# SonicOS 7.1

# Diagnostics for Policy Mode

## Administration Guide

SONICWALL®

# Contents

1

# About SonicOS

This guide is a part of the SonicOS collection of administrative guides that describes how to administer and monitor the SonicWall family of firewalls. SonicOS provides network administrators the management interface, API (Application Program Interface), and the Command Line Interface (CLI) for firewall configuration by setting objects to secure and protect the network services, to manage traffic, and to provide the desired level of network service. This guide focuses on how to configure the diagnostics settings on the SonicWall security appliances.

**Topics:**

- Working with SonicOS
- SonicOS Workflow
- How to Use the SonicOS Administration Guides
- Guide Conventions

## Working with SonicOS

SonicOS provides a web management interface for configuring, managing, and monitoring the features, policies, security services, connected devices, and threats to your network. SonicOS runs on top of SonicCore, SonicWall's secure underlying operating system.

The SonicOS management interface facilitates:

- Setting up and configuring your firewall
- Configuring external devices like access points or switches
- Configuring networks and external system options that connect to your firewall
- Defining objects and policies for protection
- Monitoring the health and status of the security appliance, network, users, and connections
- Monitoring traffic, users, and threats
- Investigating events

SonicWall offers two different modes of operation in SonicOS; the modes differ mainly in the areas of policy, object configuration and diagnostics.

- *Policy Mode* provides a unified policy configuration work flow. It combines Layer 3 to Layer 7 policy enforcement for security policies and optimizes the work flow for other policy types. This unified policy work flow gathers many security settings into one place, which were previously configured on different pages of the management interface.
- *Classic Mode* is more consistent with earlier releases of SonicOS; you need to develop individual policies and actions for specific security services. The Classic Mode has a redesigned interface.

This table identifies which modes can be used on the different SonicWall firewalls:

| Firewall Type | Classic Mode | Policy Mode | Comments |
|---|---|---|---|
| TZ Series | yes | no | The entry level TZ Series, also known as desktop firewalls, deliver revamped features such as 5G readiness, better connectivity options, improved threat, SSL and decryption performance that address HTPPS bandwidth issues; built-in SD-WAN, and lawful TLS 1.3 decryption support. |
| NSa Series | yes | no | NSa firewalls provide your mid sized network with enhanced security . They are designed specifically for businesses with 250 and up. it can provide cloud-based and on-box capabilities like TLS/SSL decryption and inspection, application intelligence and control, SD-WAN, real-time visualization, and WLAN management. |
| NSsp 10700, NSsp 11700, NSsp 13700 | yes | no | The NSsp platforms high-end firewalls that deliver the advanced threat protection and fast speeds that large enterprises, data centers, and service providers need. |
| NSsp 15700 | no | yes | The NSsp 15700 is designed for large distributed enterprises, data centers, government agencies and services providers. It provides advanced threat protection like Real-Time Deep Memory Inspection, multi-instance firewall configuration, and unified policy creation and modification, with scalability and availability. |
| NSv Series | yes | yes | The NSv series firewalls offers all the security advantages of a physical firewall with the operational and economic benefits of virtualization. The NSv firewalls can operate in either Policy Mode or Classic Mode. You can switch between modes, but some configuration information from extra interfaces is removed. |

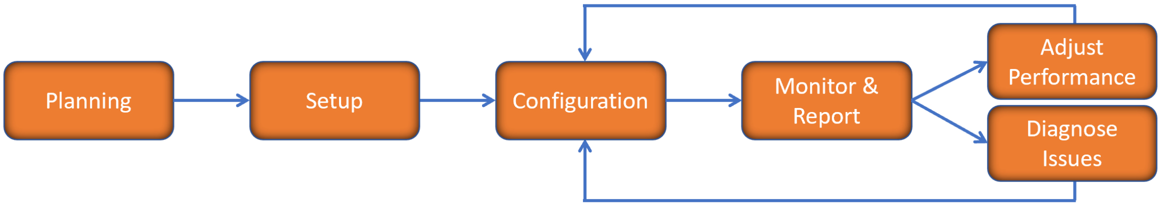
In addition to the management interface, SonicOS also has a full-featured API and a CLI to manage the firewalls. For more information, refer to:

- SonicOS 7.1 API Reference Guide

- *SonicOS Command Line Interface Reference Guide*

# SonicOS Workflow

When working with SonicWall products, you can use the following workflow as a guide for setting up your security solution.

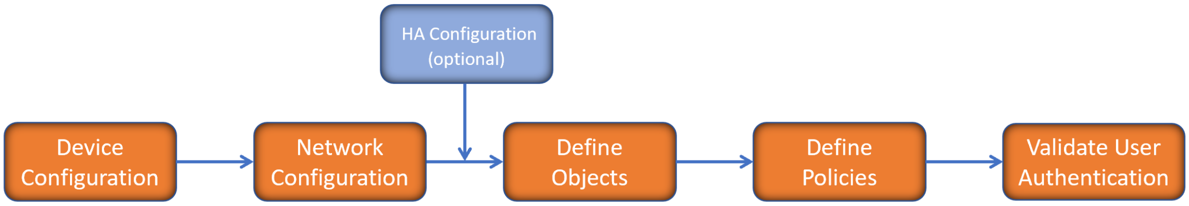


You begin your planning as you start making your purchasing decisions. Your sales partners can help you assess your network and make recommendations based on the kinds of security services you need. You can learn more about SonicWall products by reviewing product information and solutions. After selecting the solution, you can schedule your implementation.

After planning and scheduling your solution, you begin setting up the firewalls. The Getting Started Guides for your products can help you begin setting up the pieces to your solution. The getting started guides are designed to help you install the firewall to a minimal level of operation. Before performing any detailed configuration tasks described in the SonicOS Administration Guides, you should have your firewall set up and basic operation validated.

The configuration block of the workflow refers to the many tasks that combine to define how your firewall is integrated into your security solution and how it behaves when protecting your environment. Depending on the features of your security solution, this task can be quite complex. The System Administration Guides are broken into the key command sets and features. Some documents may be used for all solutions, but others may be used use only if you integrated that feature into your solution. For example, High Availability or Wireless Access Points are not necessarily used by all customers. More information about a feature's workflow is presented in the feature administration guide. Refer to the specific Administration Guide for a SonicOS feature for more information.

Configuration tends to be a one-time activity, although you might make minor adjustments after monitoring performance or after diagnosing an issue. The configuration activity can be broken down into the more detailed flow as the following figure shows. This also mirrors the key functions that are listed across the top of the management interface.

