

SRX220 Services Gateway Hardware Guide for H Model Numbers

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SRX220 Services Gateway Hardware Guide for H Model Numbers
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Use this guide to install hardware and perform initial software configuration, routine maintenance, and troubleshooting for the SRX220 Services Gateway (H model numbers). After completing the installation and basic configuration procedures covered in this guide, refer to the Junos OS documentation for information about further software configuration.

Documentation and Release Notes

To obtain the most current version of all Juniper Networks[®] technical documentation, see the product documentation page on the Juniper Networks website at <https://www.juniper.net/documentation/>.

If the information in the latest release notes differs from the information in the documentation, follow the product Release Notes.

Juniper Networks Books publishes books by Juniper Networks engineers and subject matter experts. These books go beyond the technical documentation to explore the nuances of network architecture, deployment, and administration. The current list can be viewed at <https://www.juniper.net/books>.

Using the Examples in This Manual

If you want to use the examples in this manual, you can use the **load merge** or the **load merge relative** command. These commands cause the software to merge the incoming configuration into the current candidate configuration. The example does not become active until you commit the candidate configuration.

If the example configuration contains the top level of the hierarchy (or multiple hierarchies), the example is a *full example*. In this case, use the **load merge** command.

If the example configuration does not start at the top level of the hierarchy, the example is a *snippet*. In this case, use the **load merge relative** command. These procedures are described in the following sections.

Merging a Full Example

To merge a full example, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration example into a text file, save the file with a name, and copy the file to a directory on your routing platform.

For example, copy the following configuration to a file and name the file **ex-script.conf**. Copy the **ex-script.conf** file to the **/var/tmp** directory on your routing platform.

```
system {
  scripts {
    commit {
      file ex-script.xsl;
    }
  }
}
interfaces {
  fxp0 {
    disable;
    unit 0 {
      family inet {
        address 10.0.0.1/24;
      }
    }
  }
}
```

2. Merge the contents of the file into your routing platform configuration by issuing the **load merge** configuration mode command:

```
[edit]
user@host# load merge /var/tmp/ex-script.conf
load complete
```

Merging a Snippet

To merge a snippet, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration snippet into a text file, save the file with a name, and copy the file to a directory on your routing platform.

For example, copy the following snippet to a file and name the file **ex-script-snippet.conf**. Copy the **ex-script-snippet.conf** file to the **/var/tmp** directory on your routing platform.

```
commit {  
    file ex-script-snippet.xml; }
```

2. Move to the hierarchy level that is relevant for this snippet by issuing the following configuration mode command:

```
[edit]  
user@host# edit system scripts  
[edit system scripts]
```

3. Merge the contents of the file into your routing platform configuration by issuing the **load merge relative** configuration mode command:

```
[edit system scripts]  
user@host# load merge relative /var/tmp/ex-script-snippet.conf  
load complete
```

For more information about the **load** command, see [CLI Explorer](#).

Documentation Conventions

[Table 1 on page xii](#) defines notice icons used in this guide.

Table 1: Notice Icons







| Icon | Meaning | Description |
|---|--------------------|---|
|  | Informational note | Indicates important features or instructions. |
|  | Caution | Indicates a situation that might result in loss of data or hardware damage. |
|  | Warning | Alerts you to the risk of personal injury or death. |
|  | Laser warning | Alerts you to the risk of personal injury from a laser. |
|  | Tip | Indicates helpful information. |
|  | Best practice | Alerts you to a recommended use or implementation. |

Table 2 on page xii defines the text and syntax conventions used in this guide.

Table 2: Text and Syntax Conventions

| Convention | Description | Examples |
|------------------------------|---|--|
| Bold text like this | Represents text that you type. | To enter configuration mode, type the configure command: user@host> configure |
| Fixed-width text like this | Represents output that appears on the terminal screen. | user@host> show chassis alarms No alarms currently active |
| <i>Italic text like this</i> | <ul style="list-style-type: none"> Introduces or emphasizes important new terms. Identifies guide names. Identifies RFC and Internet draft titles. | <ul style="list-style-type: none"> A policy <i>term</i> is a named structure that defines match conditions and actions. <i>Junos OS CLI User Guide</i> RFC 1997, <i>BGP Communities Attribute</i> |

Table 2: Text and Syntax Conventions (*continued*)

| Convention | Description | Examples |
|--------------------------------|--|--|
| <i>Italic text like this</i> | Represents variables (options for which you substitute a value) in commands or configuration statements. | Configure the machine's domain name: [edit] root@# set system domain-name <i>domain-name</i> |
| Text like this | Represents names of configuration statements, commands, files, and directories; configuration hierarchy levels; or labels on routing platform components. | <ul style="list-style-type: none"> To configure a stub area, include the stub statement at the [edit protocols ospf area area-id] hierarchy level. The console port is labeled CONSOLE. |
| < > (angle brackets) | Encloses optional keywords or variables. | stub <default-metric <i>metric</i> >; |
| (pipe symbol) | Indicates a choice between the mutually exclusive keywords or variables on either side of the symbol. The set of choices is often enclosed in parentheses for clarity. | broadcast multicast (<i>string1</i> <i>string2</i> <i>string3</i>) |
| # (pound sign) | Indicates a comment specified on the same line as the configuration statement to which it applies. | rsvp { # Required for dynamic MPLS only |
| [] (square brackets) | Encloses a variable for which you can substitute one or more values. | community name members [<i>community-ids</i>] |
| Indentation and braces ({ }) | Identifies a level in the configuration hierarchy. | [edit] routing-options { static { route default { nexthop <i>address</i> ; retain; } } } |
| ; (semicolon) | Identifies a leaf statement at a configuration hierarchy level. | |

GUI Conventions

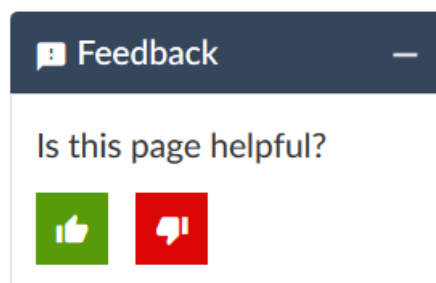
Table 2: Text and Syntax Conventions (*continued*)

| Convention | Description | Examples |
|------------------------------|--|---|
| Bold text like this | Represents graphical user interface (GUI) items you click or select. | <ul style="list-style-type: none"> In the Logical Interfaces box, select All Interfaces. To cancel the configuration, click Cancel. |
| > (bold right angle bracket) | Separates levels in a hierarchy of menu selections. | In the configuration editor hierarchy, select Protocols>Ospf . |

Documentation Feedback

We encourage you to provide feedback so that we can improve our documentation. You can use either of the following methods:

- Online feedback system—Click TechLibrary Feedback, on the lower right of any page on the [Juniper Networks TechLibrary](#) site, and do one of the following:



- Click the thumbs-up icon if the information on the page was helpful to you.
- Click the thumbs-down icon if the information on the page was not helpful to you or if you have suggestions for improvement, and use the pop-up form to provide feedback.
- E-mail—Send your comments to techpubs-comments@juniper.net. Include the document or topic name, URL or page number, and software version (if applicable).

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active Juniper Care or Partner Support Services support contract, or are

covered under warranty, and need post-sales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <https://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
- Product warranties—For product warranty information, visit <https://www.juniper.net/support/warranty/>.
- JTAC hours of operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: <https://www.juniper.net/customers/support/>
- Search for known bugs: <https://prsearch.juniper.net/>
- Find product documentation: <https://www.juniper.net/documentation/>
- Find solutions and answer questions using our Knowledge Base: <https://kb.juniper.net/>
- Download the latest versions of software and review release notes: <https://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://kb.juniper.net/InfoCenter/>
- Join and participate in the Juniper Networks Community Forum: <https://www.juniper.net/company/communities/>
- Create a service request online: <https://myjuniper.juniper.net>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: <https://entitlementsearch.juniper.net/entitlementsearch/>

Creating a Service Request with JTAC

You can create a service request with JTAC on the Web or by telephone.

- Visit <https://myjuniper.juniper.net>.
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, see <https://support.juniper.net/support/requesting-support/>.

1

PART

Overview

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Hardware Component Overview | 7

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System Overview

IN THIS CHAPTER

- [SRX220 Services Gateway Description | 2](#)
- [SRX220 Services Gateway Hardware Features | 3](#)
- [SRX220 Services Gateway PoE Overview | 5](#)

SRX220 Services Gateway Description

IN THIS SECTION

- [About the SRX220 Services Gateway | 2](#)
- [SRX220 Services Gateway Models | 2](#)
- [Accessing the SRX220 Services Gateway | 3](#)

This topic includes the following sections:

About the SRX220 Services Gateway

The Juniper Networks SRX220 Services Gateway offers complete functionality and flexibility for delivering secure, reliable data over IP, along with multiple interfaces that support WAN and LAN connectivity and Power over Ethernet (PoE).

The device provides Internet Protocol Security (IPsec), virtual private network (VPN), and firewall services for small and medium-sized companies and enterprise branch and remote offices.

SRX220 Services Gateway Models

[Table 3 on page 3](#) lists the SRX220 Services Gateway models with 1 GB memory. For information on the models with 2 GB memory, see [SRX220 Services Gateway Hardware Guide for H2 Model Numbers](#).

Table 3: SRX220 Services Gateway Models

| Product Name | Device Type | Model Number |
|----------------------------------|---------------------|--------------|
| SRX220 Services Gateway | Standard | SRX220H |
| SRX220 Services Gateway with PoE | Power over Ethernet | SRX220H-POE |

All SRX220 Services Gateways run the Junos operating system (Junos OS).

Accessing the SRX220 Services Gateway

Two user interfaces are available for monitoring, configuring, troubleshooting, and managing the SRX220 Services Gateway:

- **J-Web interface:** Web-based graphical interface that allows you to operate a services gateway without commands. The J-Web interface provides access to all Junos functionality and features.
- **Junos OS command-line interface (CLI):** Juniper Networks command shell that runs on top of a UNIX-based operating system kernel. The CLI is a straightforward command interface. On a single line, you type commands that are executed when you press the Enter key. The CLI provides command Help and command completion.

