

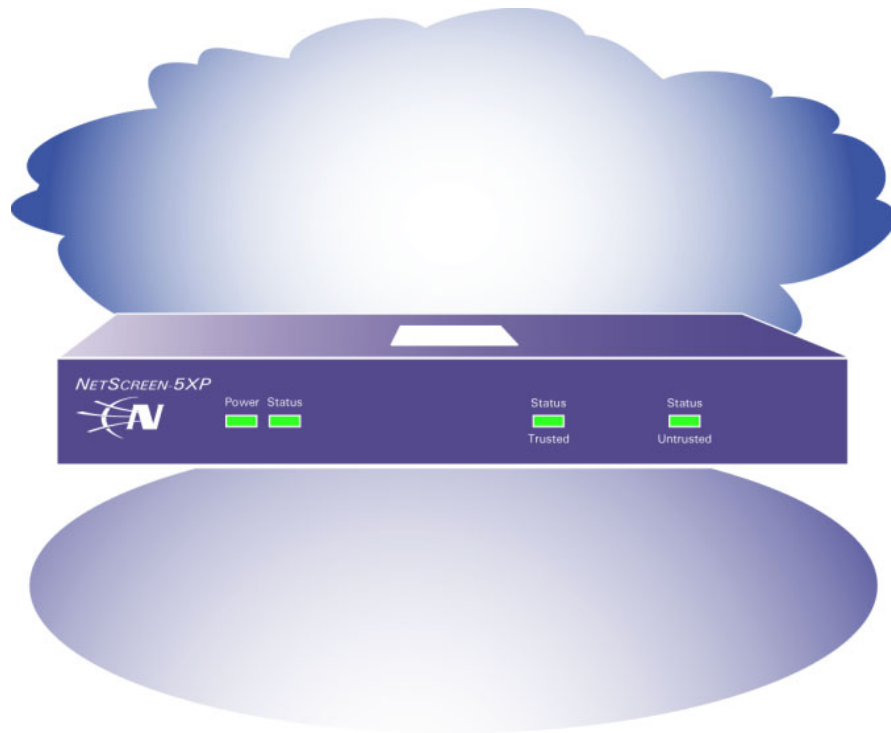
NETSCREEN-5XP

Installer's Guide

Version 2.6.1

P/N 093-0185-000

Rev. A



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Preface

The NetScreen-5XP™ is a network security device that protects your Ethernet local area network (LAN) or standalone desktop computer when connecting to the Internet. Using a NetScreen-5XP as a firewall, you can configure access policies that control inbound and outbound network and Virtual Private Network (VPN) traffic.

FIPS Certification Note: For information on NetScreen compliance with Federal Information Processing Standards (FIPS) and for instructions on setting a FIPS-compliant NetScreen device in FIPS mode, see the NetScreen-5XP Cryptographic Module Security Policy on the documentation CD-ROM.

MANUAL ORGANIZATION

This manual has three chapters and one appendix.

[Chapter 1, Hardware Description](#), describes the NetScreen-5XP device.

[Chapter 2, Connecting the NetScreen-5XP to the Network](#), describes how to connect the NetScreen-5XP to a network in single-workstation or multiple-workstation configurations.

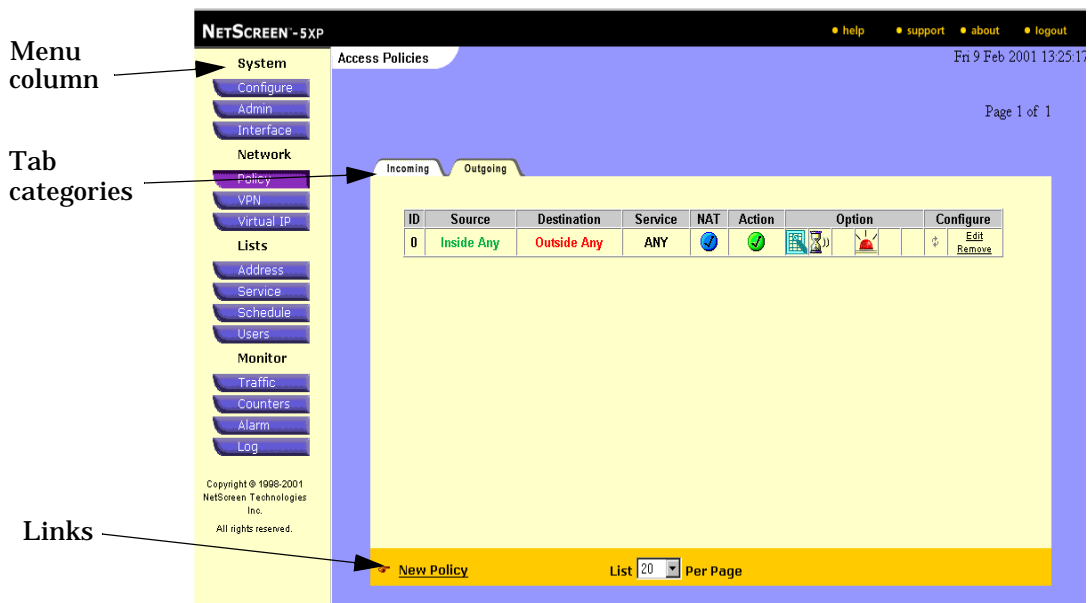
[Chapter 3, Initial Configuration](#), describes 3 ways of configuring the device. You can use the Quick Start™ disk provided, use the Web UI, or use the Command Line Interface (CLI).

[Appendix A, Safety Recommendations and Warnings](#), provides general site requirements, safety warnings, and explains the cautionary procedures you should observe before installing and operating the NetScreen-5XP unit.

GENERAL LAYOUT OF THE NETSCREEN-5XP WEBUI

The Web User Interface (WebUI) contains two main logical sections: the menu column and the central display area.

- The menu column includes four main functional categories: System, Network, Lists, and Monitor, each of which contain further sub-functions, represented by tabs in the central display area. During the configuration process, you first must select a main functional category before choosing the various utilities offered within each sub-category.
- The central display area displays the information for each of the categories in the menu column, in either a tabular or graphical format. These pages generally contain links to dialog boxes through links such as **New Policy**, **New Manual Key User**, **New Entry**, **Edit**, and so forth.



The NetScreen-5XP Central Display Area

COMMAND LINE INTERFACE (CLI) SYNTAX

These conventions apply to all NetScreen commands.

Syntax

- A parameter inside [] (square brackets) is optional.
- A parameter inside { } (braces) is required.
- Anything inside < > is a variable.
- If there is more than one choice for a parameter inside [] and { }, they are separated by a pipe (|). For example, [auth {md5 | sha-1}] means “choose either MD5 or SHA-1 as your authentication method.”
- IP addresses are represented by <a.b.c.d>, and <a.b.c.d>-<w.x.y.z> if a range is being specified.
- A subnet mask is represented by <A.B.C.D>.

Conventions

- To remove a single character, press BACKSPACE or CTRL+H.
- To remove an entire line, press CTRL+U.
- To traverse up to 16 lines forward in the command history buffer, press CTRL+F or the DOWN ARROW key.

Note: To use the arrow keys for navigating among commands in a Telnet session on Windows 95, 98, NT, or 2000: On the Terminal menu, click **Preferences...**, select the **VT100 Arrows** check box, and click the **OK** button.

- To traverse up to 16 lines backward in the command history buffer, press CTRL+B or the UP ARROW key.
- To see the next available keyword or input, and a brief description of usage, type a question mark (?).
- The console times out and the connection is broken if no keyboard activity is detected for 10 minutes.

Items you enter are into the system are in **bold** text.

For further explanation of NetScreen commands and their syntax, refer to the *NetScreen CLI Reference Guide*, which is included on the product CD.

RELATED PUBLICATIONS

The following technical publications are shipped with the NetScreen-5XP device:

NetScreen-5XP Getting Started Guide

The following publications are included on the product CD:

NetScreen Concepts and Examples ScreenOS Reference Guide

NetScreen CLI Reference Guide

NetScreen WebUI Reference Guide

Hardware Description

1

This chapter provides illustrations and descriptions of the NetScreen-5XP front and back panel.

Figure 1-1 shows the front view of the NetScreen-5XP.