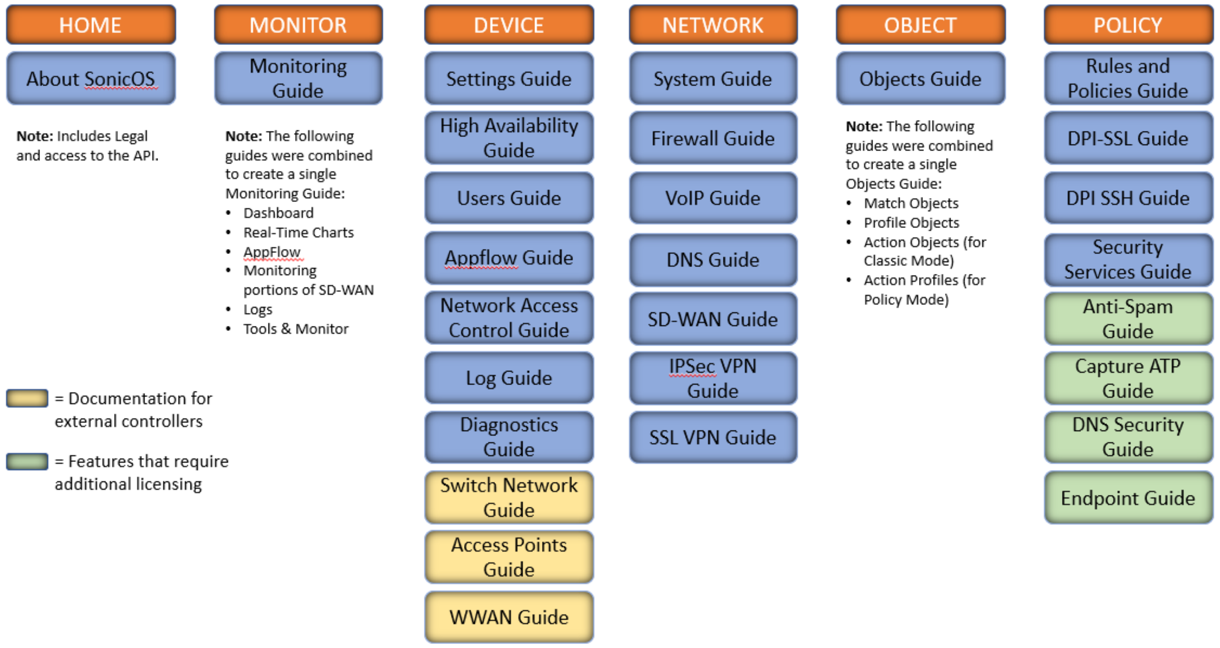


There is some flexibility in the order in which you do things, but this is the general work-flow you would follow when configuring your firewall. Start by defining the settings on the firewall. Next you set up the system and other devices that your firewall is connected to, and you can choose to implement High Availability when done. After your device, network, and system is configured, you should define the objects that you want to monitor. Then you use those objects to define the policies that protect your network. The final step to preparing your setup is to validate the user authentication.

# How to Use the SonicOS Administration Guides

The *SonicOS Administration Guide* is a collection of guides that detail the features represented by each of the main menu items in the management interface. Within each guide, you can find topics covering commands in that menu group, along with procedures and in-depth information. The exceptions are the SonicOS 7.1 Monitor Guide and the SonicOS 7.1 Objects Guide which combine the topics for each of those functions into a single book.

To help you understand how the books align with the features and commands, the following figure shows the books organized like the SonicWall management interface.



**Note:** Includes Legal and access to the API.

**Note:** The following guides were combined to create a single Monitoring Guide:

- Dashboard
- Real-Time Charts
- AppFlow
- Monitoring portions of SD-WAN
- Logs
- Tools & Monitor

**Note:** The following guides were combined to create a single Objects Guide:

- Match Objects
- Profile Objects
- Action Objects (for Classic Mode)
- Action Profiles (for Policy Mode)

🟨 = Documentation for external controllers

🟩 = Features that require additional licensing

The SonicOS Administration Guides, along with related documentation, such as the getting started guides, are available on the https://www.sonicwall.com/support/technical-documentation/.

# Guide Conventions

These text conventions are used in this guide:

ⓘ | **NOTE:** A NOTE icon indicates supporting information.

ⓘ | **IMPORTANT:** An IMPORTANT icon indicates supporting information.

ⓘ | **TIP:** A TIP icon indicates helpful information.

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

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

| Convention | Description |
|---|---|
| **Bold text** | Used in procedures to identify elements in the management interface like dialog boxes, windows, screen names, messages, and buttons. Also used for file names and text or values you are being instructed to select or type into the interface. |
| **Function \| Menu group > Menu item** | Indicates a multiple step menu choice on the user interface. For example, **NETWORK \| System > Interfaces** means to select the **NETWORK** functions at the top of the window, then click on **System** in the left navigation menu to open the menu group (if needed) and select **Interfaces** to display the page. |
| `Code` | Indicates sample computer programming code. If bold, it represents text to be typed in the command line interface. |
| ***<Variable>*** | Represents a variable name. The variable name and angle brackets need to be replaced with an actual value. For example in the segment **serialnumber=**<*your serial number*>, replace the variable and brackets with the serial number from your device, such as serialnumber=2CB8ED000004. |
| ***Italics*** | Indicates the name of a technical manual. Also indicates emphasis on certain words in a sentence, such as the first instance of a significant term or concept. |

2

# Introduction to Diagnostics for Policy Mode

This administration guide provides information about the SonicOS Diagnostics feature for the Policy Mode.

Diagnostic tools allow the administrator to test connectivity by performing a Ping, TCP connection test, DNS lookup, reverse lookup, and trace route for a specific IP address or web site. Other Diagnostics for Policy Mode tools provide a way to view or monitor the Geo and Botnet, PMTU Discovery, and other features.

The following comparison table gives the Diagnostics features available for SonicOS Classic Mode and Policy Mode:

| Diagnostic Tools Features | SonicOS 7 Classic Mode | SonicOS 7 Policy Mode |
|---|---|---|
| Tech Support Report | Available | Available |
| Check Network Settings | Available | Available |
| DNS Name Lookup | Available | Available |
| Network Path | Available | Available |
| Ping | Available | Available |
| Trace Route | Available | Available |
| Real-Time Blacklist | Available | Available |
| Reverse Name lookup | Available | Available |
| Connection TopX | Available | Not Available |
| Geo and Botnet | Available | Available |
| MX and Banner | Available | Not Available |
| GRID Check | Available | Not Available |
| URL Rating Request | Available | Available |
| PMTU Discovery | Available | Available |
| Switch Diagnostics | Available | Available |
| Policy Lookup | Not Available | Available |

The following comparison table gives the platforms supported:

| SonicWall Firewall Model | SonicOS 7<br>Classic Mode | SonicOS 7<br>Policy Mode |
|---|---|---|
| *Hardware Firewalls* | | |
| TZ Series: TZ270, TZ270W, TZ370, TZ370W, TZ470, TZ470W, TZ570, TZ570W, TZ570P, TZ670 | Supported | Not Supported |
| NSa Series: NSa 2700, NSa 3700, NSa 4700, NSa 5700, and NSa 6700 | Supported | Not Supported |
| NSsp Series: NSsp 10700, NSsp 11700, and NSsp 13700 | Supported | Not Supported |
| NSsp Series: NSsp15700 | Not Supported | Supported |
| *Virtual Firewalls* | | |
| NSv Series: NSv 270, NSv 470, and NSv 870 | Supported | Supported |

ⓘ **NOTE:** The Terminal option that was available on Diagnostics menu is now moved to the notification center and no longer appears in the Diagnostics menu. For more information, refer to Terminal.