RELATED DOCUMENTATION

[SRX220 Services Gateway Specifications | 27](#)

[SRX220 Services Gateway Hardware Features | 3](#)

SRX220 Services Gateway Hardware Features

[Table 4 on page 3](#) lists the hardware features supported on the SRX220 Services Gateway. For information on the models with 2 GB memory, see [SRX220 Services Gateway Hardware Guide for H2 Model Numbers](#).

Table 4: SRX220 Services Gateway Hardware Features

| Feature | SRX220 Services Gateway (SRX220H) | SRX220 Services Gateway with PoE (SRX220H-POE) |
|-------------|-----------------------------------|--|
| DDR memory | 1 GB | 1 GB |
| PoE support | No | Yes |

Table 4: SRX220 Services Gateway Hardware Features (*continued*)

| Feature | SRX220 Services Gateway (SRX220H) | SRX220 Services Gateway with PoE (SRX220H-POE) |
|---|---|---|
| Power supply adapter | 100 to 240 VAC input 60 W, 12V DC output | 100 to 240 VAC input 200 W, 54V DC output |
| Average power consumption (no Mini-PIMs installed, no PoE power draw) | 28 W | 35 W |
| Gigabit Ethernet ports | 8 | 8 |
| Console port | 1 | 1 |
| USB ports | 2 | 2 |
| Mini-PIM slots | 2 | 2 |
| LEDs | Status, Alarm, HA, Power, Mini-PIMs, Port (TX/RX) | Status, Alarm, HA, Power, Mini-PIMs, Port (TX/RX and PoE) |
| CompactFlash | 1 externally accessible | 1 externally accessible |

NOTE: The PoE LED is enabled only on the SRX220H-POE model of the SRX220 Services Gateway. On the SRX220H model, the PoE LED is disabled.

For more details on the SRX220 Services Gateway software features and licenses, see the [Administration Guide for Security Devices](#).

RELATED DOCUMENTATION

[SRX220 Services Gateway Description | 2](#)

[SRX220 Services Gateway Specifications | 27](#)

SRX220 Services Gateway PoE Overview

IN THIS SECTION

- [Introduction | 5](#)
- [PoE Classes and Power Ratings | 6](#)

This topic includes the following sections:

Introduction

Power over Ethernet (PoE) is the implementation of the IEEE 802.3af and IEEE 802.3at standards, which allow both data and electric power to pass over a copper Ethernet LAN cable.

The SRX220 Services Gateway with Power over Ethernet (SRX220H-POE) model of the SRX220 Services Gateway supports PoE on eight ports, which supply electric power over the same ports that are used to connect network devices. The PoE ports let you plug in devices that require both network connectivity and electric power, such as IP phones and wireless access points.

You can configure the services gateway to act as power-sourcing equipment for devices connected on the designated ports.

[Table 5 on page 5](#) lists the SRX220 Services Gateway PoE specifications.

Table 5: SRX220 Services Gateway PoE Specifications

| Power Management Schemes | Values |
|-----------------------------------|--|
| Supported standards | <ul style="list-style-type: none">• IEEE 802.3af.• IEEE 802.3at (PoE+).• Legacy (pre-standards). |
| Supported ports | Ports 0/0 through 0/7 (interfaces ge-0/0/0 through ge-0/0/7). |
| Total PoE power-sourcing capacity | 120 W. |
| Per-port power limit | 30 W. |

Table 5: SRX220 Services Gateway PoE Specifications (*continued*)

| Power Management Schemes | Values |
|--------------------------|---|
| Power management modes | <ul style="list-style-type: none"> • Static: Power allocated for each interface can be configured. • Class: Power allocated for interfaces is decided based on the class of powered device connected. |

PoE Classes and Power Ratings

A powered device is classified based on the maximum power that it draws across all input voltages and operational modes. When the class-based power management mode is configured on the services gateway, power is allocated by taking into account the maximum power ratings defined for the different classes of devices.

[Table 6 on page 6](#) lists the classes and their power ratings as specified by the IEEE 802.3af standard.

Table 6: PoE Classes and Power Ratings on the SRX220 Services Gateway

| Class | Maximum Power Level Output from the PoE Port |
|-------|--|
| 0 | 15.4 W |
| 1 | 4.0 W |
| 2 | 7.0 W |
| 3 | 15.4 W |
| 4 | 30.0 W |

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Hardware Component Overview

IN THIS CHAPTER

- [SRX220 Services Gateway Mini-Physical Interface Modules | 7](#)
- [SRX220 Services Gateway Boot Devices and Dual-Root Partitioning Scheme | 8](#)

SRX220 Services Gateway Mini-Physical Interface Modules

The SRX220 Services Gateway has two slots for Mini-Physical Interface Modules (Mini-PIMs).

A Mini-PIM is a network interface card that is installed on the services gateway to provide physical connections to a LAN or WAN. The Mini-PIMs supported on the services gateway are field-replaceable; they can be removed and inserted into the device. You can install Mini-PIMs into the two Mini-PIM slots on the front panel of the services gateway chassis.

For more information about supported Mini-PIMs, including how to install and configure Mini-PIMs, see the [SRX Series Services Gateways for the Branch Physical Interface Modules Hardware Guide](#).

NOTE: The Mini-PIMs available for the SRX220 Services Gateway do not support hot swapping. You must power off the device and then unplug its power cord or power supply adapter before removing or installing Mini-PIMs.

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- [SRX220 Services Gateway Description | 2](#)
- [SRX220 Services Gateway Specifications | 27](#)
- [SRX220 Services Gateway Hardware Features | 3](#)
- [SRX220 Services Gateway Built-In Interfaces | 12](#)

SRX220 Services Gateway Boot Devices and Dual-Root Partitioning Scheme

IN THIS SECTION

- [Boot Devices | 8](#)
- [Dual-Root Partitioning Scheme | 8](#)

This topic includes the following sections:

Boot Devices

The SRX220 Services Gateway can boot from two devices:

- CompactFlash card (default; always present)
- USB storage key (alternate)

Dual-Root Partitioning Scheme

The services gateway has a dual-root partitioning scheme that allows it to remain functional if there is file system corruption, and that facilitates easy recovery of the corrupted file system.

The dual-root partitioning scheme keeps the primary and backup Junos OS images in two independently bootable root partitions. If the primary root partition becomes corrupted, the system can boot from the backup Junos OS image located in the other root partition and remain fully functional.

When the SRX220 Services Gateway powers up, it tries to boot the Junos OS from the default storage media. If the device fails to boot from the default storage media, it tries to boot from the alternate storage media. With the dual-root partitioning scheme, the SRX220 Services Gateway first tries to boot the Junos OS from the primary root partition and then from the backup root partition on the default storage media. If both primary and backup root partitions of a media fail to boot, then the device tries to boot from the next available type of storage media. The SRX220 Services Gateway remains fully functional even if it boots the Junos OS from the backup root partition of storage media.

RELATED DOCUMENTATION

| [Installation Overview for the SRX220 Services Gateway | 41](#)

Chassis Description

IN THIS CHAPTER

- SRX220 Services Gateway Front Panel and Back Panel Views | 9
- SRX220 Services Gateway Built-In Interfaces | 12
- SRX220 Services Gateway LEDs | 15

SRX220 Services Gateway Front Panel and Back Panel Views

IN THIS SECTION

- SRX220 Services Gateway Front Panel | 9
- SRX220 Services Gateway Back Panel | 11

This topic contains views of the front panel and back panel of the SRX220 Services Gateway. This topic includes the following sections:

SRX220 Services Gateway Front Panel

[Figure 1 on page 10](#) shows the front panel of the SRX220 Services Gateway models SRX220H and SRX220H-POE.

Figure 1: SRX220 Services Gateway Front Panel

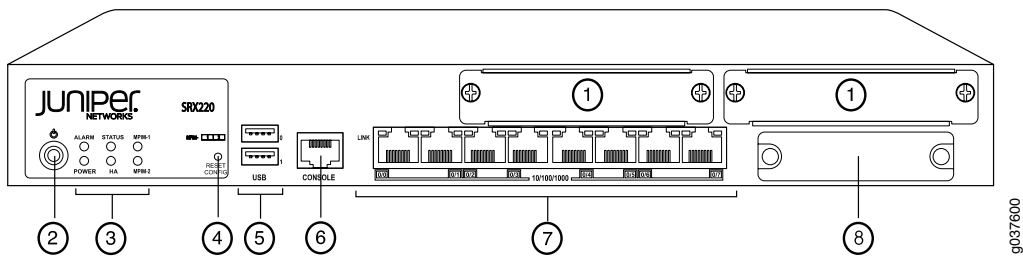


Table 7 on page 10 lists the front panel components of the services gateway.

NOTE: The numbers in [Figure 1 on page 10](#) correspond to the numbers in [Table 7 on page 10](#).

Table 7: SRX220 Services Gateway Front Panel Components

| Number | Component |
|--------|--|
| 1 | Mini-PIM slot 1 and Mini-PIM slot 2 |
| 2 | Power button |
| 3 | LEDs: Status, Alarm, Power, HA, MPIM-1, MPIM-2 |
| 4 | Reset Config button |
| 5 | USB ports |
| 6 | Console port |
| 7 | Gigabit Ethernet ports |
| 8 | CompactFlash card slot |

For more information on the front panel components, see the following topics:

- [SRX220 Services Gateway Built-In Interfaces on page 12](#)
- [SRX220 Services Gateway LEDs on page 15](#)
- [SRX220 Services Gateway Boot Devices and Dual-Root Partitioning Scheme on page 8](#)

SRX220 Services Gateway Back Panel

Figure 2 on page 11 shows the back panel of the SRX220 Services Gateway.

Figure 2: SRX220 Services Gateway Back Panel

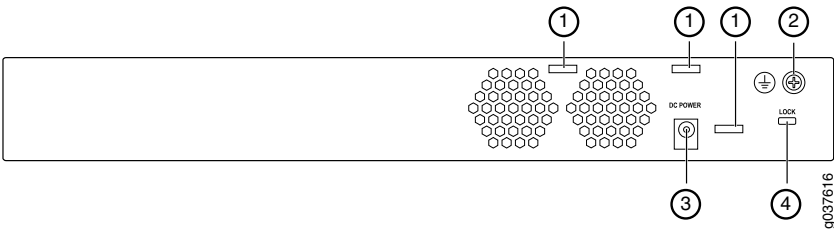


Table 8 on page 11 lists the back panel components of the SRX220 Services Gateway.

NOTE: The numbers in Figure 2 on page 11 correspond to the numbers in Table 8 on page 11.