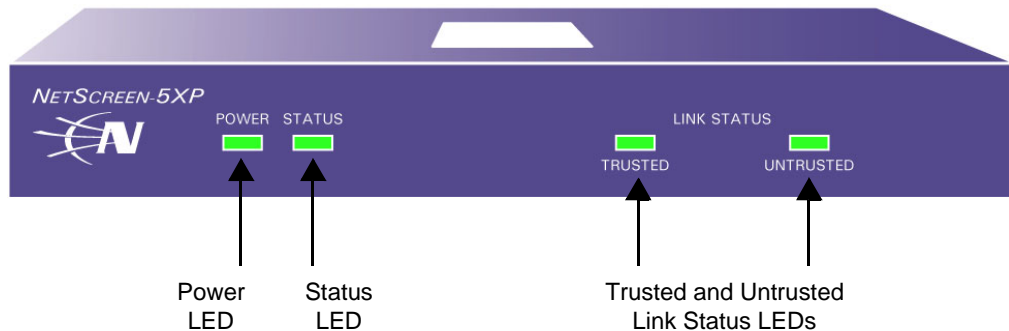


Figure 1-1 Front Panel of the NetScreen-5XP

- **Power LED:** glows solid green when power is supplied to the NetScreen-5XP.
- **Status LED:** glows solid green when NetScreen-5XP is first powered up and the unit first performs diagnostics. Then the unit goes into a startup phase, which takes up to one minute to complete. During startup, the LED blinks orange, after which the LED blinks green. If an error is detected, then the LED glows red.
- **Trusted and Untrusted Status LEDs:** Each Ethernet port has a link lights or LED. When blinking, it shows traffic activity. When the Ethernet cables are plugged in properly, they glow green.

Figure 1-2 shows a back view of the NetScreen-5XP.

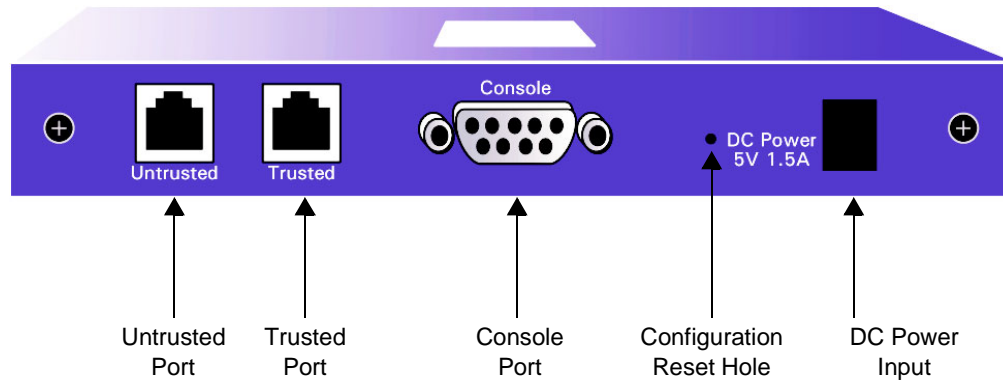


Figure 1-2 Back Panel of the NetScreen-5XP

The back panel of the NetScreen-5XP contains the following features:

- **Trusted and Untrusted Ports:** See “Connecting the NetScreen-5XP to the Network” on page 2-1 for cabling guidelines.
- **Console Port:** DB9 serial port connector for local diagnostics.
- **Configuration Reset Pinhole:** When the user resets the device, the NetScreen-5XP will boot up using the original factory default configuration. Any current existing configuration settings will be lost, and the firewall and VPN service rendered inoperative. See “Configuration Reset Pinhole” on page 3-26 for more information.

Warning

For complete security, operate the NetScreen-5XP in a “locked room” environment.

- **Power Outlet:** Use the universal power supply included with your NetScreen-5XP unit to connect to the power outlet.

Connecting the NetScreen-5XP to the Network

2

Follow the instructions in this chapter to connect the NetScreen-5XP device to the network.



Caution

Make sure you have read the [Appendix A, "Safety Recommendations and Warnings"](#) on page A-1, before you begin.

Note: Check your router, hub, or computer documentation to determine if you should reconfigure the device or if you should switch off the power supply when connecting new equipment to the LAN.

1. Connect the universal power supply's DC cable to the power outlet on the NetScreen-5XP device, and the AC cable to an AC outlet. The NetScreen-5XP unit is powered when connected. The power specifications are as follows:

Input: 85–264 VAC

Output: 5 VDC @ 1.5 amps

DC Jack: 2.5 mm x 5.5 mm x 11 mm; polarity is center positive

The NetScreen-5XP takes up to one minute to start up. There is no ON/OFF switch. If you need to reboot at any point, unplug the NetScreen device for 30 seconds and then plug it back in again.

Untrusted Port: Connect the NetScreen-5XP to the router using a twisted pair cable with RJ45 connectors.

Trusted Port: Connect the NetScreen-5XP to the LAN using a twisted pair cable with RJ45 connectors.

2. Connect the NetScreen-5XP to the network as shown in one of the following illustrations:

- [Figure 2-1 “Typical Multiple-Workstation Configuration—Router Connected to the Untrusted Port, LAN Connected to the Trusted Port” on page 2-2.](#)
- [Figure 2-2 “Typical Single-Workstation Configuration—Router Connected to the Untrusted Port, Workstation Connected to the Trusted Port” on page 2-3.](#)

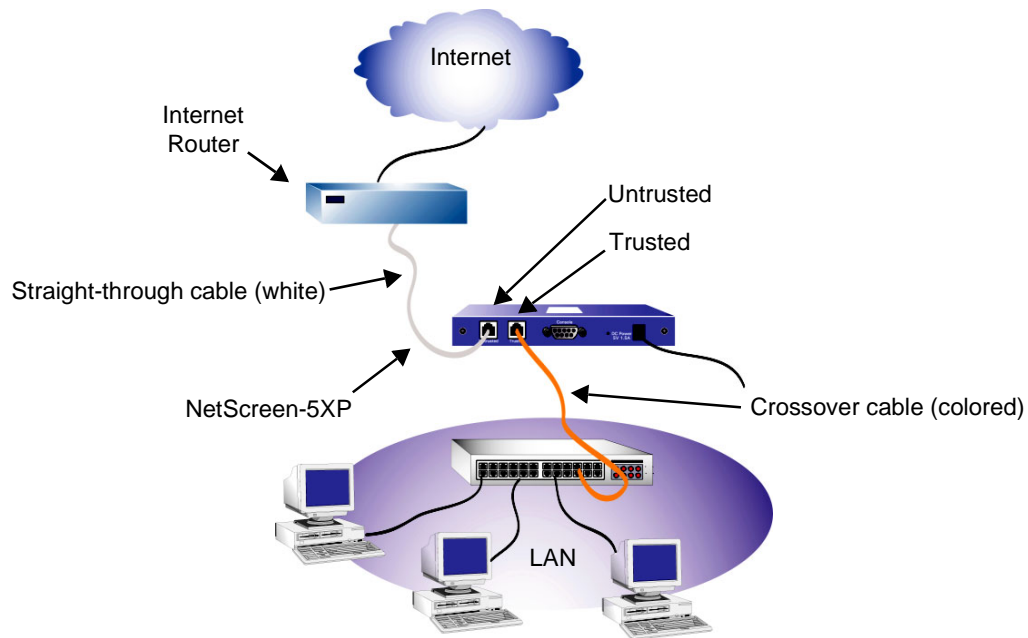


Figure 2-1 Typical Multiple-Workstation Configuration—Router Connected to the Untrusted Port, LAN Connected to the Trusted Port

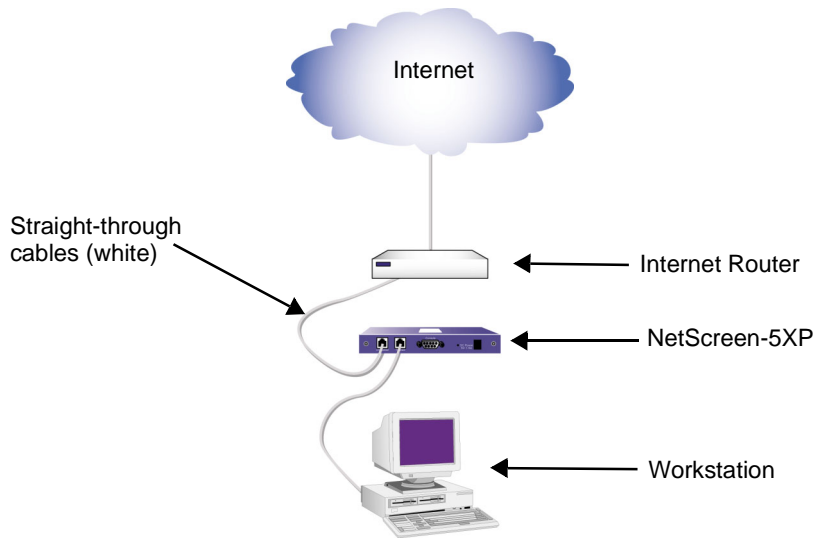


Figure 2-2 Typical Single-Workstation Configuration—Router Connected to the Untrusted Port, Workstation Connected to the Trusted Port

Note: Because of the wide variety of available routers, hubs, and switches, the cabling configuration presented here might not satisfy your network connection requirements. If the cabling suggested above does not work, try other cable configurations until a link light is established.

You may have to supply additional cables, depending on your particular configuration. A DTE (Data Terminal Equipment) device requires a crossover cable to connect to a DTE port. A DCE (Data Communications Equipment) device requires a crossover cable to connect to a DCE port.

