Integration Guide: SonicOS 6.5 and Dell EMC X-Series/N-Series Switches

May 2019

This document describes how SonicOS is integrated with Dell EMC X-Series/N-Series switches. Such integration allows SonicWall TZ and NSa Series firewalls to work with Dell Networking X-Series and N-Series smart-managed, Graphical User Interface (GUI)-based switches.

Topics:

Requirements

- SonicWall X-Series/N-Series integration solution is supported on SonicOS 6.2.5.0 or higher.
- SonicWall X-Series/N-Series integration solution is supported with SonicWall TZ series, NSA Series and NS*a* Series firewalls running SonicOS 6.2.5.0 or higher.

SonicWall X-Series/N-Series Solution

Customers often need to manage critical network elements such as a firewall and switch individually. The SonicWall X-Series/N-Series integration solution allows unified management of the firewall and the switch using the firewall GUI and GMS. For example the maximum number of interfaces available on the SonicWall TZ-Series models ranges from 5 (TZ300) to 10 (TZ600). In certain customer deployments, the number of ports required might easily exceed the maximum number of interfaces available on the SonicWall TZ-Series firewalls. With SonicWall X-Series/N-Series integration solution, ports on the switches can be viewed as “extended” interfaces of the firewall thereby increasing the number of interfaces available for use.

Dell EMC X-Series/N-Series Switch Configuration in SonicOS

To configure a switch on a SonicWall firewall through the switch's user interface.

1 On the switch, locate the white label containing the default IP address, Network Mask, user ID, and password.

Record this information to use it when configuring the switch on the firewall.

IMPORTANT: Apart from the initial IP address, username/password configuration, which is on a white label on the switch, no other configuration is recommended to be performed on the switch directly via its GUI/console. Doing so results in the firewall being out of sync with the configuration state of the switch.

2 Ensure the switch is in Managed Mode.

NOTE: If the switch is not in Managed Mode, then it cannot be managed through the firewall. If the switch is in Managed Mode, the MGMT LED is on; in Unmanaged Mode, the MGMT LED is off.

TIP: X1052/X1052P switches are delivered from the factory in Managed Mode. All other switches are delivered from the factory in Unmanaged Mode to avoid unauthorized access to the switch. For more information, see the *Dell™ Networking™ X1000 and X4000 Series Switches User Guide*.

If the switch is:

- In Managed Mode, go to Step 3.
- Not in Managed Mode, enable managed mode by inserting a paper clip into the Managed Mode opening and pressing the Managed Mode button for seven seconds. The Managed Mode button is a small button located on the:
  - Right side of the rear panel on X1008/X1008 X-Series.
  - Left side of the rear panel on all other switches.

  Use a straightened paper clip to press the button.

  After seven seconds, the switch reboots to change to Managed Mode.

3 Connect the switch console:

- By an RJ45 cable to a PC in the same subnet as the switch, if configuring through its GUI.
- Through Telnet (9600 baud, if configuring through the CLI).

4 Power on the switch.

5 In your PC browser, go to the IP address. For example, **https://<firewall-X1-IP>**.

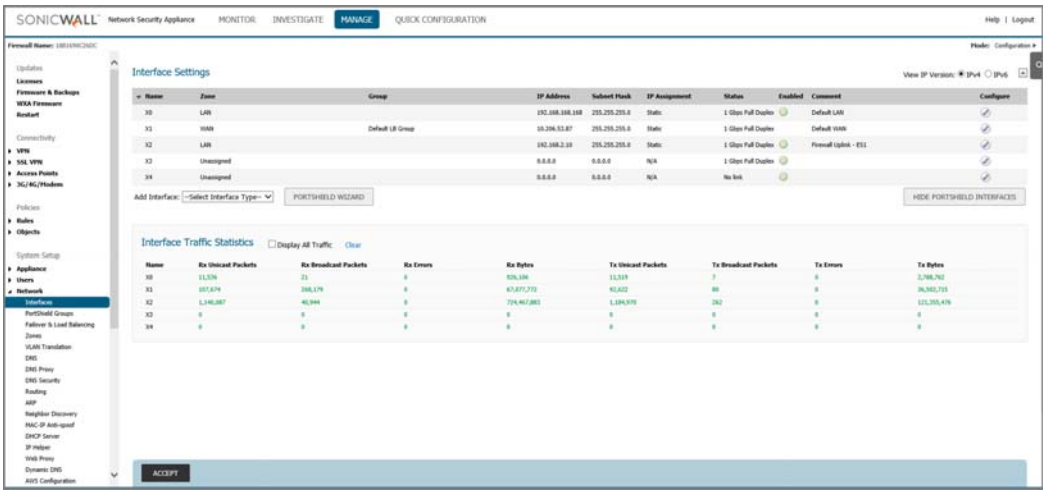
6 The login screen for the firewall displays. Enter the username and password.