Table 8: SRX220 Services Gateway Back Panel Components

| Number | Component |
|--------|------------------------------|
| 1 | Cable tie holder |
| 2 | Grounding point |
| 3 | Power supply point |
| 4 | Lock slot for security cable |

NOTE: The cable tie holders provide support to hold the power cord onto the power supply point.

The lock slot provides the ability to lock and secure the device to the installation site.

RELATED DOCUMENTATION

| |
|--|
| SRX220 Services Gateway Specifications 27 |
| SRX220 Services Gateway Built-In Interfaces 12 |

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| SRX220 Services Gateway LEDs 15 |
| SRX220 Services Gateway Boot Devices and Dual-Root Partitioning Scheme 8 |
| SRX220 Services Gateway Cooling System 19 |
| SRX220 Services Gateway Power Supply 21 |
| SRX220 Services Gateway PoE Overview 5 |

SRX220 Services Gateway Built-In Interfaces

Table 9 on page 12 lists and describes the interface ports supported on the SRX220 Services Gateway.

Table 9: SRX220 Services Gateway Built-In Hardware Interfaces

| Interface Type | Specifications | Description |
|------------------|---|---|
| Gigabit Ethernet | <p>Eight ports that:</p> <ul style="list-style-type: none">• Are labeled 0/0 through 0/7 on the front panel.• Use RJ-45 connectors.• Provide link speeds of 10/100/1000 Mbps.• Operate in full-duplex and half-duplex modes.• Support flow control.• Support autonegotiation and autosensing. <p>All Gigabit Ethernet ports support Power over Ethernet on the PoE model of the SRX220 Services Gateway.</p> | <p>The Gigabit Ethernet ports can be used as follows:</p> <ul style="list-style-type: none">• To function as front-end network ports.• To provide LAN and WAN connectivity to hubs, switches, local servers, and workstations.• To forward incoming data packets to the device.• To receive outgoing data packets from the device.• To connect power devices to receive network connectivity and electric power (PoE functionality) (for the PoE model of the SRX220 Services Gateway). |

Table 9: SRX220 Services Gateway Built-In Hardware Interfaces (*continued*)

| Interface Type | Specifications | Description |
|----------------------------|--|---|
| Universal Serial Bus (USB) | <p>Two ports that:</p> <ul style="list-style-type: none"> • Function in full speed and high speed. • Comply with USB revision 2.0. | <p>The USB ports can be used as follows:</p> <ul style="list-style-type: none"> • To support a USB storage device that functions as a secondary boot device in case of CompactFlash failure on startup (if the USB storage device is installed and configured). <p>NOTE: You must install and configure the USB storage device on the USB port to use it as a secondary boot device. Additionally, the USB device must have Junos OS installed.</p> <ul style="list-style-type: none"> • To provide the USB interfaces that are used to communicate with many types of USB storage devices supported by Juniper Networks. <p>Contact your Juniper Networks customer service representative for more information.</p> |
| Console | <p>One port that:</p> <ul style="list-style-type: none"> • Uses an RJ-45 serial cable connector. • Supports the RS-232 (EIA-232) standard. | <p>The console port can be used as follows:</p> <ul style="list-style-type: none"> • To provide the console interface. • To function as a management port to log into a device directly. • To configure the device using the command-line interface (CLI). |

Table 9: SRX220 Services Gateway Built-In Hardware Interfaces (continued)

| Interface Type | Specifications | Description |
|---|--------------------------|--|
| Mini-Physical Interface Module (Mini-PIM) | Two slots for Mini-PIMs. | <p>The Mini-PIM slots can be used to provide LAN and WAN functionality along with connectivity to various media types.</p> <p>For more information about the supported Mini-PIMs, see the SRX Series Services Gateways for the Branch Physical Interface Modules Hardware Guide.</p> |



CAUTION: If you face a problem running a Juniper Networks device that uses a third-party optic or cable, the Juniper Networks Technical Assistance Center (JTAC) can help you diagnose the source of the problem. Your JTAC engineer might recommend that you check the third-party optic or cable and potentially replace it with an equivalent Juniper Networks optic or cable that is qualified for the device.

RELATED DOCUMENTATION

| |
|--|
| SRX220 Services Gateway Specifications 27 |
| SRX220 Services Gateway Front Panel and Back Panel Views 9 |
| SRX220 Services Gateway LEDs 15 |
| SRX220 Services Gateway Boot Devices and Dual-Root Partitioning Scheme 8 |
| SRX220 Services Gateway Cooling System 19 |
| SRX220 Services Gateway Power Supply 21 |

SRX220 Services Gateway LEDs

IN THIS SECTION

- [Front Panel LEDs | 15](#)
- [Ethernet Port LEDs | 16](#)

This topic includes the following sections:

Front Panel LEDs

[Figure 3 on page 15](#) shows the SRX220 Services Gateway front panel LEDs.

[Table 10 on page 15](#) lists the LED indicators on the SRX220 Services Gateway front panel.

Figure 3: SRX220 Services Gateway Front Panel LEDs

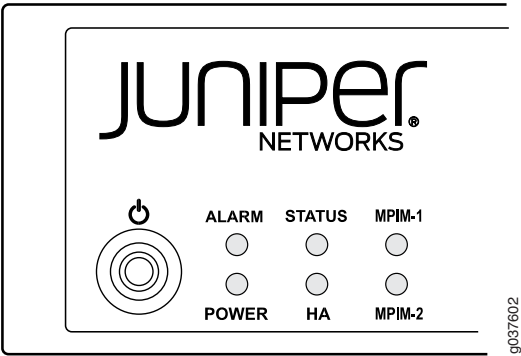


Table 10: SRX220 Services Gateway Front Panel Component LEDs

| Component | Description | Usage |
|-----------|---|---|
| Alarm LED | <p>The Alarm LED has the following indicator colors:</p> <ul style="list-style-type: none">● Red indicates a major alarm.● Amber indicates a minor alarm.● Off indicates that the device is starting up. <p>NOTE: When the system is up and running, if the Alarm LED is off, it indicates that no alarms are present on the device.</p> | The Alarm LED shows major or minor alarms and whether the device is functioning normally. |

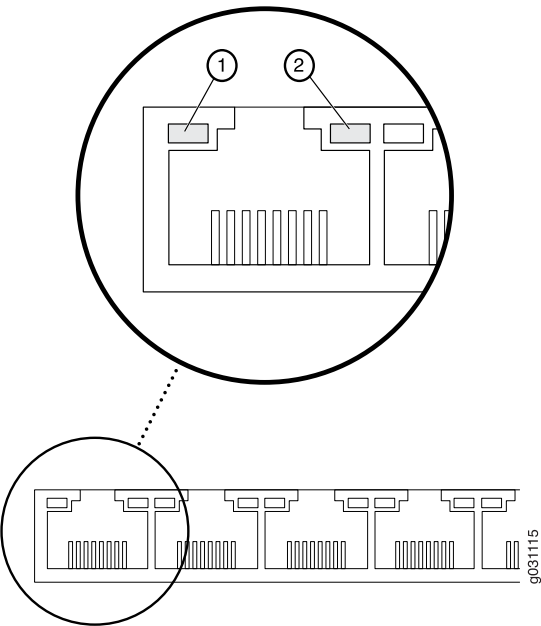
Table 10: SRX220 Services Gateway Front Panel Component LEDs (*continued*)

| Component | Description | Usage |
|------------------------|---|---|
| Status LED | <p>The Status LED has the following indicator colors:</p> <ul style="list-style-type: none"> • Green indicates that the device is functioning normally. • Amber indicates that the device is starting up. • Red indicates that the device has failed. | The Status LED shows whether the device is starting up, is functioning normally, or has failed. |
| MPIM-1 and MPIM-2 LEDs | <p>The MPIM-1 and MPIM-2 LEDs have the following indicator colors:</p> <ul style="list-style-type: none"> • Green indicates that the Mini-PIM in the corresponding slot is functioning normally. • Off indicates that there is no Mini-PIM in the corresponding slot, or that the Mini-PIM is not detected by the device. • Red indicates that the Mini-PIM hardware has failed or that its anti-counterfeit check failed. | The MPIM-1 and MPIM-2 LEDs show that the Mini-PIMs are present and detected by the device. |
| Power LED | <p>The Power LED has the following indicator colors:</p> <ul style="list-style-type: none"> • Green indicates that the device is functioning normally. • Amber indicates that the Power button has been pressed and quickly released. The device is gracefully shutting down. • Off indicates that the device is not receiving power. | The Power LED shows whether the device is receiving power. |
| HA LED | <p>The HA LED has the following indicator colors:</p> <ul style="list-style-type: none"> • Green indicates that all HA links are available. • Red indicates that the HA links are not working as expected. • Amber indicates that some HA links are not working as expected. • Off indicates that chassis clustering is not enabled. | The HA LED shows whether high availability is enabled on the device. |

Ethernet Port LEDs

On the SRX220 Services Gateway, each Gigabit Ethernet port has two LEDs. [Figure 4 on page 17](#) shows the SRX220 Services Gateway Ethernet port LEDs.

Figure 4: SRX220 Services Gateway Ethernet Port LEDs



NOTE: The numbers in [Figure 4 on page 17](#) correspond to the numbers in [Table 11 on page 17](#).

[Table 11 on page 17](#) describes the built-in Ethernet port LEDs.

Table 11: SRX220 Services Gateway Built-In Ethernet Port LEDs

| Number | Function | Color | State | Description |
|--------|----------------|-------|-------------|--|
| 1 | TX/RX/LINK LED | Green | Blinking | Link is active. Data communication is taking place. |
| | | | On steadily | Link is active. No data communication is taking place. |
| | | Unlit | Off | Link is inactive. |

Table 11: SRX220 Services Gateway Built-In Ethernet Port LEDs *(continued)*

| Number | Function | Color | State | Description |
|--------|----------|--------|-------------|--|
| 2 | PoE LED | Green | On steadily | Power over Ethernet (PoE) is on and the connected power device is receiving power. |
| | | Yellow | On steadily | PoE is on, but the connected power device is not receiving power (device fault or not enough power). |
| | | Unlit | Off | PoE is off. |

NOTE: The PoE LED is enabled only on the Power over Ethernet (PoE) model of the SRX220 Services Gateway (SRX220H-POE). For the non-PoE SRX220H model, the PoE LED remains off.