Table 2-1 Typical NetScreen-5XP Cable Connections

For a Device Connected to:	Untrusted Port (DTE)*	Trusted Port (DCE)
Workstation (DTE)	crossover	straight-through
Switch/Hub (DCE)	straight-through	crossover
Router [§] (DTE)	crossover	straight-through
*An Untrusted Ethernet port is not technically a DTE but for cabling purposes, should be treated as such.		
[§] Routers with uplink ports may behave in reverse.		

3. If you have not already done so, turn on the power supply to the devices you have connected to the NetScreen-5XP.

If all cables are connected correctly, the link light for each connection glows.

Initial Configuration

3

The NetScreen-5XP device supports three operational modes: Transparent mode, NAT (Network Address Translation) mode, and Route mode. This section provides an overview of each mode and the required steps to perform an initial configuration.

TRANSPARENT, NAT AND ROUTE MODES

Transparent Mode

In Transparent mode, the NetScreen device inspects packets traversing the firewall without modifying any of the source or destination information in the IP packet header. Because it does not translate addresses, the IP addresses on the protected network must be valid, routable addresses on the Untrusted network¹, which might be the Internet. In Transparent mode, the IP addresses for the Trusted and Untrusted interfaces are set at 0.0.0.0, making the presence of the NetScreen device invisible, or “transparent,” to users. The NetScreen device acts as a Layer 2 bridge.

Network Address Translation (NAT) Mode

When in NAT mode, the NetScreen device translates two components in the header of an outgoing IP packet traversing the firewall from the Trusted side: its source IP address and source port number. The NetScreen device replaces the source IP address of the host that sent the packet with the IP address of the Untrusted port² of the NetScreen device. Also, it replaces the source port number with another random port number generated by the NetScreen device.

-
1. If the router on the Untrusted side performs NAT, then the addresses on the Trusted side can be private IP addresses.
 2. If the outbound traffic is destined for the DMZ, then the source IP address is translated to that of the DMZ port.

Route Mode

In Route mode, the NetScreen device routes traffic between different interfaces without performing NAT; that is, the source address and port number in the IP packet header remain unchanged as it traverses the NetScreen device. Unlike NAT, the hosts on the Trusted side must have public IP addresses, and you do not need to establish Mapped and Virtual IP addresses to allow sessions initiated on the Untrusted side to reach hosts on the Trusted side. Unlike Transparent mode, the Trusted and Untrusted interfaces are on different subnets.

For further configuration examples and detail, see the *NetScreen Concepts & Examples ScreenOS Reference Guide*.

Configuring the NetScreen-5XP

There are three ways to configure the NetScreen-5XP for the first time:

- Using the Quick Start Program.
- Using a Web browser running on a workstation connected via a network to the Trusted port.
- Using CLI via either Telnet or the serial port.

Table 3-1 Administration Configuration Requirements

Configuration Method	Requirements
Quick Start	Netscape [®] Communicator [®] v4.5 or greater, or Microsoft [®] Internet Explorer v5.0 or greater TCP/IP network connection to the NetScreen-5XP
WebUI	Netscape Communicator v4.5 or greater, or Microsoft Internet Explorer v 5.0 Web browser. TCP/IP network connection to the NetScreen-5XP. Secure Sockets Layer (SSL) requires that a certificate be loaded into the NetScreen-5XP. See the <i>NetScreen Concepts and Examples ScreenOS Reference Guide</i> for further information.

Table 3-1 Administration Configuration Requirements

Configuration Method	Requirements
CLI	<p>Via the console port, using Hilgraeve® Hyperterminal® or a VT100 terminal emulator on the administrator's workstation and an RS-232 Console cable</p> <p>Via Telnet, using a VT100 terminal emulator and TCP/IP network connection to the NetScreen device.</p> <p>Secure Shell (SSH) requires that a key be generated in the NetScreen-5XP. See the <i>NetScreen Concepts and Examples ScreenOS Reference Guide</i> for further information.</p>

Table 3-2 Important Default Configuration Settings

Default System IP Address:	192.168.1.1
Default Trusted/Untrusted IP Addresses:	0.0.0.0 (transparent mode)
Default Username:	netscreen
Default Password:	netscreen
Default Policy:	source: inside any destination: outside any service: any action: permit

CONFIGURING VIA THE QUICK START PROGRAM

NetScreen-5XP comes with The Quick Start disk for easy configuration.

1. Insert the Quick Start disk into the 3 1/2 -inch floppy drive of the Windows® 95/98, Windows NT® v4.0 or Win2000 computer from which you will configure unit on the LAN.
2. On the Windows task bar, click the **Start** button, and then select **Run**.
3. At the Command Line, type `a:\nsqstart.exe`, then select **OK**.

Note: If the floppy drive of your computer does not use "a," replace the "a" in the above command with the drive letter it uses.

The NetScreen Quick Start Welcome window appears as in [Figure 3-1 on page 4](#).



Figure 3-1 NetScreen Quick Start Welcome

4. Read the information on the NetScreen Quick Start Welcome screen, then click the **Next** button.

If there is more than one network card on the computer, the Quick Start program displays their IP addresses and prompts you to select the one for the network on which you are installing the NetScreen-5XP, as shown in [Figure 3-2](#).

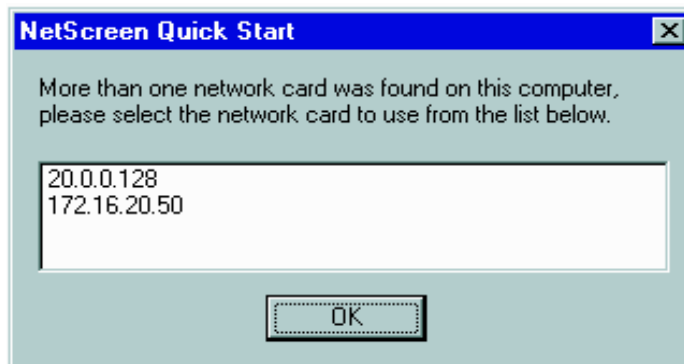


Figure 3-2 Network Card IP Address List

Select the appropriate network card, and then click **OK**.

Note: The Quick Start program can only find the NetScreen-5XP devices on your network that still have the factory default configuration.

5. When the NetScreen Quick Start Select Device dialog box displays, select the NetScreen-5XP you want to configure, as shown in Figure 3-3, then click the **Next** button. In the event more than one NetScreen device is found, match the serial number of the new device to the one found by the Quick Start program, select it, and click **Next**.

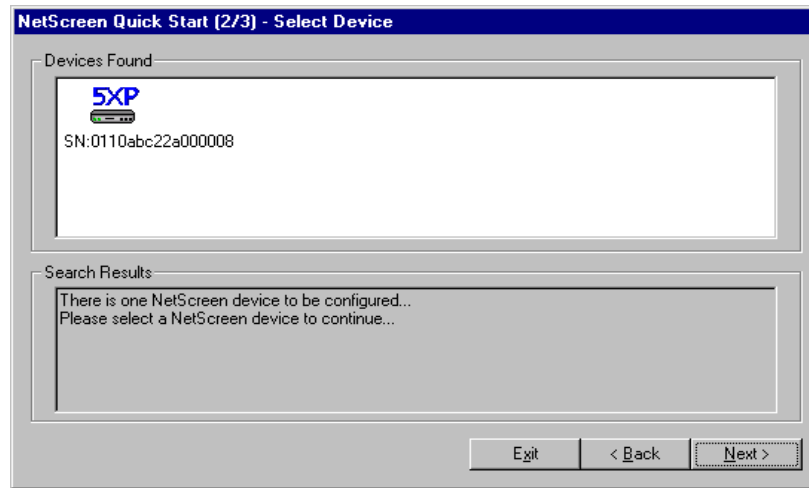


Figure 3-3 NetScreen Quick Start-Select Device

6. Enter the new System IP address for the NetScreen device you are configuring, as shown in [Figure 3-4 on page 3-6](#). This value must be an available address on the Trusted subnet. This is the address that you will use to further manage the NetScreen-5XP.

