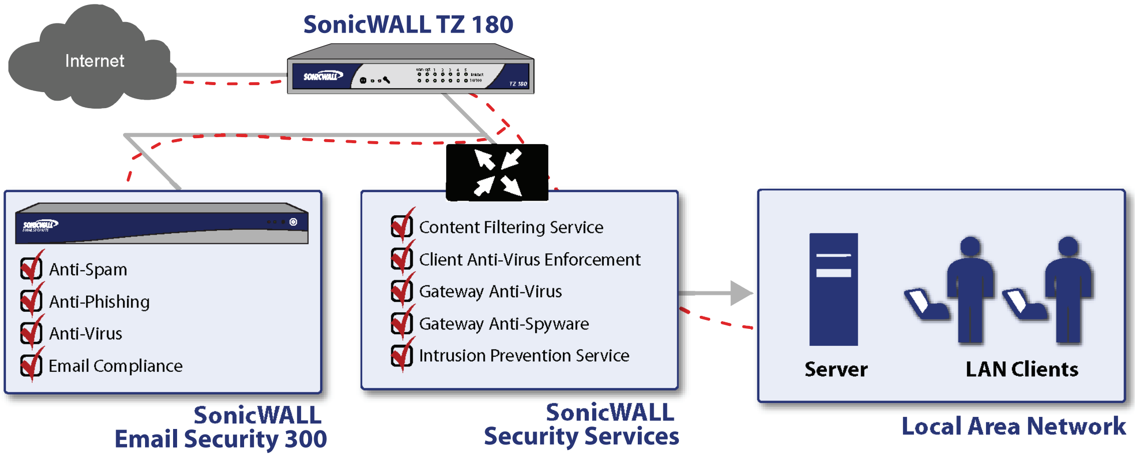
For information about detailed SSL-VPN configuration, including creating objects for users, refer to the *SonicWALL SonicOS SSL-VPN Administrator's Guide.*

SonicWALL Email Security Solution

SonicWALL Email Security provides effective, high-performance and easy-to-use inbound and outbound email threat protection. Ideal for organizations of any size, this self-running, self-updating solution delivers powerful protection against spam, virus and phishing attacks while preventing leaks of confidential information and violations of regulatory compliance laws.

If your internal SMTP-based email server is continually bombarded with spam, install a SonicWALL Email Security 200 or 300 server directly into one of the TZ 180 LAN interfaces. Figure 18 provides an example of the recommended deployment. Configure your internal SMTP server to forward outgoing mail to the ES server, and modify existing NAT rules so that incoming SMTP mail is forwarded to the ES server. The ES server has a wide array of licensable features that allow the server to scan incoming and outgoing mail for viruses using McAfee and Kaspersky anti-virus technology, scan for known spam and likely spam and phishing attempts, a full-featured compliance module for environments under HIPAA and SOX compliance rules, and extensive reporting features for both administrators and users.

Figure 18 SonicWALL Email Security Solution



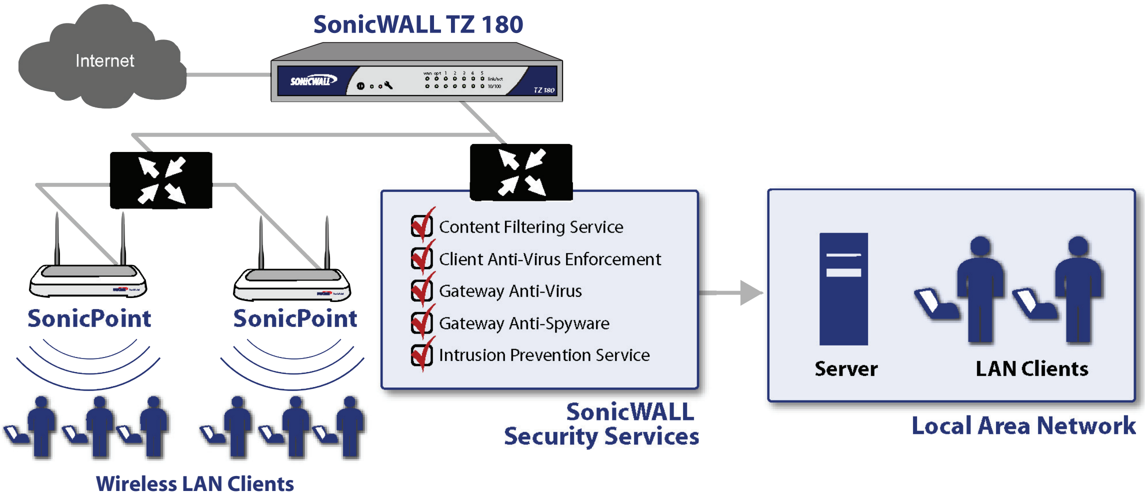
For more information about SonicWALL Email Security, refer to the *SonicWALL Email Security Administrator's Guide*.