RELATED DOCUMENTATION

| |
|--|
| SRX220 Services Gateway Specifications 27 |
| SRX220 Services Gateway Front Panel and Back Panel Views 9 |
| SRX220 Services Gateway Built-In Interfaces 12 |
| SRX220 Services Gateway Boot Devices and Dual-Root Partitioning Scheme 8 |
| SRX220 Services Gateway Cooling System 19 |
| SRX220 Services Gateway Power Supply 21 |

Cooling System Description

IN THIS CHAPTER

- [SRX220 Services Gateway Cooling System | 19](#)

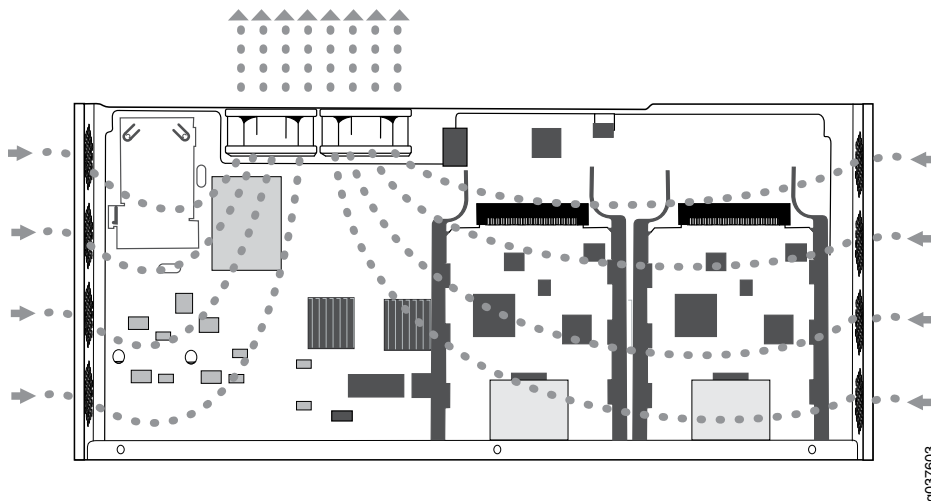
SRX220 Services Gateway Cooling System

The cooling system for the SRX220 Services Gateway includes two fixed fans. The fans draw air through vents along the left and right sides of the chassis and exhaust the air through the back of the chassis.

The airflow produced by the fans keeps device components within the acceptable temperature range.

[Figure 5 on page 19](#) shows the airflow for the SRX220 Services Gateway.

Figure 5: Airflow Through the SRX220 Services Gateway Chassis



RELATED DOCUMENTATION

[SRX220 Services Gateway Specifications | 27](#)

[SRX220 Services Gateway Front Panel and Back Panel Views | 9](#)

Power System Description

IN THIS CHAPTER

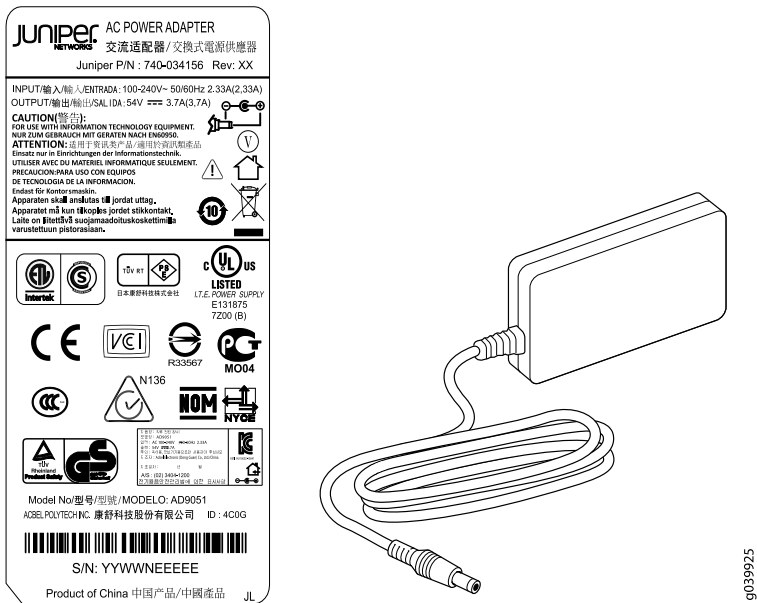
- [SRX220 Services Gateway Power Supply | 21](#)

SRX220 Services Gateway Power Supply

The SRX220 Services Gateway has an external power supply adapter. You must use the power supply adapter provided by Juniper Networks to provide power to the services gateway.

[Figure 6 on page 21](#) shows the label for the 54 V power supply.

Figure 6: SRX220 Services Gateway — 200 W, 54 V Power Supply Related Documentation



RELATED DOCUMENTATION

SRX220 Services Gateway Specifications | 27

SRX220 Services Gateway Front Panel and Back Panel Views | 9

SRX220 Services Gateway Boot Devices and Dual-Root Partitioning Scheme | 8

SRX220 Services Gateway Cooling System | 19

Monitoring the SRX220 Services Gateway Power System | 108

2

PART

Site Planning and Specifications

Planning and Preparing the Site | 24

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Cable Specifications and Pinouts | 37

Planning and Preparing the Site

IN THIS CHAPTER

- [Site Preparation Checklist for the SRX220 Services Gateway | 24](#)
- [General Site Guidelines for Installing the SRX220 Services Gateway | 26](#)
- [SRX220 Services Gateway Specifications | 27](#)
- [SRX220 Services Gateway Cabinet Requirements | 28](#)
- [SRX220 Services Gateway Rack Requirements | 30](#)
- [Clearance Requirements for Airflow and Hardware Maintenance of the SRX220 Services Gateway | 31](#)

Site Preparation Checklist for the SRX220 Services Gateway

The checklist in [Table 12 on page 24](#) summarizes the tasks you need to perform when preparing a site for installing the SRX220 Services Gateway.

Table 12: Site Preparation Checklist for the SRX220 Services Gateway Installation

| Item or Task | Additional Information | Performed By | Date | Notes |
|---|---|--------------|------|-------|
| Environment | | | | |
| Verify that environmental factors such as temperature and humidity do not exceed device tolerances. | “SRX220 Services Gateway Specifications” on page 27 | | | |

Table 12: Site Preparation Checklist for the SRX220 Services Gateway Installation (*continued*)

| Item or Task | Additional Information | Performed By | Date | Notes |
|---|---|--------------|------|-------|
| Power | | | | |
| <ul style="list-style-type: none"> • Measure the distance between the external power sources and the device installation site. • Locate sites for connection of system grounding. • Calculate the power consumption and requirements. | <p>“SRX220 Services Gateway Site Electrical Wiring Guidelines” on page 33</p> <p>“SRX220 Services Gateway Power Specifications and Requirements” on page 35</p> | | | |
| Rack Installation | | | | |
| <ul style="list-style-type: none"> • Verify that your rack meets the minimum requirements. • Plan the rack location, including required space clearances. • Secure the rack to the floor and building structure. | “SRX220 Services Gateway Rack Requirements” on page 30 | | | |
| Cabinet Installation | | | | |
| <ul style="list-style-type: none"> • Verify that your cabinet meets the minimum requirements. • Plan the cabinet location, including required space clearances. | “SRX220 Services Gateway Cabinet Requirements” on page 28 | | | |
| Wall Installation | | | | |
| <ul style="list-style-type: none"> • Verify that the area selected meets the minimum requirements. • Verify that you have the required hardware to proceed with the installation. | “Preparing the SRX220 Services Gateway for Wall-Mount Installation” on page 50 | | | |
| Cables | | | | |
| <ul style="list-style-type: none"> • Acquire cables and connectors. • Review the maximum distance allowed for each cable. Choose the length of cable based on the distance between the hardware components being connected. • Plan the cable routing and management. | “Interface Cable and Wire Specifications for the SRX220 Services Gateway” on page 37 | | | |

RELATED DOCUMENTATION

[SRX220 Services Gateway Specifications | 27](#)

[General Site Guidelines for Installing the SRX220 Services Gateway | 26](#)

[Installation Overview for the SRX220 Services Gateway | 41](#)

[SRX220 Services Gateway Cabinet Requirements | 28](#)

[SRX220 Services Gateway Rack Requirements | 30](#)

[Clearance Requirements for Airflow and Hardware Maintenance of the SRX220 Services Gateway | 31](#)

General Site Guidelines for Installing the SRX220 Services Gateway

The following precautions help you plan an acceptable operating environment for your SRX220 Services Gateway and avoid environmentally caused equipment failures:

- For the cooling system to function properly, the airflow around the chassis must be unrestricted. Allow sufficient clearance between the front and back of the chassis and adjacent equipment. Ensure that there is adequate circulation in the installation location.
- Follow the ESD procedures to avoid damaging the equipment. Static discharge can cause components to fail completely or intermittently over time.
- Ensure that the blank Mini-PIM panel is installed in the empty slot to prevent any interruption or reduction in the flow of air across internal components.

NOTE: Install the device only in restricted areas, such as dedicated equipment rooms and equipment closets, in accordance with Articles 110-16, 110-17, and 110-18 of the National Electrical Code, ANSI/NFPA 70.

RELATED DOCUMENTATION

[SRX220 Services Gateway Safety Requirements, Warnings, and Guidelines | 129](#)

[SRX220 Services Gateway Cabinet Requirements | 28](#)

[SRX220 Services Gateway Rack Requirements | 30](#)

[Clearance Requirements for Airflow and Hardware Maintenance of the SRX220 Services Gateway | 31](#)

SRX220 Services Gateway Specifications

The SRX220 Services Gateway chassis is a rigid sheet metal structure of 1 rack unit (U) height that houses all the other hardware components.

Figure 7 on page 27 shows the SRX220 Services Gateway chassis for SRX220H and SRX220H-POE models.