Note: *Since connectivity is lost when the IP address is moved to a different subnet, the user must record the IP address.*

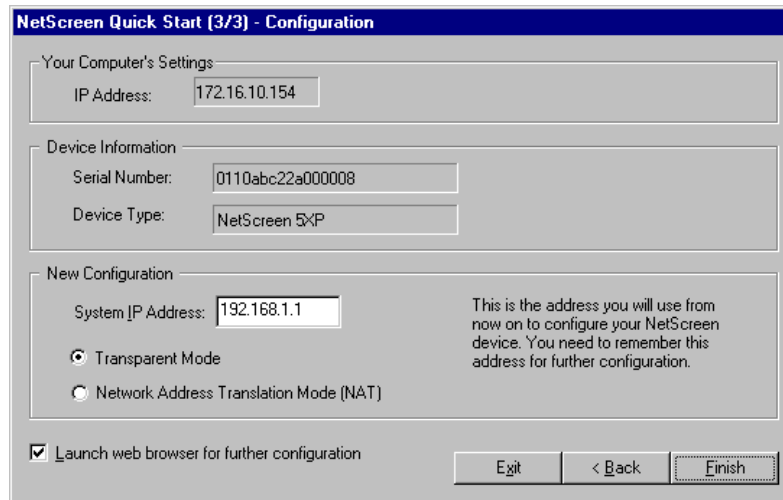


Figure 3-4 NetScreen Quick Start-Configuration Dialog Box

Selecting Transparent Mode

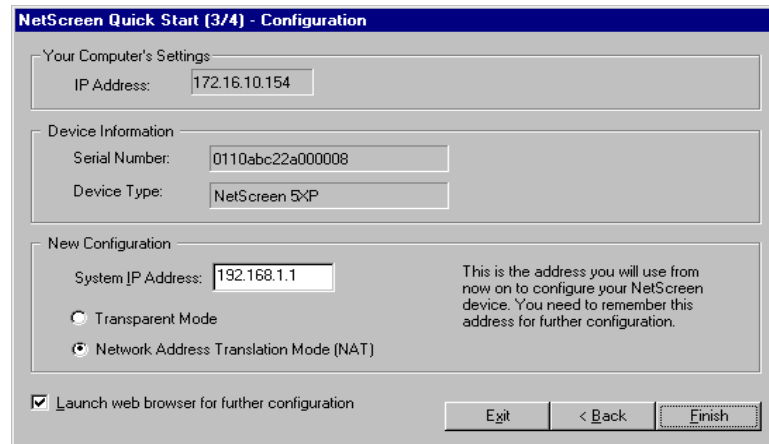
1. To launch your NetScreen-5XP in Transparent mode, select **Transparent Mode** as shown in [Figure 3-4](#).
2. Click **Finish**.

If you leave the **Launch web browser for further configuration** check box selected (the default), Quick Start opens your Web browser and displays the User name and Password dialog box as shown in [Figure 3-7 on page 3-9](#).

If you clear the **Launch web browser for further configuration** check box, you must start your Web browser manually when Quick Start exits.

Selecting Network Address Translation or Route Mode

1. To launch your NetScreen-5XP in NAT mode, select **Network Address Translation Mode (NAT)** as shown in [Figure 3-5](#).



NetScreen Quick Start (3/4) - Configuration

Your Computer's Settings
 IP Address: 172.16.10.154

Device Information
 Serial Number: 0110abc22a000008
 Device Type: NetScreen 5XP

New Configuration
 System IP Address: 192.168.1.1
 This is the address you will use from now on to configure your NetScreen device. You need to remember this address for further configuration.

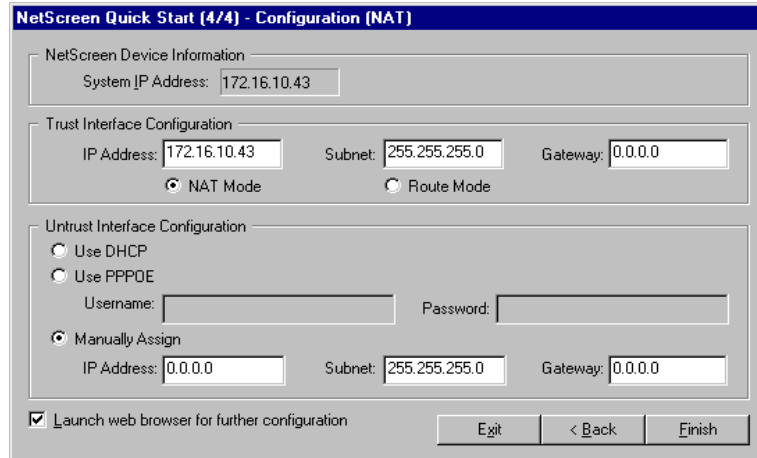
Transparent Mode
 Network Address Translation Mode (NAT)

Launch web browser for further configuration

Exit < Back Finish

Figure 3-5 NetScreen Quick Start Configuring Screen

2. Click **Next**. The Configuration (NAT) screen appears, as in [Figure 3-6](#).



NetScreen Quick Start (4/4) - Configuration (NAT)

NetScreen Device Information
 System IP Address: 172.16.10.43

Trust Interface Configuration
 IP Address: 172.16.10.43 Subnet: 255.255.255.0 Gateway: 0.0.0.0
 NAT Mode Route Mode

Untrust Interface Configuration
 Use DHCP
 Use PPPoE
 Username: Password:
 Manually Assign
 IP Address: 0.0.0.0 Subnet: 255.255.255.0 Gateway: 0.0.0.0

Launch web browser for further configuration

Exit < Back Finish

Figure 3-6 NetScreen Quick Start Configuration (NAT) Screen

3. Specify either NAT Mode or Route Mode.
4. Enter the IP address, subnet mask of the NetScreen-5XP Trusted interface.

5. To configure the Untrusted interface, use one of the following three methods:
 - a. To use Dynamic Host Control Protocol, select **DHCP**.
 - b. To use Point-to-Point Protocol over Ethernet, select **PPPoE** and enter the **User name** and **Password** for the login prompt.
 - c. To assign an IP address, subnet mask, and gateway IP address manually, select **Manually Assign** and then enter the settings in the appropriate fields.
6. Select **Finish**.

If you leave the **Launch web browser for further configuration** check box selected (the default), Quick Start opens your Web browser and displays the Username and Password dialog box, as shown in [Figure 3-7 on page 3-9](#).

If you clear the **Launch web browser for further configuration** check box, you must start your Web browser manually when Quick Start exits. For more information on logging in manually, see *“Logging on and Setting the System IP Address” on page 3-9*.

To verify that your configuration is correct, follow the steps described in [“Testing the Configuration” on page 3-19](#).

CONFIGURING VIA THE WEBUI

You can also perform the initial configuration through a Web browser without the NetScreen-5XP Quick Start disk. To do this, you need to change the IP address of the management workstation to the same subnet as the NetScreen-5XP default System IP address.

Then after making an Ethernet connection to the NetScreen-5XP, you can log on through a Web browser. The section [“Logging On and Setting the System IP Address” on page 3-23](#) details this procedure.

Refer to Table 3-1 for administration requirements. For further information regarding levels of administration, see the *“NetScreen Concepts and Examples ScreenOS Guide”*.

Making a Connection

Before you begin, be sure you connected the NetScreen-5XP hardware to the network as outlined in [“Connecting the NetScreen-5XP to the Network” on page 2-1](#).

Logging on and Setting the System IP Address

For remote administration of the NetScreen device over a network connection, you must change the system IP address. The NetScreen-5XP ships from the factory with a default IP address of 192.168.1.1. To change this to an address on the same subnet as the other network devices to which the NetScreen-5XP is connected, perform the following procedure:

1. Record your workstation's IP address and subnet mask. You must re-enter them later in this process.

Note: To find your workstation IP address: Start>>Settings>>Control Panel>>Network>>Configuration, select TCP/IP and then click Properties.

2. Change the IP address of the workstation to 192.168.1.2 and a netmask of 255.255.255.0. (You might have to restart the workstation to enable these changes to take effect).

Note: For Windows NT users, ensure that you are logged on to the workstation as an administrator.

3. Start your Web browser.
4. In the URL field of the browser, enter the IP address of the NetScreen-5XP: http://192.168.1.1.

The Enter Network Password dialog box appears, as shown in [Figure 3-7 on page 3-9](#).

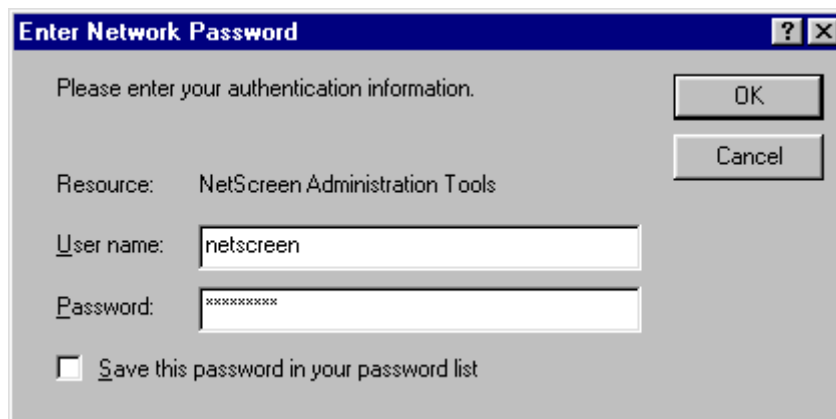


Figure 3-7 Enter Network Password Dialog Box

5. In the dialog box, type `netscreen` for both the Username and Password, and then click **OK**.

Note: The Username and Password are case-sensitive. After configuring the NetScreen device for the first time, change the default Username and Password.