Navigate to **Device** > **Diagnostics**, the various tools available in Diagnostics menu group includes:

- Tech Support Report
- Check Network Settings
- DNS Name Lookup
- Network Path
- Ping
- Trace Route
- Real-Time Blacklist
- Reverse Name Lookup
- Geo and Botnet
- URL Rating Request
- PMTU Discovery
- Switch Diagnostics
- Policy Lookup

For Troubleshooting diagnostics tools, refer to the knowledge base articles Troubleshooting and to monitor, refer to the SonicOS 7.1 Monitor Guide

3

# Terminal

Navigate to notification center, click **Open SSH terminal session** icon to start a SSH Console Window to issue commands directly to the network security appliance.

ⓘ **NOTE:** SSH management must be enabled for the interface of the device before a SSH session can be started successfully.

### *To enable SSH management of the device:*

1. Navigate to **Network > Interfaces**.
2. Select the interface for which you want to enable SSH management and click the **Edit** icon.
3. In the **Management** section, click the **SSH** toggle to activate SSH management of the device (if it is not already enabled).
4. Click **OK**.

### *To start a SSH management session:*

1. Navigate to notification center, click **Open SSH terminal session** icon.
2. Click **OK** when the warning displays with the IP address.
3. The SSH session will start by requesting the administrator login credentials on SSH Console Window.

   ⓘ **NOTE:** SSH management must be ON for this interface.

4

# Tech Support Report

The Tech Support Report generates a detailed report of the SonicWall security appliance configuration and status and saves it to the local hard disk using the Download Tech Support Report button. This file can then be emailed to SonicWall Technical Support to help assist with a problem.

ⓘ | **NOTE:** You must register your SonicWall security appliance on MySonicWall to receive technical support.

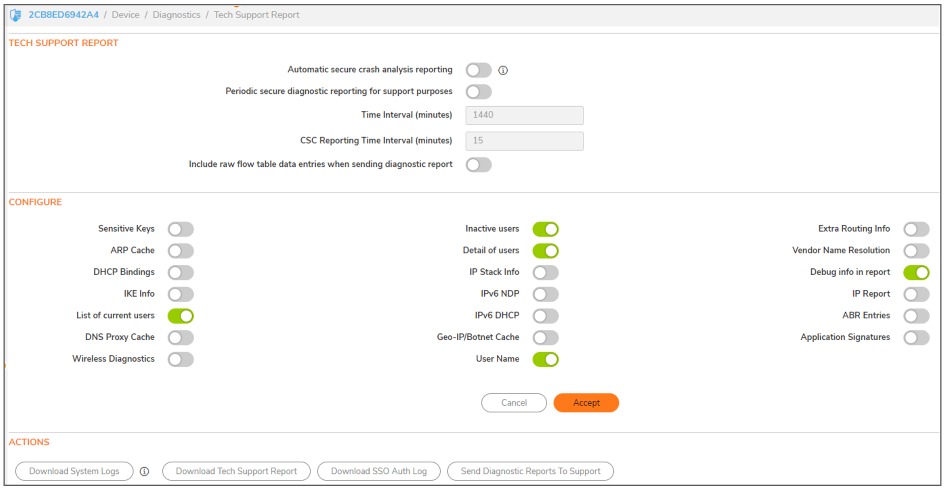
**Topics:**

- Completing a Tech Support Request
- Generating a Tech Support Report

## Completing a Tech Support Request

Before emailing the Tech Support Report to the SonicWall Technical Support team, complete a Tech Support Request Form at https://www.mysonicwall.com. After the form is submitted, a unique case number is returned. Include this case number in all correspondence, as it allows SonicWall Technical Support to provide you with better service.

# Generating a Tech Support Report



TECH SUPPORT REPORT

Automatic secure crash analysis reporting ○
Periodic secure diagnostic reporting for support purposes ○
Time Interval (minutes) 1440
CSC Reporting Time Interval (minutes) 15
Include raw flow table data entries when sending diagnostic report ○

CONFIGURE

| | | | | | |
|---|---|---|---|---|---|
| Sensitive Keys | ○ | Inactive users | ● | Extra Routing Info | ○ |
| ARP Cache | ○ | Detail of users | ● | Vendor Name Resolution | ○ |
| DHCP Bindings | ○ | IP Stack Info | ○ | Debug info in report | ● |
| IKE Info | ○ | IPv6 NDP | ○ | IP Report | ○ |
| List of current users | ● | IPv6 DHCP | ○ | ABR Entries | ○ |
| DNS Proxy Cache | ○ | Geo-IP/Botnet Cache | ○ | Application Signatures | ○ |
| Wireless Diagnostics | ○ | User Name | ● | | |

Cancel
Accept
ACTIONS
Download System Logs
Download Tech Support Report
Download SSO Auth Log
Send Diagnostic Reports To Support

***To generate a Tech Support Report (TSR):***

1. Navigate to **Device** > **Diagnostics** > **Tech Support Report**.
2. In the Tech Support Report section, turn on any of the following report options:
   - **Sensitive Keys** - Saves shared secrets, encryption, and authentication keys to the report.
   - **ARP Cache** - Saves a table relating IP addresses to the corresponding MAC or physical addresses.
   - **DHCP Bindings** - Saves entries from the firewall DHCP server.
   - **IKE Info** - Saves current information about active IKE configurations.
   - **List of current users** - Lists all currently logged in active local and remote users.
   - **Wireless Diagnostics** - Lists log data if the SonicPoint or internal wireless radio experiences a failure and reboots.
   - **DNS Proxy Cache** - This option is not selected by default.
   - **Inactive users** - Lists the users with inactive sessions. Selected by default.
   - **Detail of users** - Lists additional details of user sessions, including timers, privileges, management mode if managing, group memberships, CFS policies, VPN client networks, and other information. The Current users report checkbox must be enabled first to obtain this detailed report.
   - **IP Stack Info** - This option is not selected by default.
   - **IPv6 NDP** - This option is not selected by default.
   - **IPv6 DHCP** - This option is not selected by default.