Figure 7: SRX220 Services Gateway

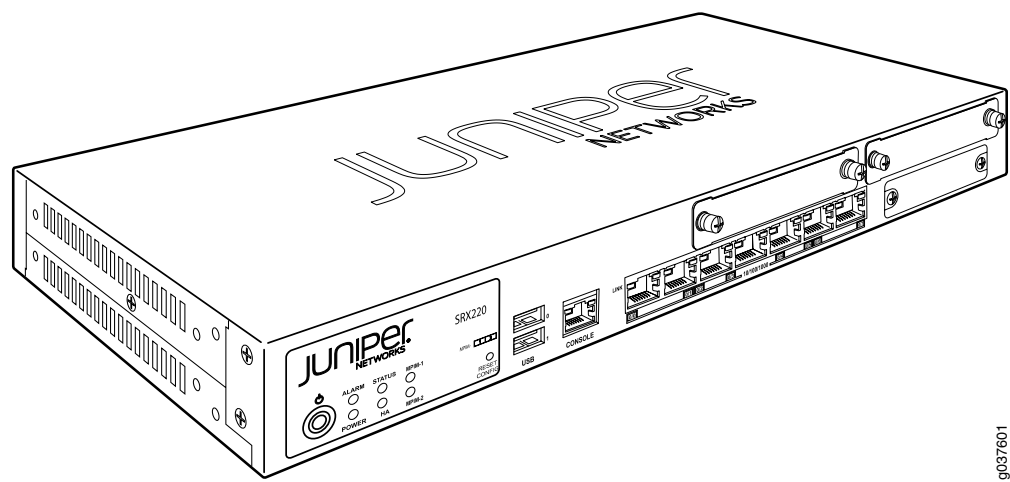


Table 13 on page 27 provides information on the physical specifications of the device.

Table 13: SRX220 Services Gateway Specifications

| Specification | Value |
|------------------------|--|
| Dimensions (H x W x D) | 1.73 in. x 14.29 in. x 7.13 in. 44 mm x 363 mm x 181 mm |
| Chassis weight | <ul style="list-style-type: none">• 4.52 lb (2.05 kg) for SRX220 models without PoE (no interface modules)• 4.62 lb (2.10 kg) for SRX220 models with PoE (no interface modules) |
| Altitude | No performance degradation up to 10,000 ft (3048 m) |
| Temperature | Normal operation ensured in temperature range of 32°F (0°C) to 104°F (40°C) Nonoperating storage temperature in shipping container: -40°F (-40°C) to 158°F (70°C) |

Table 13: SRX220 Services Gateway Specifications (continued)

| Specification | Value |
|------------------------|---|
| Maximum thermal output | <ul style="list-style-type: none">• SRX220 Services Gateway without Mini-PIMs: 126 BTU/hour (36 W)• SRX220 Services Gateway with two Mini-PIMs: 191 BTU/hour (56 W) <p>NOTE: Thermal output from the PoE is dissipated at the PoE powered device end and so is not included in the system thermal output.</p> |
| Noise level | 51.1 dB per EN ISO 7779 |



CAUTION: Before removing or installing components of a functioning services gateway, attach an electrostatic discharge (ESD) strap to an ESD point and place the other end of the strap around your bare wrist. Failure to use an ESD strap could result in damage to the services gateway.

RELATED DOCUMENTATION

| |
|---|
| SRX220 Services Gateway Description 2 |
| SRX220 Services Gateway Front Panel and Back Panel Views 9 |
| Monitoring the SRX220 Services Gateway Components Using LEDs 103 |
| SRX220 Services Gateway Electrical Safety Guidelines and Warnings 155 |

SRX220 Services Gateway Cabinet Requirements

The SRX220 Services Gateway can be installed in a standard 800 mm (31.5 in.) or larger enclosed cabinet. [Table 14 on page 29](#) provides the details on cabinet size, clearance, and airflow requirements.

Table 14: SRX220 Services Gateway Cabinet Requirements

| Cabinet Requirements | Specifications |
|------------------------------|---|
| Cabinet size | <p>19 in. (48.3 cm) as defined in <i>Cabinets, Racks, Panels, and Associated Equipment</i> (document number EIA-310-D) published by the Electronics Industry Association (http://www.eia.org).</p> <p>You can mount the services gateway horizontally in the cabinet.</p> |
| Clearance requirements | <ul style="list-style-type: none"> • The cabinet is at least 1 U (1.75 in. or 4.5 cm) high. • The outer edges of the mounting brackets extend the width of the chassis to 19 in. (48.3 cm), and the front of the chassis extends approximately 0.5 in. (1.27 cm) beyond the mounting brackets. • The minimum total clearance inside the cabinet is 30.7 in. (78 cm) between the inside of the front door and the inside of the rear door. <p>NOTE: The holes for the mounting brackets are spaced 1.25 in. (3.2 cm) apart, measured from the center of the hole.</p> |
| Cabinet airflow requirements | <ul style="list-style-type: none"> • Ensure that ventilation through the cabinet is sufficient to prevent overheating. • Ensure adequate cool air supply to dissipate the thermal output of the device. • Install the device as close as possible to the front of the cabinet so that the cable management system clears the inside of the front door. Installing the chassis close to the front of the cabinet maximizes the clearance in the rear of the cabinet for critical airflow. • Route and dress all cables to minimize the blockage of airflow to and from the chassis. <p>NOTE: A cabinet larger than the minimum size required provides better airflow and reduces the chance of overheating.</p> |

RELATED DOCUMENTATION

General Site Guidelines for Installing the SRX220 Services Gateway | 26

SRX220 Services Gateway Rack Requirements | 30

Clearance Requirements for Airflow and Hardware Maintenance of the SRX220 Services Gateway | 31

SRX220 Services Gateway Rack Requirements

The services gateway can be installed in a rack. Many types of racks are acceptable, including front-mount racks and four-post (telco) racks.

NOTE: The services gateway cannot be center-mounted in racks.

Table 15 on page 30 provides the details on rack size, clearance, and airflow requirements.

Table 15: Rack Requirements for the Services Gateway

| Rack Requirements | Specifications |
|--|--|
| Rack size | A 19 in. (48.3 cm) rack as defined in <i>Cabinets, Racks, Panels, and Associated Equipment</i> (document number EIA-310-D) published by the Electronics Industry Association (http://www.eia.org). |
| Rack requirements | <ul style="list-style-type: none"> • The outer edges of the mounting brackets extend the width the chassis to 19 in. (48.3 cm). • The front of the chassis extends approximately 0.5 in. (1.27 cm) beyond the mounting brackets. • The maximum permissible ambient temperature is 40°C. |
| Spacing of mounting bracket and flange holes | <ul style="list-style-type: none"> • The holes within each rack set are spaced at 1 U (1.75 in. [4.5 cm]). The device can be mounted in any rack that provides holes or hole patterns spaced at 1-U (1.75 in. [4.5 cm]) increments. • The mounting brackets and front-mount flanges used to attach the chassis to a rack are designed to fasten to holes spaced at rack distances of 1 U (1.75 in.). • The mounting holes in the mounting brackets provided with the device are spaced 1.25 in. (3.2 cm) apart (top and bottom mounting holes). |
| Connecting to the building structure | Always secure the rack in which you are installing the services gateway to the structure of the building. If your geographical area is subject to earthquakes, bolt the rack to the floor. For maximum stability, also secure the rack to ceiling brackets. |

RELATED DOCUMENTATION

[General Site Guidelines for Installing the SRX220 Services Gateway | 26](#)

[SRX220 Services Gateway Cabinet Requirements | 28](#)

[Clearance Requirements for Airflow and Hardware Maintenance of the SRX220 Services Gateway | 31](#)

Clearance Requirements for Airflow and Hardware Maintenance of the SRX220 Services Gateway

When planning the installation site for the SRX220 Services Gateway, you need to allow sufficient clearance around the rack or cabinet where you are planning to install the device.

When planning the installation site for the services gateway, consider the following:

- For the cooling system to function properly, the airflow around the chassis must be unrestricted.
- For service personnel to remove and install hardware components, there must be adequate space at the front and back of the device. Allow at least 24 in. (61 cm) both in front of and behind the device.
- If you are mounting the device in a rack with other equipment, or if you are placing it on the desktop near other equipment, ensure that the exhaust from other equipment does not blow into the intake vents of the chassis.

[Table 16 on page 31](#) provides information on the clearance requirements for maintaining the optimum airflow and the distances for facilitating easy maintenance of the device.

Table 16: Clearance Requirements for the Services Gateway

| Location | Recommended Clearance | Requirement for Clearance |
|---|-----------------------|---|
| Front of the chassis | 2.5 in. (6.35 cm) | Space for service personnel to remove and install hardware components NOTE: More space is required for installing and removing Mini-PIMs. |
| Rear of the chassis | 2.5 in. (6.35 cm) | Space for service personnel to remove and install hardware components |
| Between front-mounting flange and rack or cabinet edge | 2.5 in. (6.35 cm) | Space for cable management and organization |
| Between side of the chassis and any non-heat-producing surface such as a wall or cabinet side | 2.5 in. (6.35 cm) | Space for the cooling system to function properly and to maintain unrestricted airflow around the chassis |
| Between side of the chassis and devices that have fans or blowers | 2.5 in. (6.35 cm) | Space for the cooling system to function properly and to maintain unrestricted airflow around the chassis |

RELATED DOCUMENTATION

| | |
|--|----|
| General Site Guidelines for Installing the SRX220 Services Gateway | 26 |
| SRX220 Services Gateway Cabinet Requirements | 28 |
| SRX220 Services Gateway Rack Requirements | 30 |

Power Requirements and Specifications

IN THIS CHAPTER

- [SRX220 Services Gateway Site Electrical Wiring Guidelines | 33](#)
- [SRX220 Services Gateway Electrical and Power Requirements | 35](#)
- [SRX220 Services Gateway Power Specifications and Requirements | 35](#)

SRX220 Services Gateway Site Electrical Wiring Guidelines

[Table 17 on page 34](#) describes the factors you must consider while planning the electrical wiring for the services gateway at your site.



CAUTION: It is particularly important to provide a properly grounded and shielded environment and to use electrical surge-suppression devices.



CAUTION: For devices with AC power supplies, an external surge protective device (SPD) must be used at the AC power source.