Warning

Since they are easily guessed, it is strongly recommended that the Username and Password be changed as quickly as possible.

An IP Address Configuration dialog box, as shown in [Figure 3-8 on page 3-10](#) is displayed for first-time configuration.

IP CONFIGURATION

Welcome to NetScreen-5!

Please provide a legitimate IP address for the NetScreen-5. You will use this address to manage the system afterwards.

IP Address: 192.168.1.1

NetMask: 255.255.255.0

Your IP Address: 192.168.1.2

Synchronize system clock with this client

OK

Figure 3-8 Initial IP Address Configuration

6. Enter a new System IP address and netmask for the NetScreen-5XP, and then click **OK** to save your settings.

Note: The IP address must be a valid and available IP address on your local network, and the subnet mask must be an appropriate value for your local network.

The Configuring in Progress screen appears, as shown in [Figure 3-9 on page 3-11](#).

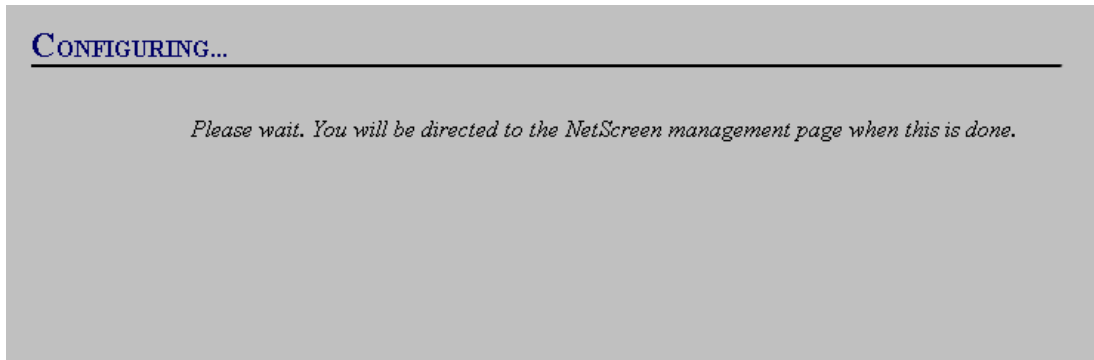


Figure 3-9 Configuring in Progress Screen

7. Reconfigure your administration workstation IP address to the original settings that you recorded in the first step. Depending on the operating system, you might have to restart your workstation.

Once the IP configuration is complete, you must again log on.

8. When the Web browser is activated, enter the newly created IP address of the NetScreen-5XP.

The User name and Password dialog box displays.

9. In the User name and Password dialog box, type **netscreen** for both the Username and Password, and then click **OK**. (Remember that the Username and Password are case-sensitive.)

To change the default administrator login and Password:

1. Select the **Admin** button in the menu column to view the **Admin** page, as shown in [Figure 3-10](#).

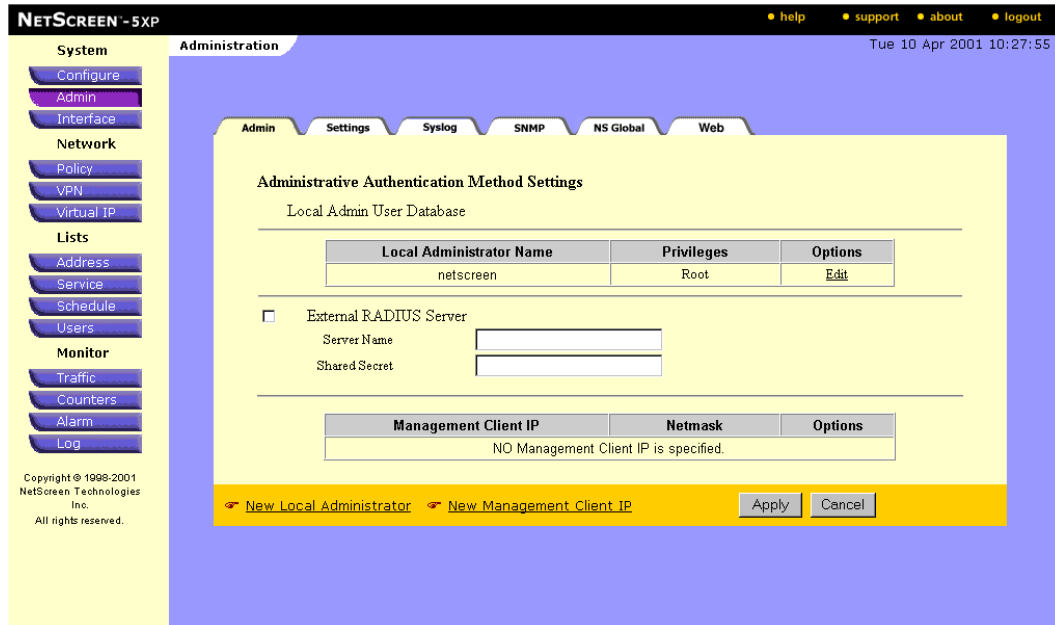


Figure 3-10 The Administration Settings Page

2. On the Local Administrator Name click **Edit** under **Options**. The Admin User Configuration Menu appears, as in [Figure 3-11 on page 3-13](#).

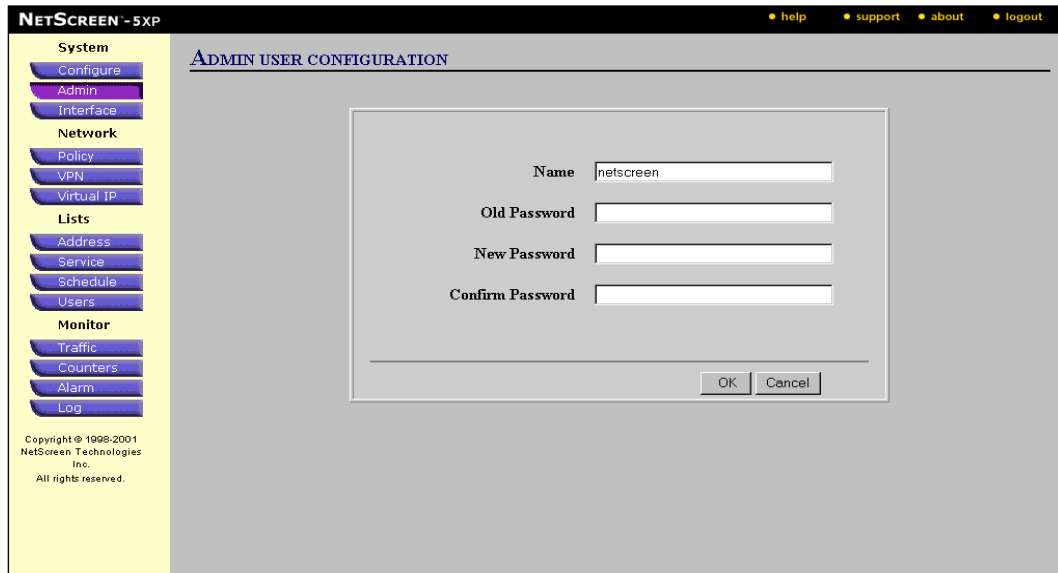


Figure 3-11 Admin User Configuration Menu

3. Type a new Admin Login Name.

Note: The login name and password must be alphanumeric. The login name and password are case-sensitive.

4. Type the old password (initially **netscreen**) in the Old Password field. You must enter the old password to change to the new password.
5. Type the new password in both the New Password field and the Confirm New Password field.
6. Record the new administrator login name and password in a secure manner.

Warning

Make sure that you record your Password. If you forget it, you must reset the device to the factory settings to regain access to the device. (See [“Configuration Reset Pinhole”](#) on page 3-26.)

7. Leave the other fields at their default entries, and click the **Apply** button.

The changes require the NetScreen-5XP to reset, which it automatically does at this point. Figure 3-12 shows the system message that appears.

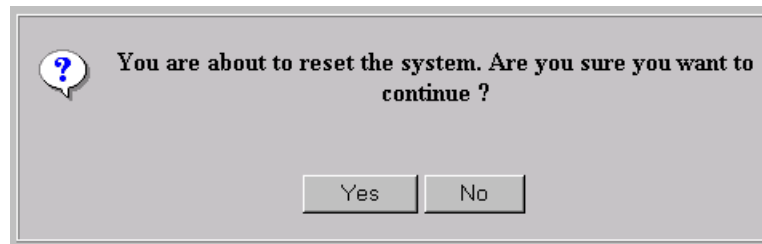


Figure 3-12 System Message Display

8. Click the **Yes** button to confirm your command to reset the system.
The next time you log in, use the new login name and password.