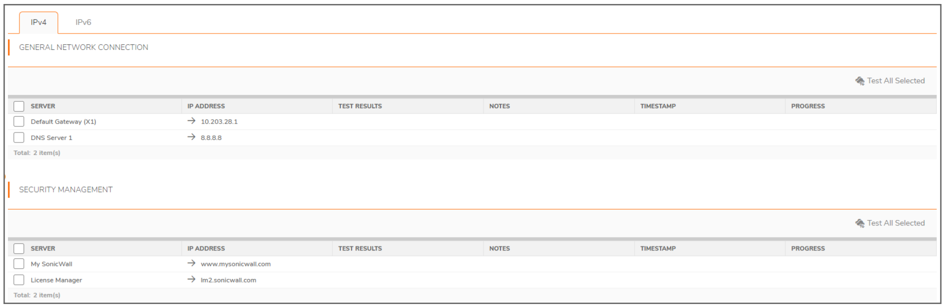
- **Geo-IP/Botnet Cache** - Saves the currently cached Geo-IP and Botnet information.
- **User Name** - Shows user name in the report.
- **Extra Routing Info** - Shows extra routing information in the report.
- **Capture ATP Cache** - Saves the currently cached Capture information.
- **Vendor Name Resolution** - This option is not selected by default.
- **Debug Info in report** - Specifies whether the downloaded TSR is to contain debug information.
- **IP Report** - This option is not selected by default.
- **ABR Entries** - This option is not selected by default.
- **Application Signatures** - Shows application signature information in the report.

3. Click **Accept** to save the changes.
4. Click **Download Tech Support Report** under the **Actions** section to save the file to your system.
5. Click **OK** to save the file.
6. Attach the report to your Tech Support Request email.
7. To send the TSR, system preferences, and trace log to SonicWall Engineering (not to SonicWall Technical Support), click **Send Diagnostic Reports to Support** under the **Actions** section. The Status indicator at the bottom of the page displays **Please wait!** while the report is sent, and then displays **Diagnostic reports sent successfully**. You would normally do this after talking to Technical Support.
8. To download the SSO authentication log, click **Download SSO Auth Log** under the **Actions** section .
9. To download system logs, click **Download System Logs** under the **Actions** section and then click **Confirm.**
10. To send diagnostic files to SonicWall Tech Support for crash analysis, select the **Automatic secure crash analysis reporting** toggle switch
    **NOTE:** This toggle switch is not applicable for NSsp 15700.
11. To periodically send the TSR, system preferences, and trace log to MySonicWall for SonicWall Engineering:
    a. Select the **Periodic secure diagnostic reporting for support purposes** switch.
    b. Enter the interval in minutes between the periodic reports in the **Time Interval (minutes)** field. The default is 1440 minutes (24 hours).
    c. Enter the interval in minutes between the periodic reports in the **CSC Reporting Time Interval (minutes)** field. The default is 15 minutes.
    **NOTE:** This toggle switch is not applicable for NSsp 15700.
12. To include flow table data in the TSR, toggle the switch for **Include raw flow table data entries when sending diagnostic report**.
    **NOTE:** This toggle switch is not applicable for NSsp 15700.

5

# Check Network Settings

Check Network Settings is a diagnostic feature that automatically checks the network connectivity and service availability of several pre-defined functional areas of SonicOS, returns the results, and attempts to describe the causes if any exceptions are detected.



GENERAL NETWORK CONNECTION

| □ SERVER | IP ADDRESS | TEST RESULTS | NOTES | TIMESTAMP | PROGRESS |
|---|---|---|---|---|---|
| □ Default Gateway (X1) | → 10.203.28.1 | | | | |
| □ DNS Server 1 | → 8.8.8.8 | | | | |

Total: 2 item(s)

SECURITY MANAGEMENT

| □ SERVER | IP ADDRESS | TEST RESULTS | NOTES | TIMESTAMP | PROGRESS |
|---|---|---|---|---|---|
| □ My SonicWall | → www.mysonicwall.com | | | | |
| □ License Manager | → lm2.sonicwall.com | | | | |

Total: 2 item(s)

This tool helps you locate the problem area when users encounter a network problem. The feature lists both IPv4 and IPv6 network settings in different tabs.

Specifically, Check Network Settings automatically tests the following functions:

- Default Gateway settings
- DNS settings
- MySonicWall server connectivity
- License Manager server connectivity
- Content Filter server connectivity

The return data consists of two parts:

- Test Results – Provides a summary of the test outcome
- Notes – Provides details to help determine the cause if any problems exist

The **Check Network Settings** feature is dependent on the **Network Monitor** feature available under **Network** | **Network Monitor** view. Whenever the Check Network Settings tool is being executed (except during the Content Filter test), a corresponding Network Monitor Policy appears on the **Network** | **Network Monitor** page, with a special diagnostic tool policy name in the form:

```
diagTestPolicyAuto_<IP_address/Domain_name>_0
```

Navigate to **Device** > **Diagnostics** > **Check Network Settings**.to use the Check Network Settings tool, first select it in the Diagnostic Tools drop-down list and then click the Test button in the row for the item that you want to test. The results are displayed in the same row. A green check mark signifies a successful test, and a red X indicates that there is a problem.

To test multiple items at the same time, check the box for each desired item and then click **TEST ALL SELECTED**.

# DNS Name Lookup

The DNS lookup tool returns the IPv4 and IPv6 IP address of a URL. If you enter an IPv4 and/or IPv6 IP address, the tool returns the domain name for that address. If you enter a domain name, the tool returns the DNS server used and the resolved address.

Navigate to **Device** > **Diagnostics** > **DNS Name Lookup**, with the **DNS Server** radio buttons, you can select either a **System** or **Customized** DNS server. The options change, depending on which you choose.

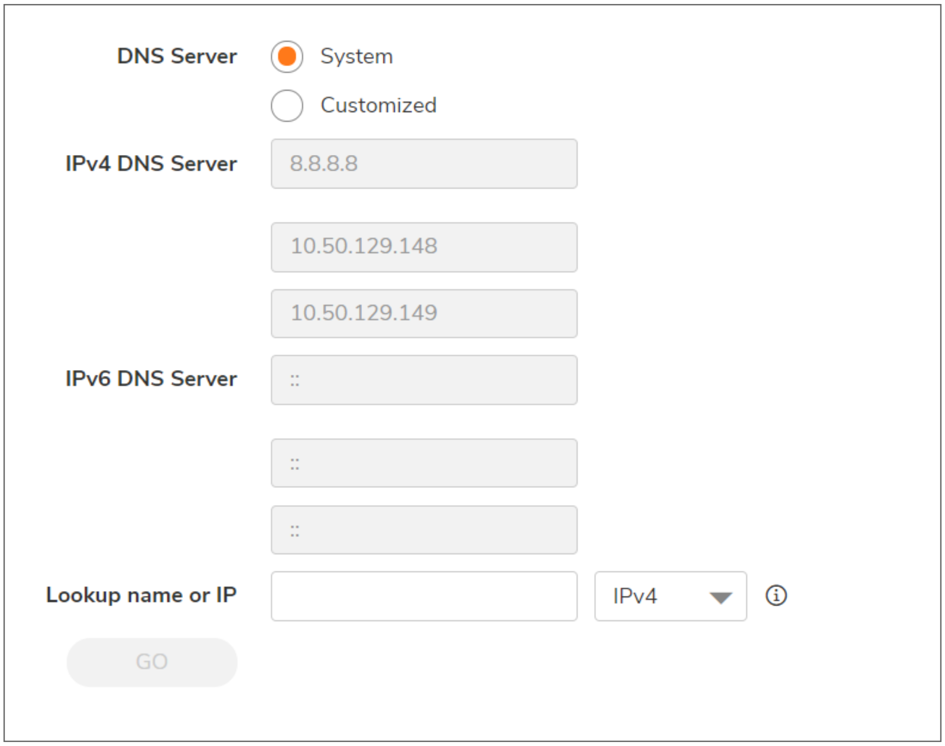
The **IPv4/IPv6 DNS Server** fields display the IP addresses of the DNS Servers configured on the firewall. If there is no IP address (0.0.0.0 for IPv4 or :: for IPv6) in the fields, you must configure them on the **Network** > **DNS** page.