Table 17: Site Electrical Wiring Guidelines for the Services Gateway

| Site Wiring Factor | Guideline |
|-------------------------------------|--|
| Signaling Limitations | <p>To ensure that signaling functions optimally:</p> <ul style="list-style-type: none"> • Install wires correctly. Improperly installed wires can emit radio interference. • Do not exceed the recommended distances or pass wires between buildings. The potential for damage from lightning strikes increases if wires exceed recommended distances or if wires pass between buildings. • Shield all conductors. The electromagnetic pulse (EMP) caused by lightning can damage unshielded conductors and destroy electronic devices. |
| Radio Frequency Interference (RFI) | <p>To reduce or eliminate the emission of RFI from your site wiring:</p> <ul style="list-style-type: none"> • Use twisted-pair cable with a good distribution of grounding conductors. • Use a high-quality twisted-pair cable with one ground conductor for each data signal when applicable, if you must exceed the recommended distances. |
| Electromagnetic Compatibility (EMC) | <p>Provide a properly grounded and shielded environment and use electrical surge-suppression devices.</p> <p>Strong sources of electromagnetic interference (EMI) can cause the following damage:</p> <ul style="list-style-type: none"> • Destroy the signal drivers and receivers in the device • Conduct power surges over the lines into the equipment, resulting in an electrical hazard <p>NOTE: If your site is susceptible to problems with EMC, particularly from lightning or radio transmitters, you may want to seek expert advice.</p> |



CAUTION: To comply with intrabuilding lightning/surge requirements, the intrabuilding wiring must be shielded. The shielding for the wiring must be grounded at both ends.

RELATED DOCUMENTATION

[General Site Guidelines for Installing the SRX220 Services Gateway | 26](#)

[SRX220 Services Gateway Electrical and Power Requirements | 35](#)

SRX220 Services Gateway Electrical and Power Requirements

There are factors you must consider while planning the electrical wiring and power availability at your site. These factors include the following requirements:

- Power specifications and requirements for the device
- Electrical wiring guidelines for the device installation site
- Power, connection, and power cord specifications for the device
- Grounding guidelines and specifications for the device

RELATED DOCUMENTATION

| |
|--|
| SRX220 Services Gateway Site Electrical Wiring Guidelines 33 |
| SRX220 Services Gateway Power Specifications and Requirements 35 |

SRX220 Services Gateway Power Specifications and Requirements

The AC power system electrical specifications for the SRX220 Services Gateway are listed in [Table 18 on page 35](#).

Table 18: Power Supply Electrical Specifications for the SRX220 Services Gateway

| Power Requirement | Specification |
|--------------------------|---|
| AC input voltage | 100 to 240 VAC |
| AC input line frequency | 47 to 63 Hz |
| AC system current rating | 1.5 A maximum for standard model (without PoE) 2.5 A maximum for PoE model |



WARNING: The AC power cord for the services gateway is intended for use with the device only and not for any other use.

RELATED DOCUMENTATION

[SRX220 Services Gateway Power Supply | 21](#)

[SRX220 Services Gateway Site Electrical Wiring Guidelines | 33](#)

[SRX220 Services Gateway Grounding Specifications | 58](#)

[Interface Cable and Wire Specifications for the SRX220 Services Gateway | 37](#)

Cable Specifications and Pinouts

IN THIS CHAPTER

- [Interface Cable and Wire Specifications for the SRX220 Services Gateway | 37](#)
- [RJ-45 Connector Pinouts for the SRX220 Services Gateway Ethernet Port | 38](#)
- [RJ-45 Connector Pinouts for the SRX220 Services Gateway Console Port | 38](#)

Interface Cable and Wire Specifications for the SRX220 Services Gateway

[Table 19 on page 37](#) lists the specifications for the cables that connect to ports.

Table 19: Cable and Wire Specifications for Ports

| Port | Cable Specification | Cable/Wire Required | Maximum Length | Device Receptacle |
|---------------|--|---|----------------|-------------------|
| Console port | RS-232 (EIA-232) serial cable | One 6-ft (1.83-m) length with DB-9/RJ-45 connectors | 6 ft (1.83 m) | RJ-45 |
| Ethernet port | CAT-5e (Category 5) cable or equivalent suitable for 100BASE-T operation | One 15-ft (4.57-m) length with RJ-45/RJ-45 connectors | 328 ft (100 m) | RJ-45 |

RELATED DOCUMENTATION

- [RJ-45 Connector Pinouts for the SRX220 Services Gateway Ethernet Port | 38](#)
- [RJ-45 Connector Pinouts for the SRX220 Services Gateway Console Port | 38](#)

RJ-45 Connector Pinouts for the SRX220 Services Gateway Ethernet Port

Figure 8 on page 38 shows the RJ-45 cable connector pinouts for Ethernet ports.

Figure 8: Ethernet Cable Connector (RJ-45)

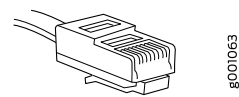


Table 20 on page 38 describes the RJ-45 connector pinouts for the 1-Gbps (1000-Mbps) Ethernet port.

Table 20: RJ-45 Connector Pinouts for the Services Gateway Ethernet Port (1 Gbps)

| Pin | Signal |
|-----|--------|
| 1 | BI_DA+ |
| 2 | BI_DA- |
| 3 | BI_DB+ |
| 4 | BI_DC+ |
| 5 | BI_DC- |
| 6 | BI_DB- |
| 7 | BI_DD+ |
| 8 | BI_DD- |

RELATED DOCUMENTATION

| |
|--|
| Interface Cable and Wire Specifications for the SRX220 Services Gateway 37 |
| RJ-45 Connector Pinouts for the SRX220 Services Gateway Console Port 38 |

RJ-45 Connector Pinouts for the SRX220 Services Gateway Console Port

Figure 9 on page 39 shows the RJ-45 connector pinouts for the console port.

Figure 9: Console Cable Connector

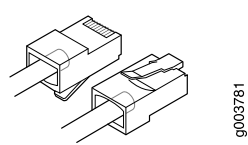


Table 21 on page 39 describes the RJ-45 connector pinouts for the console port.

Table 21: RJ-45 Connector Pinouts for the Services Gateway Console Port

| Pin | Signal | Description |
|-----|---------|---------------------|
| 1 | RTS | Request to Send |
| 2 | DTR | Data Terminal Ready |
| 3 | TXD | Transmit Data |
| 4 | Ground | Signal Ground |
| 5 | Ground | Signal Ground |
| 6 | RXD | Receive Data |
| 7 | DSR/DCD | Data Set Ready |
| 8 | CTS | Clear to Send |

RELATED DOCUMENTATION

| |
|--|
| Interface Cable and Wire Specifications for the SRX220 Services Gateway 37 |
| RJ-45 Connector Pinouts for the SRX220 Services Gateway Ethernet Port 38 |

3

PART

Initial Installation and Configuration

Installation Overview | **41**

Unpacking the Services Gateway | **45**

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Grounding the SRX220 Services Gateway | **58**

Connecting the SRX220 Services Gateway to External Devices | **61**

Providing Power to the SRX220 Services Gateway | **65**

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Installation Overview

IN THIS CHAPTER

- [Installation Overview for the SRX220 Services Gateway | 41](#)
- [Required Tools and Parts for Installing and Maintaining the SRX220 Services Gateway | 42](#)
- [SRX220 Services Gateway Autoinstallation Overview | 43](#)

Installation Overview for the SRX220 Services Gateway

After you have prepared your installation site, you are ready to unpack and install the services gateway. It is important to proceed through the installation process as shown in [Table 22 on page 41](#).

Table 22: Installation Process Order for the SRX220 Services Gateway

| Step | Task | For more information, see |
|------|--|--|
| 1 | Review the relevant safety guidelines. | “SRX220 Services Gateway General Safety Guidelines and Warnings” on page 124 |
| 2 | Verify that you have prepared your site for the installation of the services gateway, using the checklist. | “Site Preparation Checklist for the SRX220 Services Gateway” on page 24 |
| 3 | Unpack the services gateway, and verify that you have received all the parts. | “Unpacking the SRX220 Services Gateway” on page 45 “Verifying Parts Received with the SRX220 Services Gateway” on page 46 |
| 4 | Prepare the services gateway for installation. | “Preparing the SRX220 Services Gateway for Rack-Mount and Wall-Mount Installation” on page 48 |
| 5 | Install the services gateway. | “Installing the SRX220 Services Gateway in a Rack” on page 51 “Installing the SRX220 Services Gateway on a Wall” on page 55 |

Table 22: Installation Process Order for the SRX220 Services Gateway (continued)

| Step | Task | For more information, see |
|------|-------------------------------------|---|
| 6 | Connect cables to external devices. | “Connecting and Organizing Interface Cables for the SRX220 Services Gateway” on page 61 |
| 7 | Connect the grounding cables. | “Grounding the SRX220 Services Gateway” on page 59 |
| 8 | Power on the services gateway. | “Powering On and Powering Off the SRX220 Services Gateway” on page 66 |

RELATED DOCUMENTATION

[Unpacking the SRX220 Services Gateway | 45](#)
[General Site Guidelines for Installing the SRX220 Services Gateway | 26](#)
[Preparing the SRX220 Services Gateway for Rack-Mount and Wall-Mount Installation | 48](#)

Required Tools and Parts for Installing and Maintaining the SRX220 Services Gateway

[Table 23 on page 42](#) lists the tools and equipments required for installing and maintaining the SRX220 Services Gateway.

Table 23: Required Tools and Parts for Installing and Maintaining the SRX220 Services Gateway

| Task | Tools and Parts | Related Topic |
|--|--|--|
| Installing the SRX220 Services Gateway | <ul style="list-style-type: none"> • Phillips (+) screwdrivers, numbers 1 and 3 • Cable ties | “Installing the SRX220 Services Gateway in a Rack” on page 51 “Installing the SRX220 Services Gateway on a Wall” on page 55 |
| Connecting the SRX220 Services Gateway | Electrostatic discharge (ESD) grounding wrist strap | “Connecting the SRX220 Services Gateway to the Power Supply” on page 65 |
| Grounding the SRX220 Services Gateway | Phillips (+) screwdrivers, numbers 1 and 2 | “Grounding the SRX220 Services Gateway” on page 59 |

Table 23: Required Tools and Parts for Installing and Maintaining the SRX220 Services Gateway (continued)

| Task | Tools and Parts | Related Topic |
|--|---|---|
| Connecting the SRX220 Services Gateway to the CLI Remotely | DB-9 socket to DB-25 plug adapter or other adapter appropriate for your modem | “Connecting an SRX220 Services Gateway to the CLI Remotely” on page 78 |
| Packing the SRX220 Services Gateway | <ul style="list-style-type: none"> • Blank panel to cover empty Mini-PIM slot • Electrostatic bag or antistatic mat for each component • Electrostatic discharge (ESD) grounding wrist strap | “Packing the SRX220 Services Gateway and Components for Shipment” on page 117 |

RELATED DOCUMENTATION

[Unpacking the SRX220 Services Gateway | 45](#)

[Grounding the SRX220 Services Gateway | 59](#)

[Connecting the SRX220 Services Gateway to the Power Supply | 65](#)

[Packing the SRX220 Services Gateway and Components for Shipment | 117](#)

SRX220 Services Gateway Autoinstallation Overview

The autoinstallation process begins any time a services gateway is powered on and cannot locate a valid configuration file in the CompactFlash memory. Typically, a configuration file is unavailable when a services gateway is powered on for the first time or if the configuration file is deleted from the CompactFlash memory. The autoinstallation feature enables you to deploy multiple services gateways from a central location in the network.