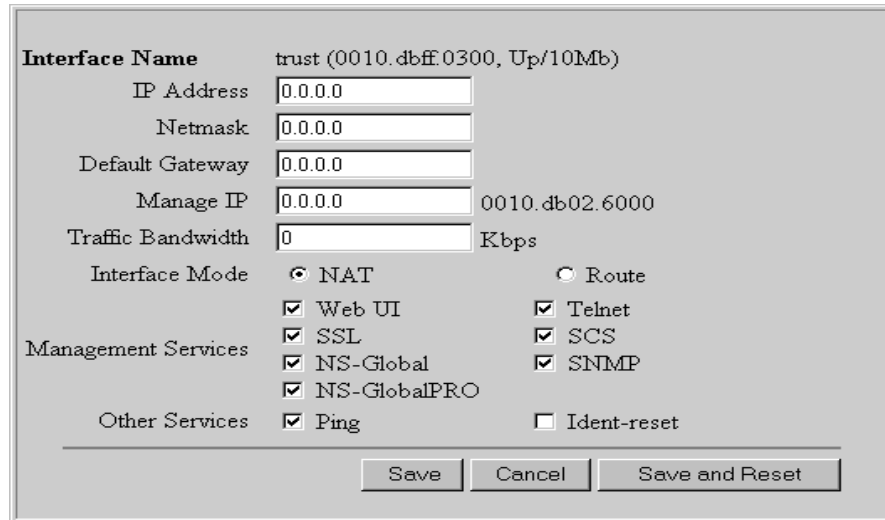
Setting Interface Addresses

Before configuring the interface addresses, decide whether to use NAT or Transparent mode. The following procedure provides information for configuring both modes of operation.

Trusted Interface Configuration

1. Click the **Interface** button in the menu column.
The Interface pages appear, with the Trusted Interface page displayed.

2. Click **Edit** to open the Trusted Interface Configuration dialog box.



The image shows a configuration dialog box for a trusted interface. The interface name is 'trust (0010.dbff.0300, Up/10Mb)'. The IP address, netmask, default gateway, and manage IP are all set to 0.0.0.0. The traffic bandwidth is 0 Kbps. The interface mode is NAT. Management services include Web UI, SSL, NS-Global, and NS-GlobalPRO. Other services include Telnet, SCS, SNMP, and Ping. The dialog box has three buttons: Save, Cancel, and Save and Reset.

Interface Name	trust (0010.dbff.0300, Up/10Mb)	
IP Address	<input type="text" value="0.0.0.0"/>	
Netmask	<input type="text" value="0.0.0.0"/>	
Default Gateway	<input type="text" value="0.0.0.0"/>	
Manage IP	<input type="text" value="0.0.0.0"/>	0010.db02.6000
Traffic Bandwidth	<input type="text" value="0"/>	Kbps
Interface Mode	<input checked="" type="radio"/> NAT	<input type="radio"/> Route
Management Services	<input checked="" type="checkbox"/> Web UI	<input checked="" type="checkbox"/> Telnet
	<input checked="" type="checkbox"/> SSL	<input checked="" type="checkbox"/> SCS
	<input checked="" type="checkbox"/> NS-Global	<input checked="" type="checkbox"/> SNMP
	<input checked="" type="checkbox"/> NS-GlobalPRO	
Other Services	<input checked="" type="checkbox"/> Ping	<input type="checkbox"/> Ident-reset
<input type="button" value="Save"/> <input type="button" value="Cancel"/> <input type="button" value="Save and Reset"/>		

Figure 3-13 Trusted Interface Configuration

3. Enter the following, and then click **Save**:
 - IP Address: Type an IP address for the Trusted interface.
 - Netmask: Type an appropriate netmask.
 - Default Gateway: Type the IP address of the router—if there is one—that exists between the Trusted network and the NetScreen-5XP.
4. Select either **NAT Mode** or **Route Mode**, and then click **Save**.

Untrusted Interface Configuration

1. Click the Untrusted tab, and then Edit to open the Untrusted Interface Configuration dialog box.

INTERFACE CONFIGURATION

Interface Name untrust (0010.db03.94f1, Down)

Obtain IP using PPPoE

Connect Disconnect

Status: Disabled

User Name

Password

Obtain IP using DHCP

Static IP

IP Address

Netmask

Default Gateway

Manage IP

Traffic Bandwidth Kbps

Management Services

Web UI Telnet

SSL SCS

NS-Global SNMP

NS-GlobalPRO

Other Services Ping Ident-reset

Save Cancel Save and Reset

Figure 3-14 Untrusted Interface Configuration

2. For the Untrusted Interface Configuration, select one of the following and click **Save and Reset**:

Obtain IP using PPPoE (Point-to-Point Protocol over Ethernet), and enter the Username and Password.

Obtain IP using DHCP (Dynamic Host Control Protocol).

Static IP, and enter the following:

- IP Address: Type the ISP-assigned Untrusted IP address.
- Netmask: Type an appropriate netmask.
- Default Gateway: Type the IP address of the external router.

Allowing Outbound Traffic

By default, the NetScreen-5XP does not allow inbound or outbound traffic, nor does it allow traffic to or from the DMZ. Create access policies to permit specified kinds of traffic in the direction(s) you want. You can also create access policies to deny and tunnel traffic.

The following access policy permits all kinds of outbound traffic from any point on the Trusted network to any point on the Untrusted network. Of course, your network might require a more restrictive policy. This example is offered only to illustrate how an access policy is created; it is not presented as a requirement for an initial configuration.

NETSCREEN - 5XP help support about logout

System
 Configure
 Admin
 Interface

Network
 Policy
 VPN
 Virtual IP

Lists
 Address
 Service
 Schedule
 Users

Monitor
 Traffic
 Counters
 Alarm
 Log

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 Inc.
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POLICY CONFIGURATION

Name (optional)

Source Address

Destination Address

Service

NAT Off
 DIP Off Fix-Port
 DIP On

Action

VPN Tunnel

L2TP

Authentication

Logging Enable Counting Enable

Alarm Threshold Bytes/Sec Bytes/Min

Schedule

Traffic Shaping Off
 Guaranteed Bandwidth kbps
 kbps
 Traffic Priority
 DS Codepoint Marking Enable

OK Cancel

Figure 3-15 Policy Configuration Menu

Note: For more information on Access Policies, please refer to the NetScreen Concepts and Examples ScreenOS Reference Guide.

Changing the Administrator Login Name and Password

To change the default login name and password:

1. Select the **Admin** button in the menu column to view the **Admin** page.
2. Click **Edit** in the Options column for the root level administrator *netscreen*.
3. The Admin User Configuration screen appears, as in [Figure 3-16](#).

Figure 3-16 The Administration Page

4. In the Name field, type a new login name.
5. Type the old password (initially *netscreen*) in the Old Password field.
6. Type the new password in the New Password field and in the Confirm New Password field.

Note: The login name and password must be alphanumeric, and are case-sensitive

7. Record the new login name and password in a secure manner.

Warning

Make sure that you remember your password! If you forget it, you must reset the device to the factory settings to regain access to the device. (See “Configuration Reset Pinhole” on page 3-26.)

8. Leave the other fields at their default entries, and click **OK**.

The changes require the NetScreen-5XP to reset, which it automatically does at this point. Figure 3-17 shows the system message that appears.

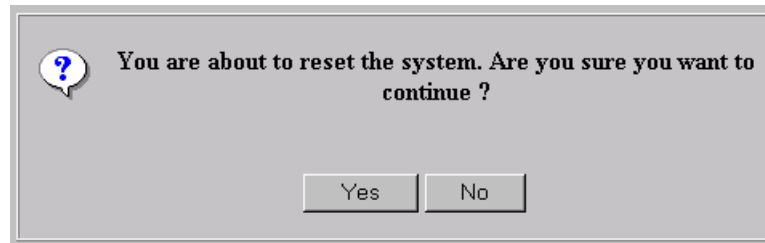


Figure 3-17 System Message Display

9. Click **Yes** to confirm your command to reset the system.

The next time you log in, use the new login name and password.

Testing the Configuration

Use a Web browser to access an external Web site (for example, www.netscreen.com). You should be able to locate the site and access the available Web pages.

If you cannot access the Web site, check the following:

- Link lights on the NetScreen-5XP, workstations, hubs, and the router are glowing.
- The workstation IP and Netmask have the correct settings.
- The workstation gateway points to the router.
- The workstation has a valid DNS entry.

Configuration Reset

When the user presses the reset button, the NetScreen-5XP will reset and boot up using the original factory default configuration. Any current existing configuration settings will be lost, the firewall and VPN service rendered inoperative and an “alert SNMP trap” message will be sent to the administrator. Please refer to *“Configuration Reset Pinhole” on page 3-26* for more information.

Note: After successfully resetting and reconfiguring the NetScreen-5XP, it is strongly advised to backup the new configuration setting, as shown in *“Backup Configuration Settings” on page 3-20*.