NOTE: The default username is **admin** and the password is **password**.

7 Log in to the firewall web-based graphical user interface.

8 If you have not recorded the switch's information in Step 1, do so now.

9 Navigate to **MANAGE | System Setup | Network > Interfaces**.



10 At the top right corner, **Mode** should be **Configuration** and not **Non-config.** If Mode is Non-config, click the right arrow key and make sure Mode is set to Configuration.

11 To ensure the IP address of the firewall does not change dynamically when the DHCP server is enabled on the firewall by default, ensure **Static** is selected in the **IP Assignment** column.

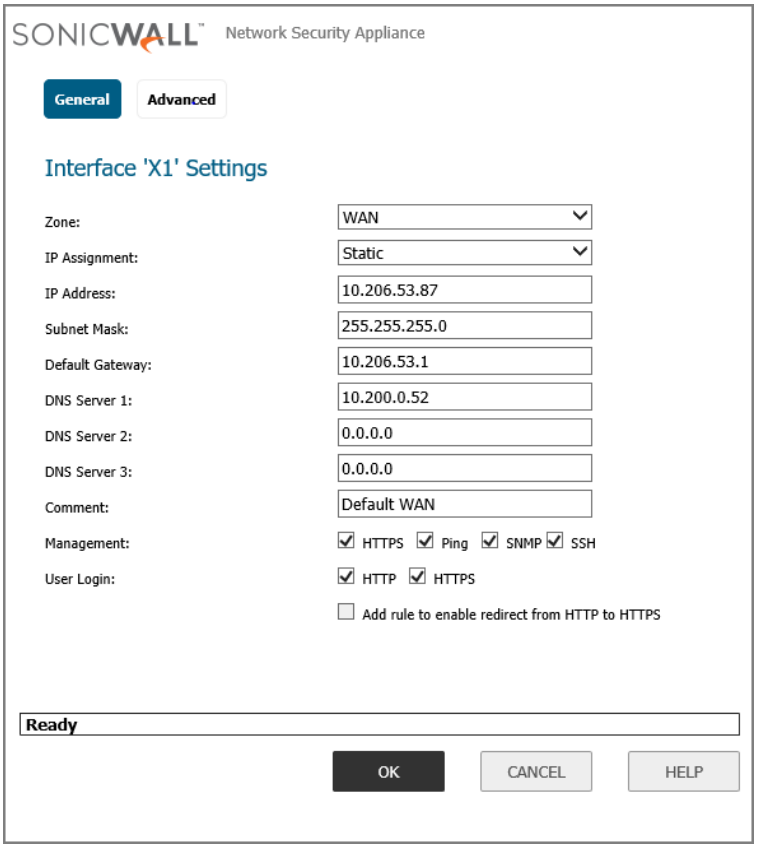
NOTE: Selecting **Static** requires that you must specify a default gateway.

12 Under **Interface Settings**, choose the switch port you want and decide whether you wish to administratively shut down the port for the switch under the **Enabled** column.

13 On the far right of the table, choose whether you want to **Configure** the firewall. Make sure either the **View IP Version IPv4** or **IPv6** is on.