If you are setting up many devices, autoinstallation can help automate the configuration process by loading configuration files onto new or existing devices automatically over the network. You can use either J-Web or the command-line interface (CLI) to configure a device for autoinstallation.

For the autoinstallation process to work, you must store one or more host-specific or default configuration files on a configuration server in the network and have a service available—typically, Dynamic Host Configuration Protocol (DHCP)—to assign an IP address to the services gateway.

Autoinstallation takes place automatically when you connect an Ethernet port on a new services gateway to the network and power on the device. To simplify the process, you can explicitly enable autoinstallation

on a device and specify a configuration server, an autoinstallation interface, and a protocol for IP address acquisition.

For more information about configuring autoinstallation, see the [Installation and Upgrade Guide](#).

RELATED DOCUMENTATION

[Connecting the SRX220 Services Gateway to the Power Supply | 65](#)

[Grounding the SRX220 Services Gateway | 59](#)

[Powering On and Powering Off the SRX220 Services Gateway | 66](#)

Unpacking the Services Gateway

IN THIS CHAPTER

- [Unpacking the SRX220 Services Gateway | 45](#)
- [Verifying Parts Received with the SRX220 Services Gateway | 46](#)

Unpacking the SRX220 Services Gateway

The SRX220 Services Gateway is shipped in a cardboard box. The carton also contains the device accessories and the SRX220 Services Gateway Quick Start.

NOTE: The device is maximally protected inside the shipping box. Do not unpack it until you are ready to begin installation.

To unpack the SRX220 Services Gateway:

1. Open the box in which the device is shipped.
2. Verify the parts received against the lists in [“Verifying Parts Received with the SRX220 Services Gateway” on page 46](#).
3. Store the shipping box and packing material in case you need to return or move the device at a later time.

RELATED DOCUMENTATION

[Required Tools and Parts for Installing and Maintaining the SRX220 Services Gateway | 42](#)

[Verifying Parts Received with the SRX220 Services Gateway | 46](#)

[Preparing the SRX220 Services Gateway for Rack-Mount and Wall-Mount Installation | 48](#)

Verifying Parts Received with the SRX220 Services Gateway

The SRX220 Services Gateway shipment package contains a packing list that includes all parts and accessories available with the device. Check the parts in the shipment against the items on the packing list. The packing list specifies the part numbers and describes each part in your order.

If any part is missing, contact your Juniper Networks customer service representative.

The shipment contains a fully configured SRX220 Services Gateway, including the chassis with installed components listed in [Table 24 on page 46](#), and an accessory box, which contains the parts listed in [Table 25 on page 46](#).

NOTE: The parts shipped with your device can vary depending on the configuration you ordered.

Table 24: Parts List for a Fully Configured SRX220 Services Gateway

| Component | Quantity |
|--|----------|
| SRX220 Services Gateway | 1 |
| <ul style="list-style-type: none"> For standard model : SRX220 Services Gateway with 8xGE ports, 2xMini-PIM slot For PoE model: SRX220 Services Gateway with 8xGE PoE ports (120 W total), 2xMini-PIM slot | |
| Power supply adapter | 1 |
| <ul style="list-style-type: none"> 60 W for standard model 200 W for PoE model | |
| 3-prong power cord | 1 |
| DB-9 to RJ-45 adapter and straight-through cable, 7 feet | 1 |

Table 25: Accessory Parts List for the SRX220 Services Gateway

| Part | Quantity |
|-----------------------------------|----------|
| Juniper Networks Product Warranty | 1 |

Table 25: Accessory Parts List for the SRX220 Services Gateway (*continued*)

| Part | Quantity |
|-------------------------------------|----------|
| End User License Agreement | 1 |
| SRX220 Services Gateway Quick Start | 1 |
| Security Products Safety Guide | 1 |
| Juniper Compliance Form Letter | 1 |
| Product Registration | 1 |
| Cable tie | 6 |

NOTE: The mounting kits available for rack and wall installation of the SRX220 Services Gateway must be ordered separately. Contact your Juniper Networks customer service representative for more information.

NOTE: The Mini-Physical Interface Modules (Mini-PIMs) are not shipped with the device. You must order them separately. Contact your Juniper Networks customer service representative for more information.

RELATED DOCUMENTATION

[Required Tools and Parts for Installing and Maintaining the SRX220 Services Gateway | 42](#)

[Unpacking the SRX220 Services Gateway | 45](#)

[Preparing the SRX220 Services Gateway for Rack-Mount and Wall-Mount Installation | 48](#)

Installing the Mounting Hardware

IN THIS CHAPTER

- [Preparing the SRX220 Services Gateway for Rack-Mount and Wall-Mount Installation | 48](#)
- [Preparing the SRX220 Services Gateway for Rack-Mount Installation | 48](#)
- [Preparing the SRX220 Services Gateway for Wall-Mount Installation | 50](#)

Preparing the SRX220 Services Gateway for Rack-Mount and Wall-Mount Installation

You can mount an SRX220 Services Gateway in a rack or on a wall. See the following topics for more information:

- [Preparing the SRX220 Services Gateway for Rack-Mount Installation on page 48](#)
- [Preparing the SRX220 Services Gateway for Wall-Mount Installation on page 50](#)

The mounting kits for rack and wall installation of the SRX220 Services Gateway must be ordered separately. Contact your Juniper Networks customer service representative for more information.

RELATED DOCUMENTATION

- [Unpacking the SRX220 Services Gateway | 45](#)
- [Clearance Requirements for Airflow and Hardware Maintenance of the SRX220 Services Gateway | 31](#)
- [Preparing the SRX220 Services Gateway for Rack-Mount Installation | 48](#)
- [Preparing the SRX220 Services Gateway for Wall-Mount Installation | 50](#)

Preparing the SRX220 Services Gateway for Rack-Mount Installation

You can mount an SRX220 Services Gateway on four-post (telco) racks, enclosed cabinets, and open-frame racks.

NOTE: The SRX220 Services Gateway does not support center-mount racks.

Table 26 on page 49 provides the list of tasks you need to perform before installing the device in a rack.

Table 26: SRX220 Services Gateway Preinstallation Checklist for Rack-Mount Installation

| Task | Additional Information |
|---|---|
| Verify that the site meets the requirements. | “Site Preparation Checklist for the SRX220 Services Gateway” on page 24 |
| Verify that the racks or cabinets meet the specific requirements. | “SRX220 Services Gateway Rack Requirements” on page 30 |
| Place the rack or cabinet in its permanent location, allowing adequate clearance for airflow and maintenance, and secure it to the building structure. | “Clearance Requirements for Airflow and Hardware Maintenance of the SRX220 Services Gateway” on page 31 |
| Remove the services gateway chassis from the shipping box. | “Unpacking the SRX220 Services Gateway” on page 45 |
| Verify that you have the following parts available in your rack-mounting kit for the SRX220 Services Gateway: <ul style="list-style-type: none"> • Rack-mounting brackets • Screws • Power supply adapter tray with screws | |

NOTE: The rack-mounting kit is not shipped with the device and must be ordered separately.

RELATED DOCUMENTATION

[Clearance Requirements for Airflow and Hardware Maintenance of the SRX220 Services Gateway | 31](#)

[Unpacking the SRX220 Services Gateway | 45](#)

[Verifying Parts Received with the SRX220 Services Gateway | 46](#)

[Preparing the SRX220 Services Gateway for Rack-Mount and Wall-Mount Installation | 48](#)

[Preparing the SRX220 Services Gateway for Wall-Mount Installation | 50](#)

Preparing the SRX220 Services Gateway for Wall-Mount Installation

You can mount an SRX220 Services Gateway on a wall. The four rubber feet attached to the chassis provide stability.

[Table 27 on page 50](#) provides the list of tasks you need to perform before installing the device on a wall.

Table 27: SRX220 Services Gateway Preinstallation Checklist for Wall-Mount Installation

| Task | Additional Information |
|--|---|
| Verify that the site meets the requirements. | “Site Preparation Checklist for the SRX220 Services Gateway” on page 24 |
| Remove the services gateway chassis from the shipping box. | “Unpacking the SRX220 Services Gateway” on page 45 |
| Verify that you have the following parts available in your wall-mounting kit to mount the SRX220 Services Gateway on a wall: <ul style="list-style-type: none">• Wall-mounting brackets• Screws | |

NOTE: The wall-mounting kit is not shipped with the device and must be ordered separately.

RELATED DOCUMENTATION

[Unpacking the SRX220 Services Gateway | 45](#)

[Preparing the SRX220 Services Gateway for Rack-Mount Installation | 48](#)

Installing the Services Gateway

IN THIS CHAPTER

- Installing the SRX220 Services Gateway in a Rack | 51
- Installing the SRX220 Services Gateway on a Wall | 55
- Replacing or Installing Mini-Physical Interface Modules in the SRX220 Services Gateway | 57

Installing the SRX220 Services Gateway in a Rack

You can front-mount the SRX220 Services Gateway in a rack. Many types of racks are acceptable, including four-post (telco) racks, enclosed cabinets, and open-frame racks. For more information about the type of rack or cabinet into which the SRX220 Services Gateway can be installed, see [“SRX220 Services Gateway Rack Requirements” on page 30](#).

NOTE: The rack-mounting kit is not shipped with the device and must be ordered separately. Refer to the [SRX Series Service Gateways for the Branch](#) datasheet for part number information.