Backup Configuration Settings

Through the WebUI, you can download the configuration settings of the NetScreen-5XP to any local directory as a backup precaution.

Download Configuration:

1. Click **Admin** in the menu column, click the **Settings** tab, and then click the **Save Current Configuration** option, as shown in [Figure 3-18](#).

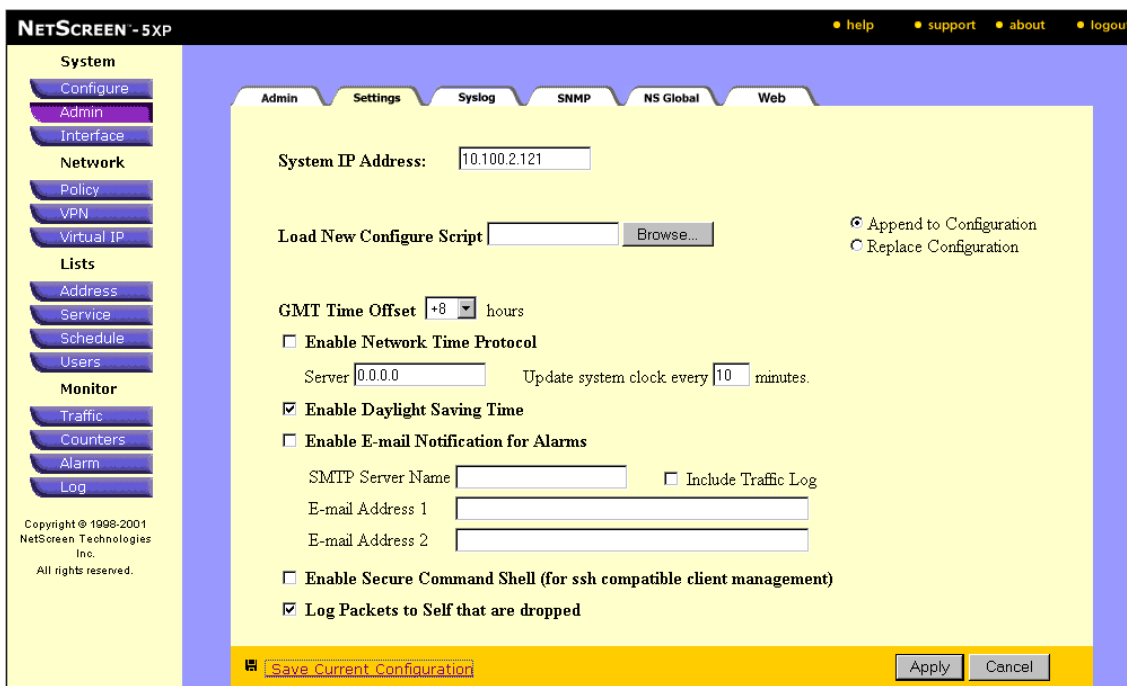


Figure 3-18 Administration Settings Menu

The Download File dialog box appears, as shown in [Figure 3-19](#).

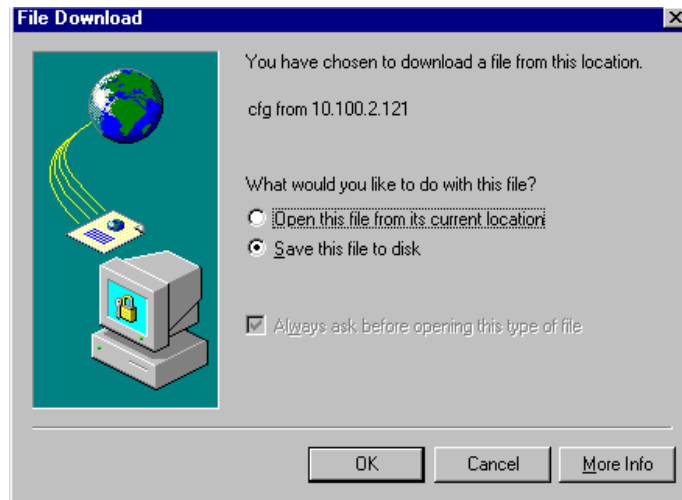


Figure 3-19 File Download Dialog Box

3. Click **Save** and browse to the location where you want to keep the configuration file.

Note: For further information regarding uploading and downloading of configuration settings, see the NetScreen Concepts & Examples ScreenOS Reference Guide.

CONFIGURING VIA THE CLI

The following section provides information on how to configure the device using the command line interface (CLI).

Note: For further information regarding using the command line interface, see the NetScreen Command Line Interface Reference Guide.

Making a Connection

You can access the CLI either by connecting directly via a console (or serial) cable or you can use the network via Telnet. Connection instructions are offered for both methods.

Refer to [Table 3-1 on page 3-2](#) for administration requirements.

Connecting via the Console Port

You need direct access to the NetScreen device you want to configure and the following items before you start:

- An RS-232 male-to-female serial cable
- Microsoft Hyperterminal software on the management workstation (or, if you are using a different operating system, a VT100 terminal emulator)

Follow these steps to connect the NetScreen device to the workstation:

1. Connect the serial cable from the management workstation to the serial port on the NetScreen-5XP.
2. Start the terminal emulator on the workstation.
3. To create a new connection, type a name, select an icon, and then click **OK**.
The Connect To dialog box appears.
4. Select the serial port to which the serial cable is connected to the workstation, and click **OK**. The COM1 Properties dialog box appears.
5. Configure the port settings as follows, and then click **OK**.
 - Serial communications 9600 bps
 - 8 bit, no parity
 - 1 stop bit
 - no flow control
6. Press **ENTER** to see the login prompt.

Connecting via Telnet

Telnet operates over TCP/IP networks. It allows you to configure the device using the command line interface (CLI).

Before you begin, be sure you connected the NetScreen-5XP to the network as outlined in [“Connecting the NetScreen-5XP to the Network” on page 2-1](#).

1. Establish a Telnet connection to the NetScreen device.
2. For Host name, type: 192.168.1.1.

Note: Select *vt100* for Terminal type.

Logging On and Setting the System IP Address

To manage the NetScreen device over a network connection, you must change the system IP address from its default (192.168.1.1) to one that is appropriate for your network. To log on and change the system IP address, enter the following commands, where <a.b.c.d> is the new system IP address and <A.B.C.D> is the netmask:

1. At the login prompt, type **netscreen**.
2. At the Password prompt, type **netscreen**.
3. At the command line prompt, type **set admin sys-ip <a.b.c.d>**

The system IP address can be 0.0.0.0, or the same as the trusted interface IP address.

4. At the command line prompt, type **save**

Note: The Username and Password are case-sensitive.

Setting Interface Addresses

The NetScreen-5XP ships with all its interface addresses and netmasks set as 0.0.0.0. If you want to operate the NetScreen-5XP in Transparent mode, leave the trusted, untrusted, and tunnel interface addresses as they are.

To operate the NetScreen-5XP in NAT mode or Route mode, you must also configure the trusted and untrusted interface addresses.

To set the interface addresses, enter the following commands, where <a.b.c.d> are the interface IP addresses and <A.B.C.D> is the netmask:

1. ns-> **set interface trust ip <a.b.c.d> <A.B.C.D>**
2. ns-> **set interface untrust ip <a.b.c.d> <A.B.C.D>**
3. ns-> **save**

Allowing Outbound Traffic


By default, the NetScreen-5XP does not allow inbound or outbound traffic, nor does it allow traffic to or from the DMZ. You need to create access policies to permit specified kinds of traffic in the direction(s) you want. (You can also create access policies to deny and tunnel traffic.)

The following access policy permits all kinds of outbound traffic from any point on the trusted network to any point on the untrusted network. Of course, your network might require a more restrictive policy. The following is offered to illustrate how an access policy is created; it is not presented as a requirement for an initial configuration:

1. ns-> **set policy outgoing "inside any" "outside any" any permit**
2. ns-> **save**

Changing the Administrator Login Name and Password

Because all NetScreen-5XP devices come with the same default login name and password, you should change this information immediately after you install the device.

 **Caution** *The information in this guide has been widely published, and failure to change the defaults might expose your system to attack.*

At the command line enter:

1. ns-> **set admin name <name>**
2. ns-> **set admin password <password>**
3. ns-> **save**
4. Record the new login name and password in a secure manner.

**Warning**

Make sure that you remember your password! If you forget it, you must reset the device to the factory settings to regain access to the device. (See “[Configuration Reset Pinhole](#)” on page 3-26.)

Testing the Configuration

Use a Web browser to access an external Web site (for example, www.netscreen.com). The browser should be able to locate the site and access the available Web pages.

If the browser cannot access the Web site, check that:

- The link lights on the NetScreen-5XP, workstations, hubs, and the router are glowing.
- The workstation IP and Netmask have the correct settings.
- The workstation gateway points to the router.
- The workstation has a valid DNS entry.