Under **Lookup name or IP**, enter the URL and select, IPv4, IPv6, or All and click **GO**.

# Resolving a System DNS Server

***To resolve a system DNS Server:***

1. Select **System** for the DNS Server.



DNS Server ● System ○ Customized

IPv4 DNS Server 8.8.8.8

10.50.129.148

10.50.129.149

IPv6 DNS Server ::

::

::

Lookup name or IP IPv4

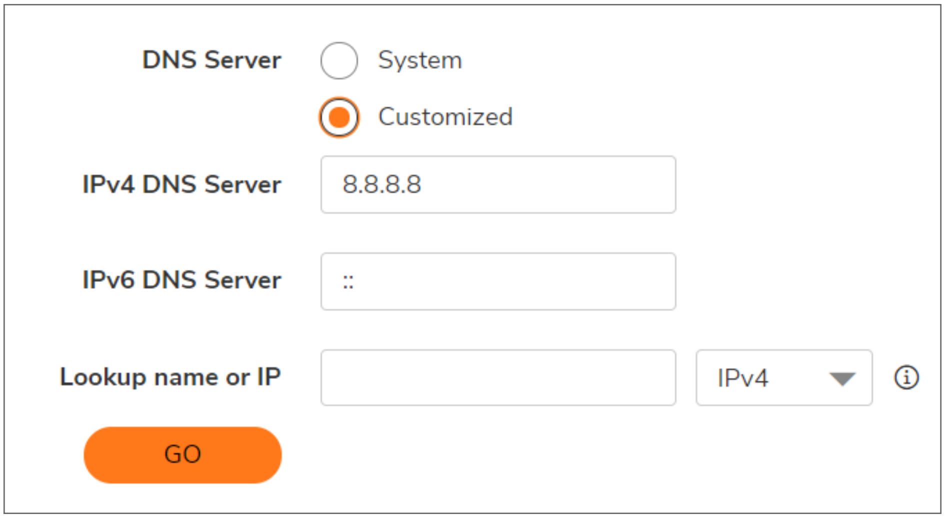
2. In the **Lookup name or IP** field, enter either the domain name or the IP address.
3. Select the type of IP address from the drop-down menu:
   - IPv4 (default)
   - IPv6
   - All
4. Click **GO**. The firewall returns the matching pair of addresses and domain names.

**IMPORTANT:** When specifying a domain name, do not add http or https to the name.

# Resolving a Customized DNS Server

***To resolve a Customized DNS Server:***

1. Select **Customized** under DNS Server.



DNS Server ○ System
● Customized

IPv4 DNS Server: 8.8.8.8

IPv6 DNS Server: ::

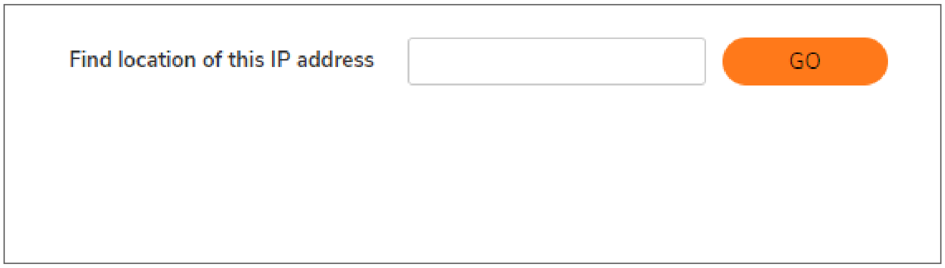
Lookup name or IP: IPv4

2. If the DNS Server IP address is not populated, enter it in the IPv4 or IPv6 field.
3. In the **Lookup name or IP** field, enter either the domain name or the IP address.
4. Select the type of IP address from the drop-down menu:
    - IPv4 (default)
    - IPv6
    - All
5. Click **GO**.

7

# Network Path

Enter an IP address to determine the network path of it. The Network Path feature finds if the IP is located on a specific network interface, if it reached a router gateway IP address, and if it reached through an Ethernet address.



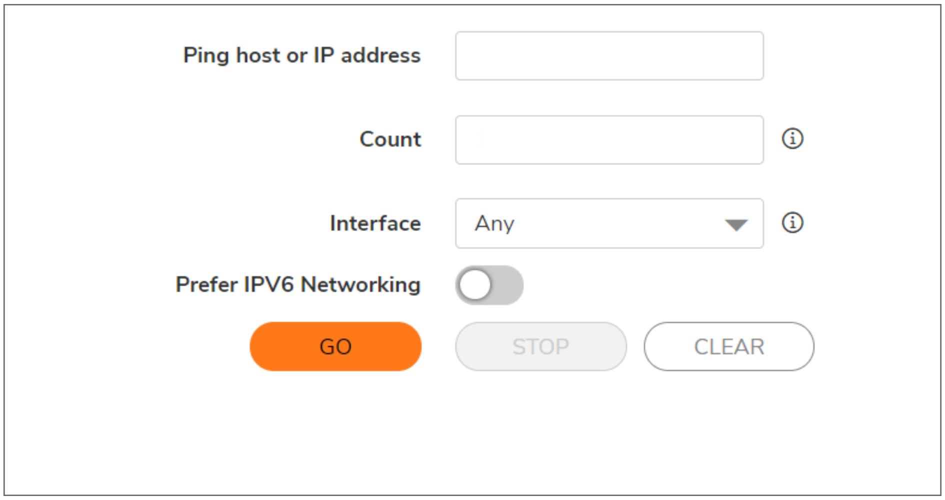
***To find network path of an IP address:***

1. Navigate to **Device** > **Diagnostics** > **Network Path**.
2. Enter the IP address of the network.
3. Click **GO**.

8

# Ping

The Ping test sends a packet off a machine on the Internet and returns it to the sender. This test shows if the firewall is able to contact the remote host. If users on the LAN are having problems accessing services on the Internet, try pinging the DNS server, or another machine at the ISP location. If the test is unsuccessful, try pinging devices outside of the ISP. If you can ping devices outside of the ISP, then the problem lies with the ISP connection.