SonicWALL SonicPoint Wireless Access Points

The SonicWALL Secure Distributed Wireless Solution is the first wireless networking security solution that integrates 802.11a/b/g wireless management and security enforcement into an enterprise-class firewall and VPN appliance. The innovative SonicWALL Secure Distributed Wireless Solution scales to fit virtually any network deployment by distributing SonicPoints at optimal locations throughout the building. Available in IEEE 802.11a/b/g and 802.11b/g options, SonicPoints are dependent access points that are utilized to provide seamless, secure wireless LAN (WLAN) connectivity as well as advanced features and services. SonicPoints can receive 802.3af power over Ethernet (PoE) to aid in their convenient deployment in any network.

You can add extensive wireless capability to your TZ 180 security appliance by upgrading to SonicOS Enhanced, which allows you to install up to eight SonicPoint or SonicPoint-G appliances on the OPT and DMZ interface. When combined with a Power over Ethernet (PoE) switch, you can provide power and connect the SonicPoints to the TZ 180 security appliance. SonicWALL's innovative central management system allows you to create shared wireless profiles on the TZ 180 security appliance, eliminating the need to individually configure each SonicPoint. Just plug them into the PoE switch and they automatically provision themselves with the newest firmware and settings files.Figure 19 provides an example of the recommended deployment of SonicPoints with a TZ 180 security appliance.

Figure 19 SonicWALL Wireless Solution

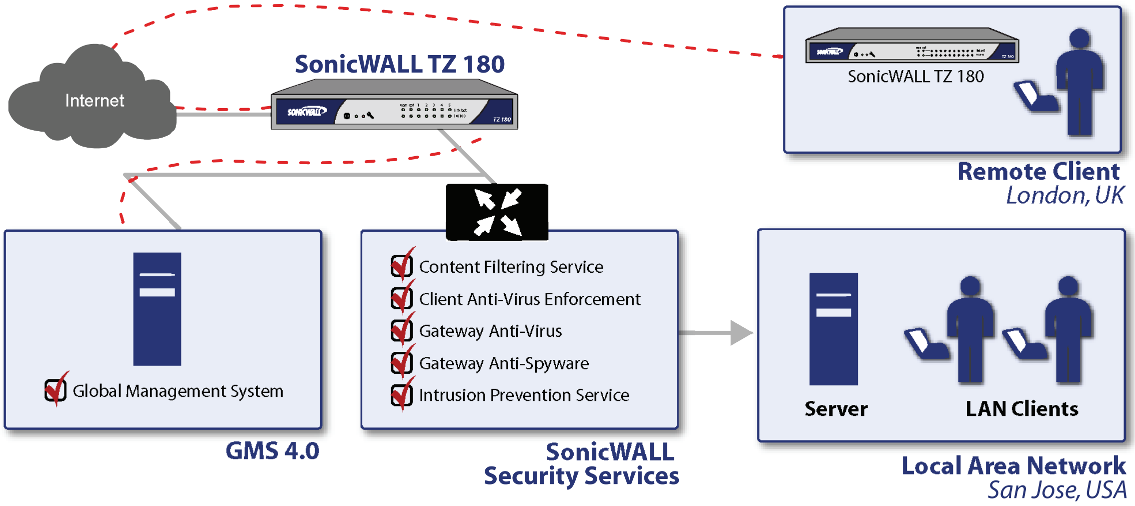


For more information about SonicWALL SonicPoints, refer to the *SonicWALL SonicPoint Administrator's Guide.*

SonicWALL Global Management System (GMS)

SonicWALL Global Management System (GMS) provides organizations, distributed enterprises and service providers with a flexible, powerful and intuitive tool to centrally manage and rapidly deploy SonicWALL appliances and security policy configurations. Organizations can globally manage and collect detailed information from security applications such as gateway anti-virus, anti-spyware, intrusion prevention and content filtering, all from a single console. SonicWALL GMS enables organizations to reduce staffing requirements, speed deployment and lower costs. GMS comes with five security appliance license and can be expanded to handle hundreds, or even thousands, of SonicWALL appliances, including SSL-VPN, CDP, and Email Security. Figure 20 provides an example of the recommended deployment of SonicWALL GMS with a TZ 180 security appliance.