14 **Select Interface Type** at the bottom of the **Interface Settings** table and click on the drop-down menu icon next to **Add Interface** to **Select Interface Type.**

15 On the far right of the table, under the **Configure** column, click the **Edit** icon to set up your firewall. The pop-up dialog box below appears.

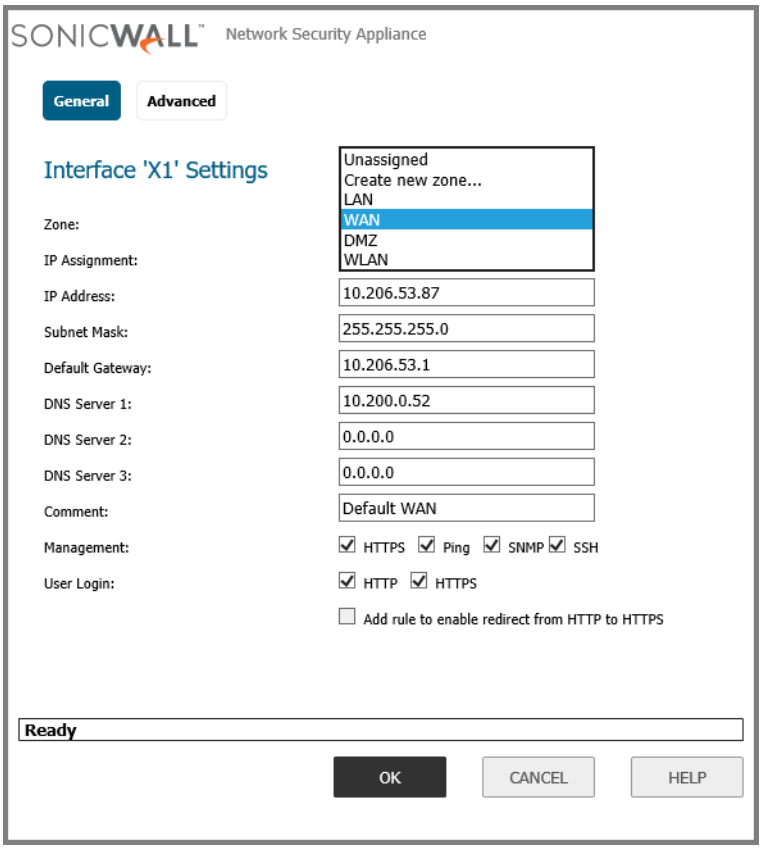

SONICWALL Network Security Appliance
General
Advanced
Interface 'X1' Settings
Zone:
WAN
IP Assignment:
Static
IP Address:
10.206.53.87
Subnet Mask:
255.255.255.0
Default Gateway:
10.206.53.1
DNS Server 1:
10.200.0.52
DNS Server 2:
0.0.0.0
DNS Server 3:
0.0.0.0
Comment:
Default WAN
Management:
HTTPS Ping SNMP SSH
User Login:
HTTP HTTPS
Add rule to enable redirect from HTTP to HTTPS
Ready
OK
CANCEL
HELP

16 Click **OK.**

Configuring the firewall Zone:

1 The **Zone** configuration is displayed in the pop-up dialog (see below image) of the firewall.

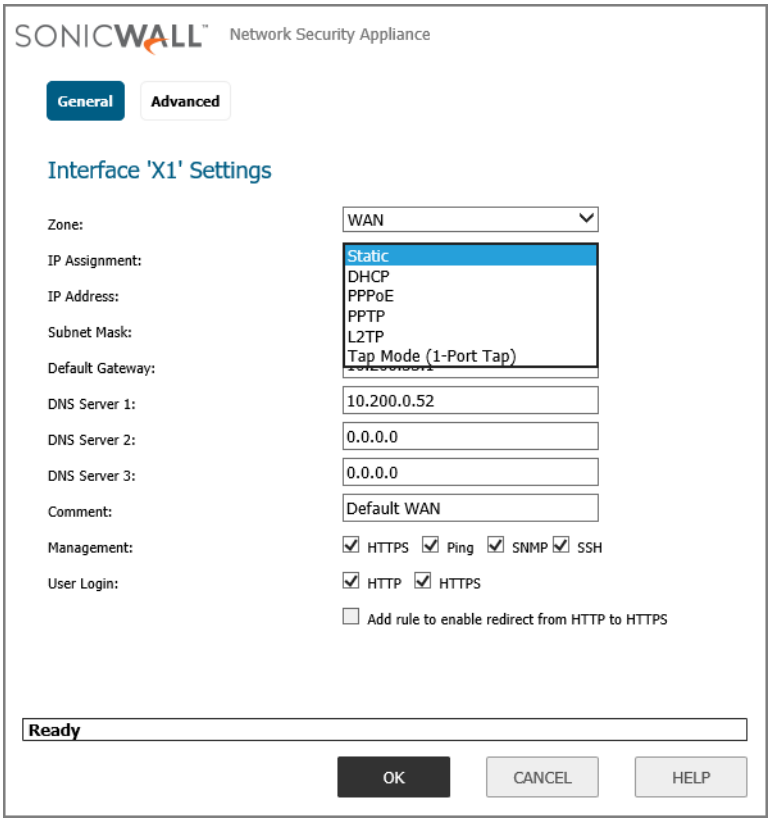
2 Configure the interface as **WAN**, which is the default.



Configuring the firewall IP Assignment:

1 The **IP Assignment** configuration is displayed in the pop-up dialog (see below image) of the firewall.

2 Configure the interface as **Static,** which is the default.

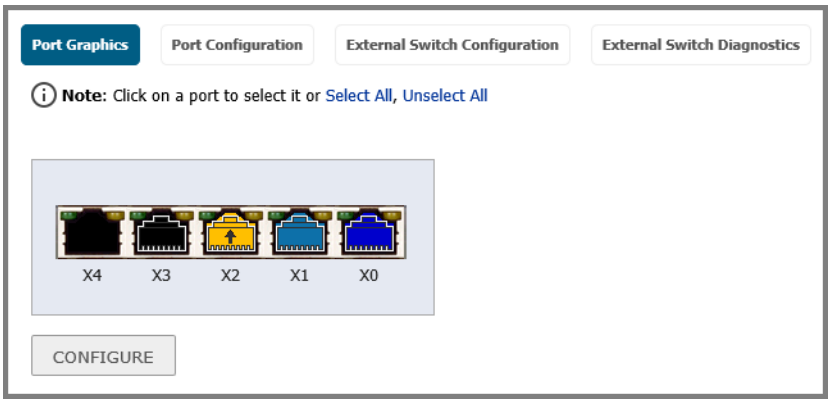


Adding an Extended Switch

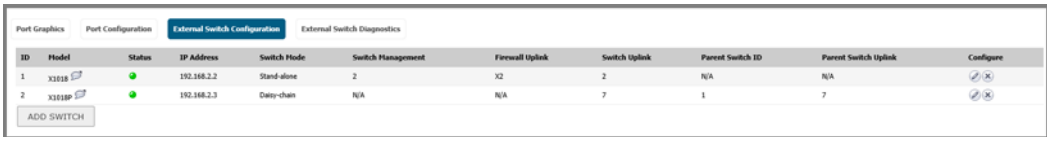
NOTE: To manage the switch from the firewall, one of its IP addresses needs to be in the same subnet as the switch. For example, to manage a switch with a default IP address of `192.168.2.3`, the interface of the firewall needs to be configured in the `192.168.2.0` subnet and be connected to the switch.