Interface: Any

***To ping an IP address:***

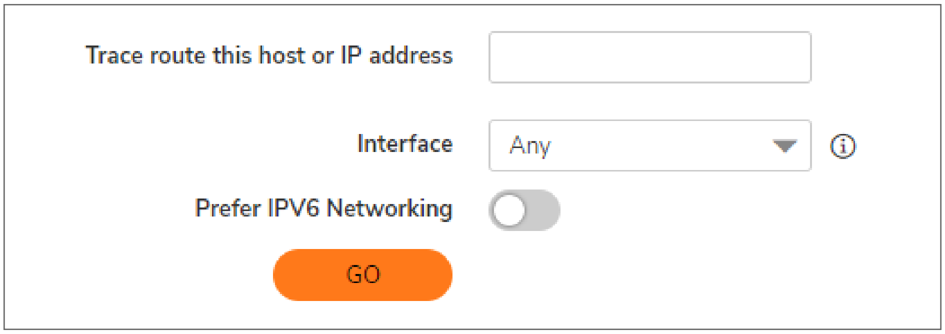
1. Navigate to **Device** > **Diagnostics** > **Ping**
2. Specify the **Ping host or IP address** of the target device.
3. Specify the **Count**.
4. In the **Interface** drop-down menu, select which WAN interface you want to test the ping from. Selecting **ANY** allows the appliance to choose among all interfaces—including those not listed in the drop-down.
5. Toggle **Prefer IPv6 Networking** switch if you prefer pinging to an IPv6 address.
6. Click **GO**.

9

# Trace Route

Trace Route is a diagnostic utility that assists in diagnosing and troubleshooting router connections on the Internet. By using Internet UDP packets similar to Ping packets, Trace Route can test interconnectivity with routers and other hosts that are spread along the network path until the connection fails or until the remote host responds.

Trace Route tool includes a IPv6 networking option. When testing interconnectivity with routers and other hosts, SonicOS uses the first IP address that is returned and shows the actual Trace Route address. If both IPv4 and IPv6 addresses are returned, by default, the firewall checks the IPv4 address. If the **Prefer IPv6 Networking** option is enabled, the check only IPv6 address.



| | |
|---|---|
| Trace route this host or IP address | |
| Interface | Any |
| Prefer IPV6 Networking | ○ |

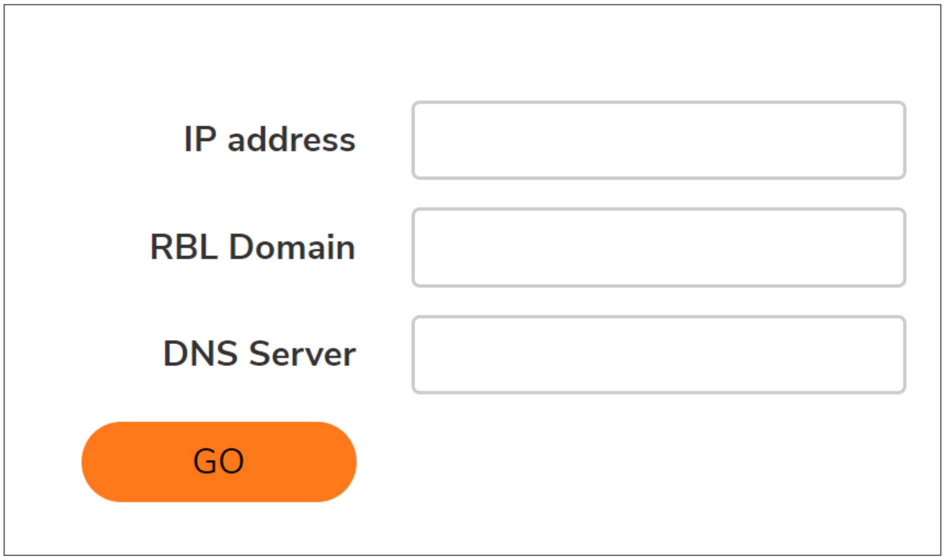
***To troubleshoot with Trace Route:***

1. Navigate to **Device** > **Diagnostics** > **Trace Route**.
2. Type the IP address or domain name of the destination host in the **TraceRoute this host or IP address** field.
3. In the **Interface** drop-down menu, select which WAN-specific interface you want to test the trace route from. Selecting ANY, the default, allows the firewall to choose among all interfaces—including those not listed in the drop-down menu.
4. To TraceRoute for IPv6, select the **Prefer IPv6 Networking** checkbox.
5. Click **GO**. Depending on the route, this may take a few minutes. A popup table displays with each hop to the destination host. By following the route, you can diagnose where the connection fails between the firewall and its destination.

10

# Real-Time Blacklist

The Real-Time Blacklist feature allows you to blacklist SMTP IP addresses, RBL services, and DNS servers.



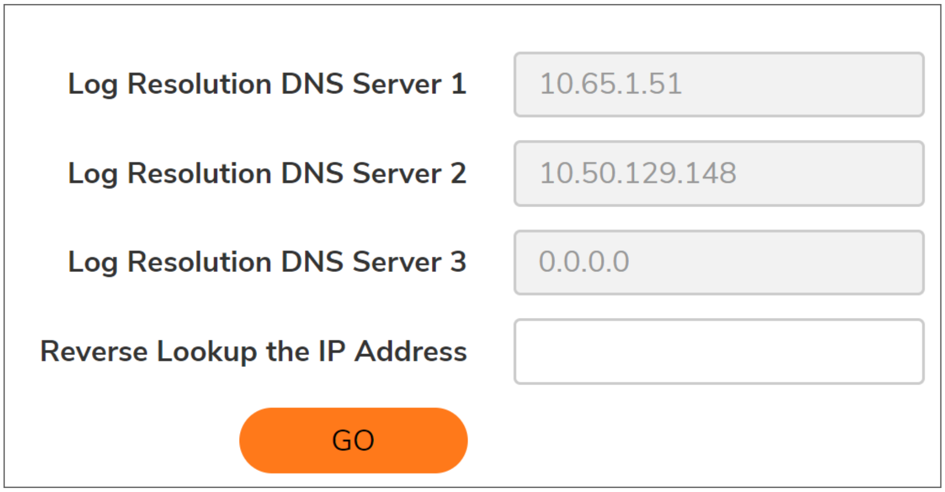
***To blacklist an IP address, RBL domain, or a DNS server:***

1. Navigate to **Device** > **Diagnostics** > **Real-Time Blacklist**.
2. Enter an IP address in the **IP address** field, a FQDN for the RBL in the **RBL Domain** field, or DNS server information in the **DNS Server** field.
3. Click **GO**.