Figure 20 SonicWALL Global Management Solution



For more information about SonicWALL GMS, refer to the *SonicWALL GMS Administrator's Guide*.

Related Documentation

To access the SonicWALL technical reference library, visit the SonicWALL Web site at: http://www.sonicwall.com/us/support

For detailed information on configuring SonicOS Standard, refer to the SonicOS Standard Administrator's Guide, available at:

http://www.sonicwall.com/us/support/SonicOS_Standard_3.8_Administrator's_Guide.pdf

For detailed information on configuring SonicOS Enhanced, refer to the SonicOS Enhanced Administrator's Guide, available at:

http://www.sonicwall.com/us/support/SonicOS_Enhanced_3.8_Administrator's_Guide.pdf

For detailed information on configuring specific features, refer to SonicWALL's technical note library, available at:

http://www.sonicwall.com/us/support/

Obtaining Technical Support

If you require technical assistance for your TZ 180 for issues that this guide does not cover, refer to the resources available online at SonicWALL's North America support Web site at:

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

For international support Web sites, visit http://www.sonicwall.com and select the appropriate region or country, then click **Support** on the top navigation bar.

Also available is SonicWALL's interactive online Knowledge Portal.

If you cannot find an appropriate solution in the *SonicWALL TZ 180 Administrator's Guide*, or using a topic-based technote, you may contact SonicWALL Global Technical Assistance Center in your region at the telephone numbers listed in Table 2.

Table 2 SonicWALL Worldwide Support Phone Numbers

Country	Toll-free number	Local (toll) number
Calling from North America		
United States	+1 888.777.1476	
Canada	+1 888.777.1476	
Calling from Europe, the Middle East, and Africa (support available in English, French, German, Italian and Spanish)		
Austria		+43 (0) 820.400.105
Belgium		+31 (0) 411.617.810
Czech Republic		+31 (0) 411.617.810
Denmark	807.02.652	
Egypt		+31 (0) 411.617.810
Finland	800.77.0265	
France	0800.970.019	+31 (0) 411.617.812
Germany	0800.0003.668	+31 (0) 411.617.813
Ireland		+31 (0) 411.617.811
Italy	800.909.106	+31 (0) 411.617.814
Jordan		+31 (0) 411.617.810
Luxembourg		+31 (0) 411.617.810
Netherlands		0.411.617.810
Nigeria		+31 (0) 411.617.810
Norway	800.57.477	
Poland		+31 (0) 411.617.810
Russia		+31 (0) 411.617.810
Saudi Arabia		+31 (0) 411.617.810
South Africa		+31 (0) 411.617.810
Spain	900.811.056	+31 (0) 411.617.815
Switzerland	0800.562.221	+31 (0) 411.617.810
Sweden	+020.140.14.25	
Turkey		+31 (0) 411.617.810

Country	Toll-free number	Local (toll) number
United Arab Emirates	8000.4411.869	
United Kingdom	0800.0280.488	+31 (0) 411.617.811
All other countries		+31 (0) 411.617.810
Calling from Asia Pacific		
Australia		+1 800.35.1642
Hong Kong		+1 800.93.0997
India		+1 800.425.9255
Japan		+81 (0) 3.5460.5356
New Zealand		800.446489
Singapore		+ 800.110.1441
Calling from Latin America		
Brazil	0800.891.4306	
Mexico		+1 888.777.1476

Note Visit http://www.sonicwall.com/us/support/contact.html for the latest technical support telephone numbers.

More Information on SonicWALL Products

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

Web: http://www.sonicwall.com

email: sales@sonicwall.com

Phone: (408) 745-9600

Fax: (408) 745-9300

Copyright and Trademarks

Copyright Notice

Specifications and descriptions subject to change without notice.

Trademarks

SonicWALL, Inc.

1143 Borregas Avenue
Sunnyvale CA 94089-1306

T +1 408.745.9600
F +1 408.745.9300

www.sonicwall.com

PN: 232-001109-00
Rev A 2/07