To add an extended switch:

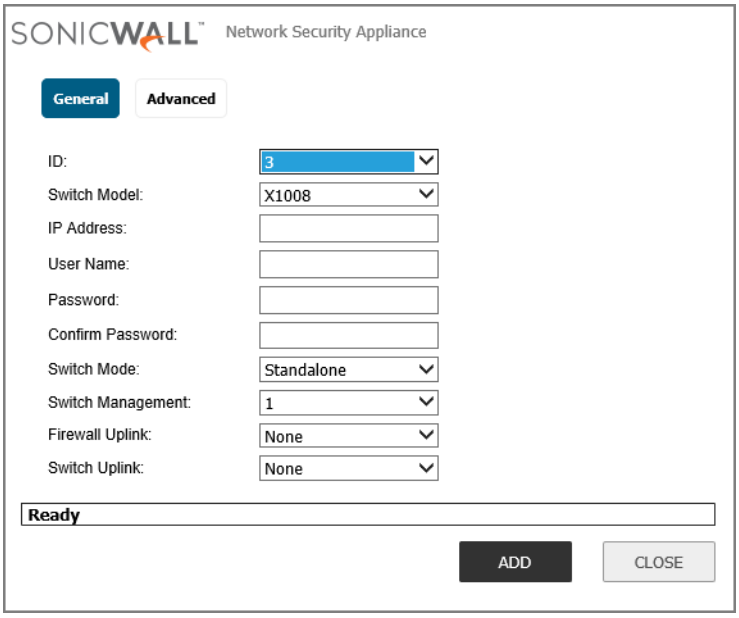
1. Set up the switch as described in Dell EMC X-Series/N-Series Switch Configuration in SonicOS on page 2.
2. Ping the switch to ensure the firewall can interact with it.
3. Navigate to **MANAGE |System Setup | Network > PortShield Groups** page.



4 Click **External Switch Configuration**.



5 Click the **ADD SWITCH** button. The **Add External Switch** dialog displays.



6 From the **ID** drop-down menu, select the ID of the switch. The default is **1**.

7 From the **Switch Model** drop-down menu, select the model of the external switch. The default is **X1008**.

8 In the **IP Address** field, enter the IP address of the switch obtained from the label on the switch.

9 In the **User Name** field, enter the user ID obtained from the label on the switch.

10 In the **Password** field, enter either the password obtained from the label on the switch or the one you gave when installing the switch.

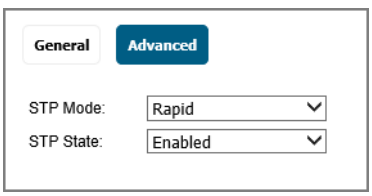
11 In the **Confirm Password** field, enter the password a second time.

12 From the **Switch Management** drop-down menu, select the port on the extended switch to be used for management traffic. The default is **1**.

13 From the **Firewall Uplink** drop-down menu, select the port on the firewall to be used as the uplink port. The default is **None**.

14 From the **Switch Uplink** drop-down menu, select the port on the extended switch to be used as the uplink port. The default is **None**.

15 Optionally, click the **Advanced** tab. The options on the tab depend on the extended switch you are adding:



16 From the **STP Mode** drop-down menu, select:

- **Classic**
- **Rapid** (default)
- **Multiple**

17 From the **STP State** drop-down menu, select:

- **Disabled**
- **Enabled** (default)

18 Click **ADD**.

NOTE: For more information, refer to the *SonicWall SonicOS 6.5 X-Series/N-Series Solution Deployment Guide* on the SonicWall Technical Documentation page.

Managing an Extended Switch in SonicOS

You can get statistics for switch ports in SonicOS GMS. You can also upgrade your firmware image and boot image and reload the switch. GMS supports all configuration operations such as provisioning an extended switch, configuring the extended switch interface settings and global parameters.

Your switch management options include:

- Access to the GUI with a web browser to the management IP address
- Access to the Command Line Interface (CLI) with telnet to the management IP address
- Access to the CLI with SSH to the management IP address
- Access to the CLI with the Console port

References

For complete information about X-Series/N-Series switches, see the following documents:

- Dell™ Networking™ X1000 and X4000 Series Switches Getting Started Guide
- Dell™ Networking™ X1000 and X4000 Series Switches User Guide
- Dell EMC Networking N-Series N1100-ON, N1500, N2000, N2100-ON, N3000, N3000-ON, N3100-ON, and N4000 Switches User's Configuration Guide.
- SonicWall TZ Series and SonicWall X-Series solution managing SonicWall access points

Legend

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

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

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

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