11

# Reverse Name Lookup

The Reverse Name Lookup feature returns the DNS server name for a given IP address. The Log Resolution DNS server 1, 2, and 3 shows the DNS servers configured for the firewall. You can manually configure the DNS servers from **Network > DNS**.



| | |
|---|---|
| Log Resolution DNS Server 1 | 10.65.1.51 |
| Log Resolution DNS Server 2 | 10.50.129.148 |
| Log Resolution DNS Server 3 | 0.0.0.0 |
| Reverse Lookup the IP Address | |

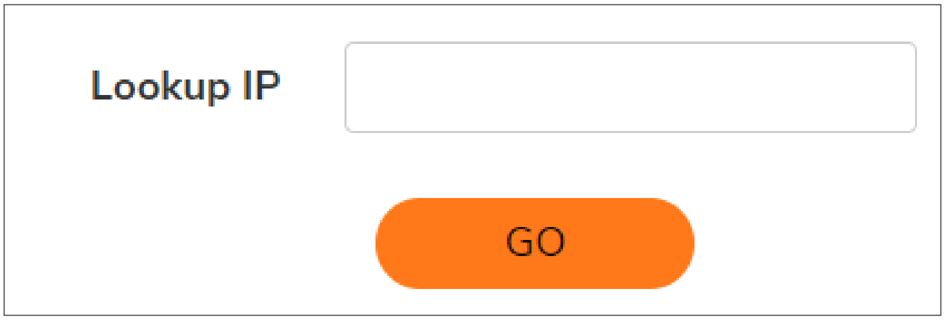
***To look up an IP address:***

1. Navigate to **Device** > **Diagnostics** > **Reverse Name Lookup**.
2. Enter the IP address in the **Reverse Lookup the IP Address** field.
3. Click **GO**.

12

# Geo and Botnet

The Geo and Botnet Lookup feature allows you to look up the connections to or from a geographic location based on IP address and to or from Botnet command and control servers.



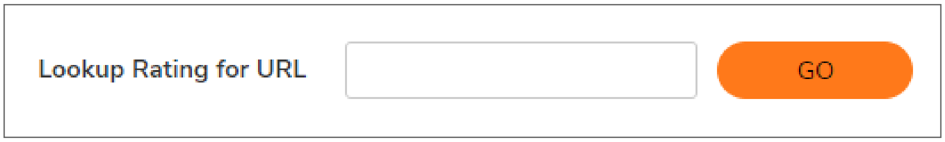
***To troubleshoot with GEO Location and BOTNET Server Lookup:***

1. Navigate to **Device** > **Diagnostics** > **Geo and Botnet**.
2. Type the IP address or domain name of the destination host in the **Lookup IP** field.
3. Click **GO**. The result displays underneath the Lookup IP field.

13

# URL Rating Request

Content Filtering Service feature classifies websites under 64 categories based on the content. You can find information about a website by looking up the URL in the CFS URL Rating Request feature.



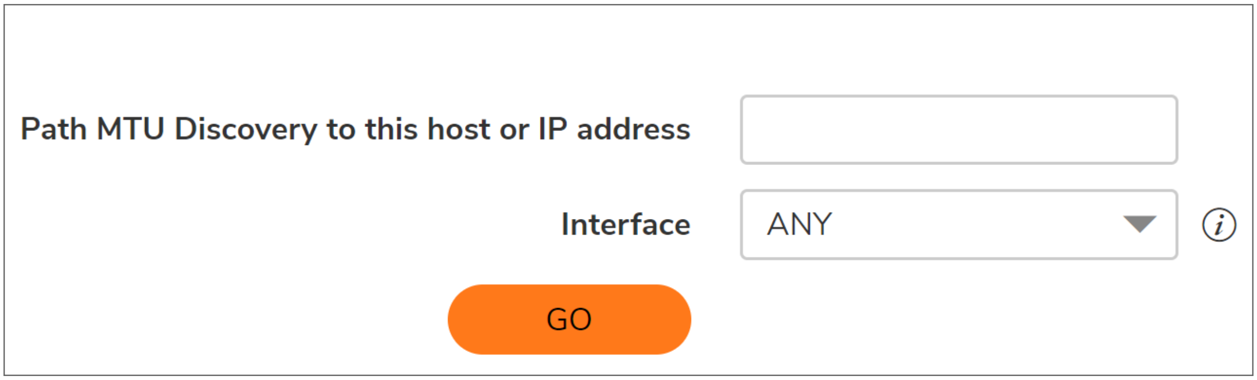
***To look up a URL:***

1. Navigate to **Device** > **Diagnostics** > **URL Rating Request**.
2. Enter the URL in the **Lookup Rating for URL** field.
3. Click **Go**.

14

# PMTU Discovery

PMTU Discovery is a diagnostic tool that uses a standardized technique for determining the maximum transmission unit (MTU) size on the network path between two Internet Protocol (IP) hosts, usually with the goal of avoiding IP fragmentation. PMTU Discovery works with both IPv4 and IPv6 protocols.



Path MTU Discovery to this host or IP address

Interface: ANY

***To troubleshoot with PMTU Discovery::***

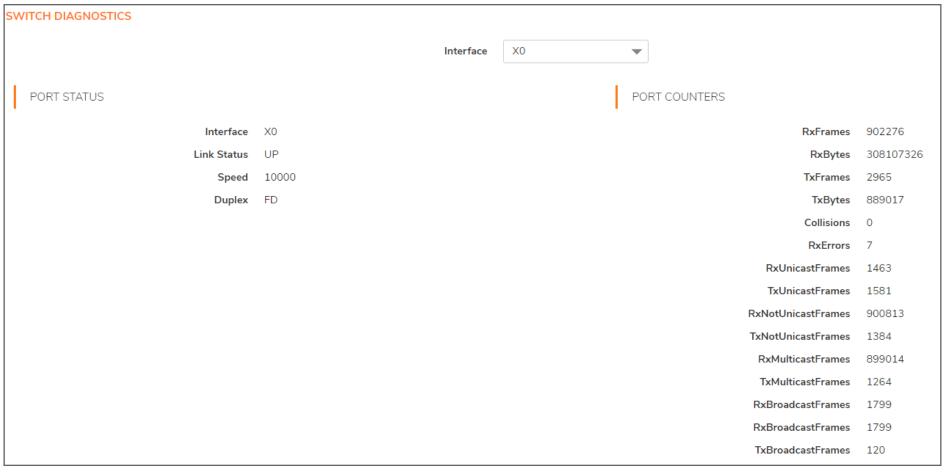
1. Navigate to **Device** > **Diagnostics** > **PMTU Discovery**.
2. Type the IP address or domain name of the destination host in the **Path MTU Discovery to this host or IP address** field.
3. In the Interface drop-down menu, select which WAN-specific interface you want to test the trace route from. Selecting **ANY**, the default, allows the firewall to choose among all interfaces—including those not listed in the drop-down menu.
4. Click **GO**.

   Depending on the route, this may take a few minutes. A pop-up table displays with each hop to the destination host. By following the route, you can diagnose where the connection fails between the firewall and the destination.