Configuration Reset

When the user presses the reset button, the NetScreen-5XP will reset and boot up using the original factory default configuration. Any current existing configuration settings will be lost, the firewall and VPN service rendered inoperative and an “alert SNMP trap” message will be sent to the administrator. For further information, see “[Configuration Reset Pinhole](#)” on page 3-26.

Note: *After successfully resetting and reconfiguring the NetScreen-5XP, it is strongly advised to backup the new configuration setting, as shown in “[Backup Configuration Settings](#)” on page 3-20.*

Backup Configuration Settings

It is good practice to backup your settings after every significant change you make. Through the CLI, you can download the configuration to any TFTP server.

At the command line, enter the following command:

```
ns-> save config to {tftp <a.b.c.d>} <filename>
```

CONFIGURATION RESET PINHOLE

To restore the NetScreen-5XP's original factory default configuration, the user resets the device by pressing the configuration reset pinhole.



Warning

*Resetting the device will delete **all** existing configuration settings, and the firewall and VPN service will be rendered inoperative.*

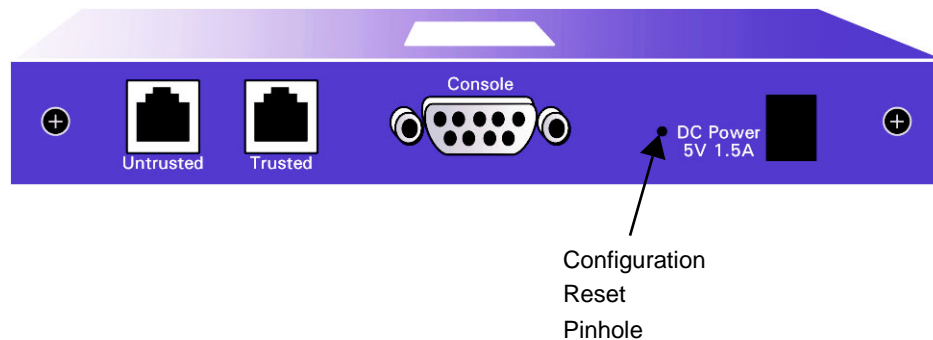


Figure 3-20 NetScreen-5XP with Configuration Reset Pinhole

Two pushes of the pinhole are required for the configuration and hardware reset, with a short delay between the two pushes.

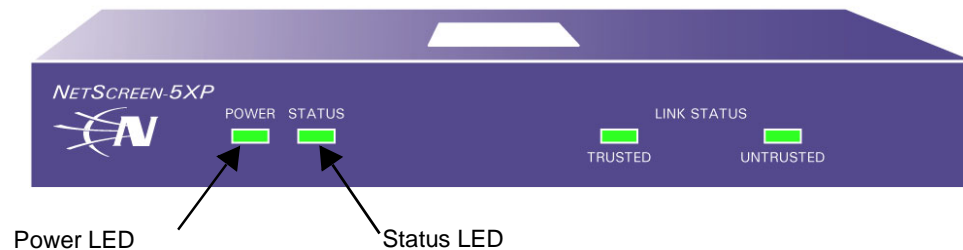


Figure 3-21 NetScreen-5XP Configuration Reset LEDs

To reset the NetScreen-5XP device to its factory settings:

1. Push the reset hole for between four and six seconds.

If the hardware reset switch is sensed, a serial console message states that the "Configuration Erasure Process has been initiated." A SNMP/SYSLOG alert is sent. The status LED blinks amber once every second.

2. Wait for one-half second to two seconds.

After the first push is accepted, the power LED turns blinking green; this is to state that the unit is now waiting for the second push. The serial console message now reads, "Waiting for 2nd confirmation".

3. Push the reset hole again for four to six seconds.

The following sequence of events occurs:

- The power LED blinks red for at least five seconds. Then the device resets to its original factory settings.
- When the device resets, the Status LED turns amber for one-half second and then returns to its normal mode of operation. The serial console message states, "Configuration Erase sequence accepted, unit reset".
- Alerts, SNMP, SYSLOG, and Reset Log messages are generated.

Note: During a reset, there is no guarantee that the final SNMP alert sent to the receiver before the reset will be received.

- The device reboots.

If the complete sequence is not followed, the reset process cancels without any configuration change. The serial console message states, "Configuration Erasure Process aborted". The status LED returns to blinking green. If the unit does not reset, an SNMP Alert is sent, confirming the failure.

Appendix A

Safety Recommendations and Warnings

When using the NetScreen-5XP, follow these safety guidelines:

- Make sure that the work area is dry and without excess humidity.
- Keep the chassis area clear and dust-free during and after installation.
- Disconnect all power supply connections before changing the Ethernet or serial port connection.
- Never assume that power is disconnected from a circuit. Always check.

BEFORE SUPPLYING POWER

Check these safety items before providing power to the NetScreen-5:

- Look carefully for possible hazards in the work area, such as moist floors, ungrounded power extension cables, and missing safety grounds.
- Locate the emergency power-off switch for the room where you are working.


Do not perform any action that creates a potential hazard to people or makes the equipment unsafe. Do not stack or balance the equipment on other devices to avoid tipping over and to allow air circulation. Make sure the installation is securely in place.

Ensure you adhere to all safety warnings.


SAFETY WARNINGS

Make sure that you adhere to the following set of safety warnings.


Installation Warning

 **Caution** *Read the cabling instructions before connecting the NetScreen-5XP to its power source.*


Power Disconnection Warning

 **Warning** *Before working on a device that has an On/Off switch, turn OFF the power and unplug the power cord.*


No User-Serviceable Parts Warning

 **Warning** *The NetScreen-5XP contains no user-serviceable parts and is housed in a tamper-proof enclosure. Therefore, the chassis should never be opened under any circumstances. Doing so will also void the warranty.*


Circuit Breaker (15A) Warning

 **Caution** *The NetScreen-5XP relies on the building's installation for short-circuit (over-current) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. (240 VAC, 10A international) is used on the phase conductor (all current-carrying conductors).*


SELV Circuit Warning

 **Warning** *The Ethernet 10BaseT, 100BaseT, serial, console, and auxiliary ports contain safety extra-low voltage (SELV) circuits. Do not connect the NetScreen-5XP to a telephone line or any Telco line (e.g., T-1, T-3, RJ-48 lines).*


Lightning Activity Warning

 **Danger** *Do not work on the device, specifically, connecting or disconnecting cables during periods of lightning activity, as the unit can function as a conduit.*

Lithium Battery Warning

 **Warning** *There is a danger of explosion if the battery is incorrectly replaced. The chassis should never be opened under any circumstances. Doing so will also void the warranty. Return the device to the manufacturer for battery replacement.*

Product Disposal Warning

 **Warning** *Ultimate disposal of this product should be handled according to all national laws and regulations.*

GENERAL SITE REQUIREMENTS

This section describes the requirements your site must meet for the safe installation and operation of your system. Ensure that your site is properly prepared before beginning the hardware installation.

Site Environment

The NetScreen-5XP can be placed on a desktop. Equipment placed too close together will cause inadequate ventilation, besides rendering areas of the device inaccessible for system maintenance during any system malfunctions and shutdowns.

When planning your site layout and equipment locations, follow the precautions described in the next section to help avoid equipment failures and reduce the possibility of environmentally caused shutdowns. If you are experiencing shutdowns or unusually high errors with your existing equipment, these precautions may help you isolate the cause of the failures and prevent future problems.

Preventive Site Precautions

The following precautions will help you plan an acceptable operating environment for your NetScreen-5XP and will help you avoid environmentally caused equipment failures:

- Electrical equipment generates heat. Natural air temperature might not be sufficient to cool equipment to acceptable operating temperatures without an additional circulation system. Ensure that the room in which you operate your system has adequate air circulation.
- Do not work alone if potentially hazardous conditions exist.
- Never assume that the power supply has been disconnected from a circuit. Always check.
- Look carefully for possible hazards in your work area, such as moist floors, ungrounded power extension cables, frayed power cords, and missing safety grounds.

Power Supply Considerations

Check the power at your site to ensure that you are receiving “clean” power (free of spikes and noise). Install a power conditioner if necessary.

Environmental Requirements

The NetScreen-5XP is intended for use in a normal office environment. For more extreme conditions, verify that temperature, humidity, and power conditions meet the specifications indicated in the table below:

Environmental Requirements

Item	Operating Specification
Temperature	32-122°F, 0- 50°C
Relative humidity	5-90%, non-condensing: for storage 10-90%, non-condensing: for operation
Voltage	90-264 VAC
Input frequency	47-63 Hz
AC input current	1.5A (120VAC), 1.5A (240VAC)
Altitude	0-12,000 feet, 0-3,660 meters

BSMI Labeling Requirement

The Bureau of Standards Metrology and Inspection (BSMI) is an agency of the government of China (Taiwan), which requires the following label on technological equipment:

警告使用者：
 這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

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