15

# Switch Diagnostics

The **Switch Diagnostics** page displays the port status and port counters of a SonicWall Switch connected to the firewall.



SWITCH DIAGNOSTICS

Interface: X0

PORT STATUS

| | |
|---|---|
| Interface | X0 |
| Link Status | UP |
| Speed | 10000 |
| Duplex | FD |

PORT COUNTERS

| | |
|---|---|
| RxFrames | 902276 |
| RxBytes | 308107326 |
| TxFrames | 2965 |
| TxBytes | 889017 |
| Collisions | 0 |
| RxErrors | 7 |
| RxUnicastFrames | 1463 |
| TxUnicastFrames | 1581 |
| RxNotUnicastFrames | 900813 |
| TxNotUnicastFrames | 1384 |
| RxMulticastFrames | 899014 |
| TxMulticastFrames | 1264 |
| RxBroadcastFrames | 1799 |
| RxBroadcastFrames | 1799 |
| TxBroadcastFrames | 120 |

### *To access Switch Diagnostics:*

1. Navigate to **Device** > **Diagnostics** > **Switch Diagnostics**.
2. Select the interface that is connected to the Switch from the **Interface** drop-down menu.

# Policy Lookup

The **Policy Lookup** page allows you to search for policies based on specific criteria.

The available types of policies you can search for include:

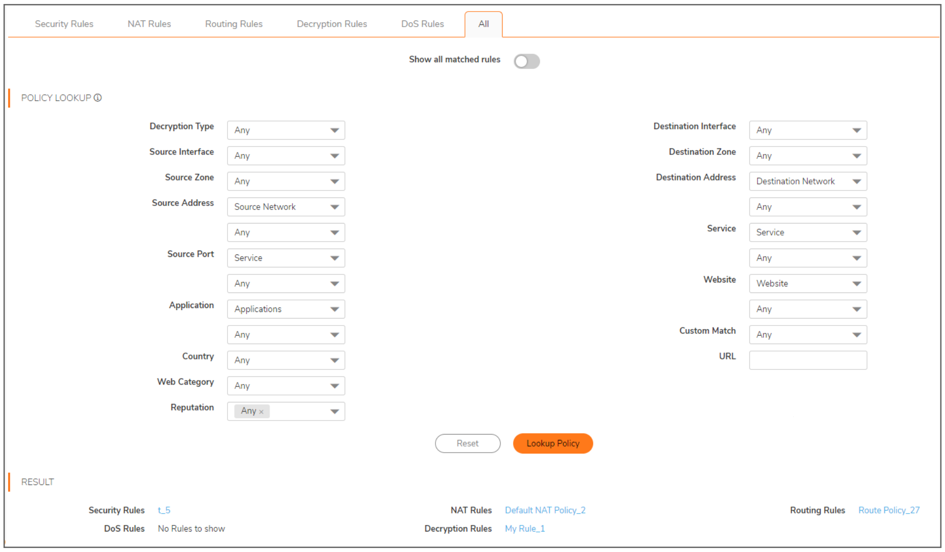
- **Security Rules**
- **NAT Rules**
- **Routing Rules**
- **Decryption Rules**
- **DoS Rules**

You can also click **All** search for and view policies from all of the categories.

### *To search for policies:*

- Navigate to **Device > Diagnostics > Policy Lookup**.
- Click the tab for the policy category you want to search or click **All** to search all of the categories.
- Select **Show all matched rules** to view the results from all of the categories on the page you selected.
- In the **Policy Lookup** section, select the criteria for the policies you want listed.
- Click **Lookup Policy** to search for policies that match the criteria you specified.
  The policies that match your criteria are displayed in the **Result** section at the bottom of the page.

Click **Reset** to clear all of your selection and begin a new query.



Show all matched rules ○

POLICY LOOKUP ⓘ

Decryption Type: Any
Source Interface: Any
Source Zone: Any
Source Address: Source Network; Any
Source Port: Service; Any
Application: Applications; Any
Country: Any
Web Category: Any
Reputation: Any ×

Destination Interface: Any
Destination Zone: Any
Destination Address: Destination Network; Any
Service: Service; Any
Website: Website; Any
Custom Match: Any
URL:

RESULT

| | | | | | |
|---|---|---|---|---|---|
| Security Rules | t_5 | NAT Rules | Default NAT Policy_2 | Routing Rules | Route Policy_27 |
| DoS Rules | No Rules to show | Decryption Rules | My Rule_1 | | |

16

# SonicWall Support

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

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

The Support Portal enables you to:

- View knowledge base articles and technical documentation
- View and participate in the Community forum discussions at https://community.sonicwall.com/technology-and-support.
- View video tutorials
- Access https://mysonicwall.com
- Learn about SonicWall Professional Services at https://sonicwall.com/pes.
- Review SonicWall Support services and warranty information
- Register for training and certification
- Request technical support or customer service

To contact SonicWall Support, visit https://www.sonicwall.com/support/contact-support.

# About This Document

SonicOS Diagnostics for Policy Mode Administration Guide
Updated - December 2023
Software Version - 7.1
232-005994-00 Rev A

Copyright © 2023 SonicWall Inc. All rights reserved.

The information in this document is provided in connection with SonicWall and/or its affiliates' products. No license, express or implied, by estoppel or otherwise, to any intellectual property right is granted by this document or in connection with the sale of products. EXCEPT AS SET FORTH IN THE TERMS AND CONDITIONS AS SPECIFIED IN THE LICENSE AGREEMENT FOR THIS PRODUCT, SONICWALL AND/OR ITS AFFILIATES ASSUME NO LIABILITY WHATSOEVER AND DISCLAIMS ANY EXPRESS, IMPLIED OR STATUTORY WARRANTY RELATING TO ITS PRODUCTS INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. IN NO EVENT SHALL SONICWALL AND/OR ITS AFFILIATES BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE, SPECIAL OR INCIDENTAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, BUSINESS INTERRUPTION OR LOSS OF INFORMATION) ARISING OUT OF THE USE OR INABILITY TO USE THIS DOCUMENT, EVEN IF SONICWALL AND/OR ITS AFFILIATES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. SonicWall and/or its affiliates make no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. and/or its affiliates do not make any commitment to update the information contained in this document.

For more information, visit https://www.sonicwall.com/legal.

## End User Product Agreement

To view the SonicWall End User Product Agreement, go to: https://www.sonicwall.com/legal/end-user-product-agreements/.

## Open Source Code

SonicWall Inc. is able to provide a machine-readable copy of open source code with restrictive licenses such as GPL, LGPL, AGPL when applicable per license requirements. To obtain a complete machine-readable copy, send your written requests, along with certified check or money order in the amount of USD 25.00 payable to “SonicWall Inc.”, to:

General Public License Source Code Request
Attn: Jennifer Anderson
1033 McCarthy Blvd
Milpitas, CA 95035