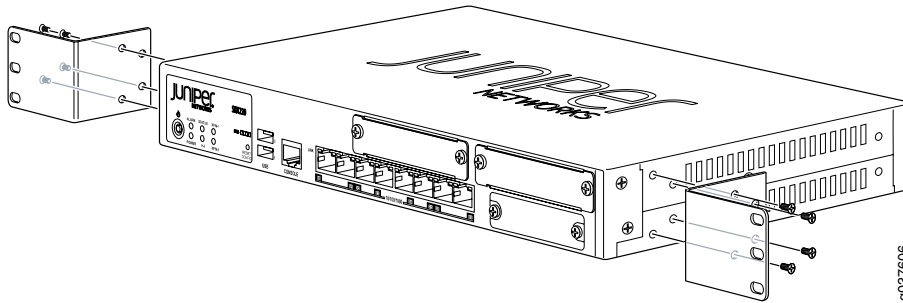
NOTE:

- If you are installing multiple devices in one rack, install the lowest one first and proceed upward in the rack.
- Make sure that the rubber feet from the base of the chassis are removed for rack installation.

To install the device in a rack:

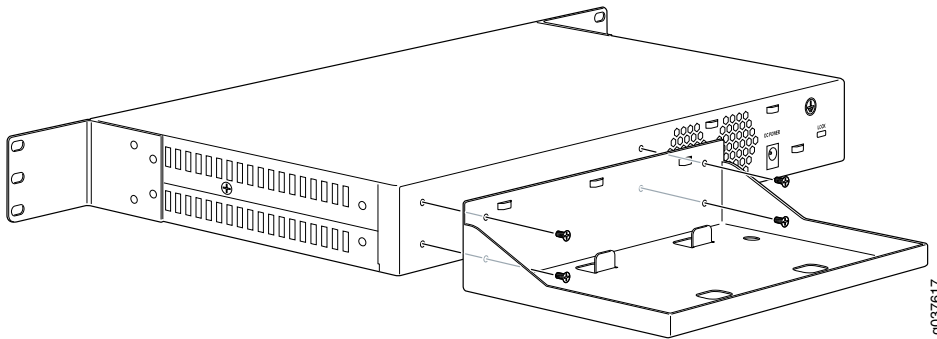
1. Position a mounting bracket on each side of the chassis, as shown in [Figure 10 on page 52](#).

Figure 10: Installation of SRX220 Services Gateway in a Rack – Attaching the Mounting Brackets



2. Use a number-1 Phillips screwdriver to install the screws that secure the mounting brackets to the chassis, as shown in [Figure 10 on page 52](#).
3. Orient the power supply tray, as shown in [Figure 11 on page 52](#).

Figure 11: SRX220 Services Gateway Rack Installation – Attaching the Power Supply Adapter Tray



4. Use a number-1 Phillips screwdriver to install the screws that secure the power supply tray to the chassis, as shown in [Figure 11 on page 52](#).
5. Place the power supply adapter in the tray, as shown in [Figure 12 on page 53](#) and [Figure 13 on page 53](#).

Figure 12: Positioning the Power Supply in the Tray (Standard Model)

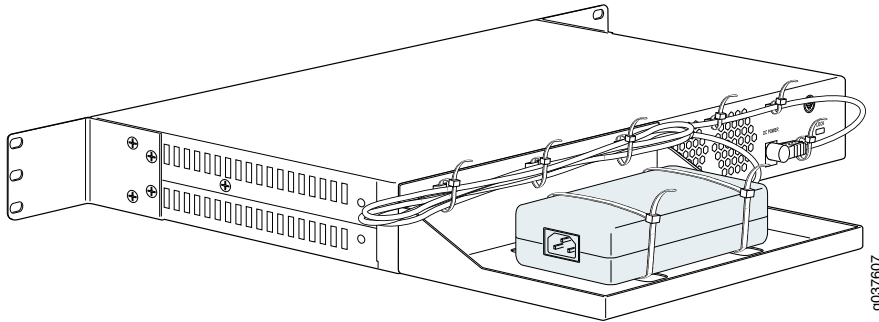
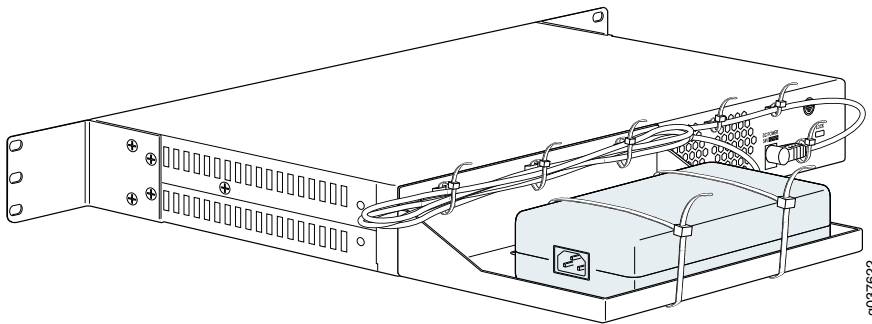
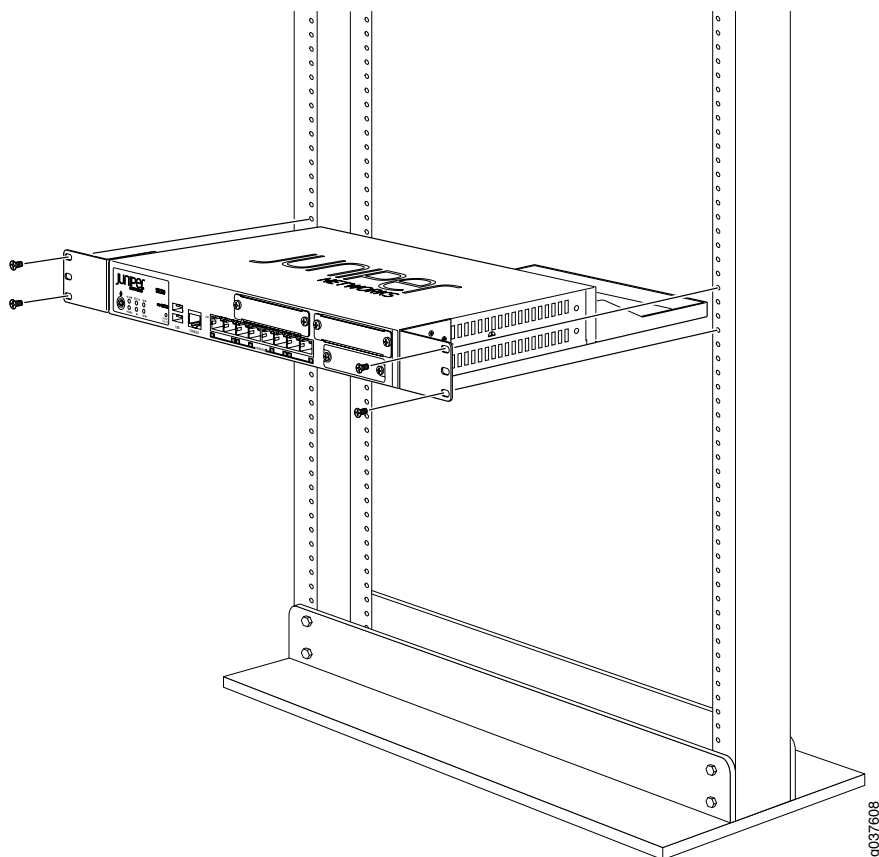


Figure 13: Positioning the Power Supply in the Tray (PoE Model)



6. Secure the power supply adapter to the tray with the large cable ties supplied, as shown in [Figure 12 on page 53](#) and [Figure 13 on page 53](#). Also, bundle the DC power cable neatly, and secure it to the cable tie loops on the tray and on the services gateway as shown.
7. Have one person grasp the sides of the device, lift it, and position it in the rack.
8. Align the bottom hole in each mounting bracket with a hole in each rack rail, as shown in [Figure 14 on page 54](#), making sure the chassis is level.

Figure 14: SRX220 Services Gateway Rack Installation – Installing the Services Gateway in a Rack



9. Have a second person install a mounting screw into each of the two aligned holes. Use a number-3 Phillips screwdriver to tighten the screws.
10. Install the second screw in each mounting bracket.
11. Verify that the mounting screws on one side of the rack are aligned with the mounting screws on the opposite side and that the device is level.

RELATED DOCUMENTATION

[SRX220 Services Gateway General Safety Guidelines and Warnings | 124](#)

[Required Tools and Parts for Installing and Maintaining the SRX220 Services Gateway | 42](#)

[Preparing the SRX220 Services Gateway for Rack-Mount Installation | 48](#)

[Installing the SRX220 Services Gateway on a Wall | 55](#)

Installing the SRX220 Services Gateway on a Wall

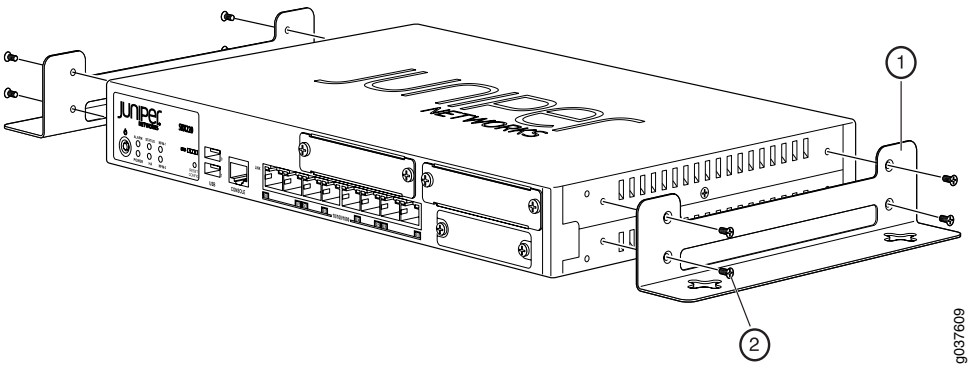
You can install the SRX220 Services Gateway on a wall.

NOTE: The wall-mounting kit is not shipped with the device and must be ordered separately.

To install the device on a wall:

1. Place the device on a flat and level surface with the Juniper Networks logo embossed on the top cover facing up. Ensure that the rubber feet are attached to the bottom of the chassis.
2. Position a mounting bracket on each side of the chassis, as shown in [Figure 15 on page 55](#).

Figure 15: SRX220 Services Gateway Wall Installation – Attaching the Mounting Brackets



[Table 28 on page 55](#) lists the parts used for installing the SRX220 Services Gateway on a wall. The numbers in [Figure 15 on page 55](#) correspond to the numbers in [Table 28 on page 55](#).

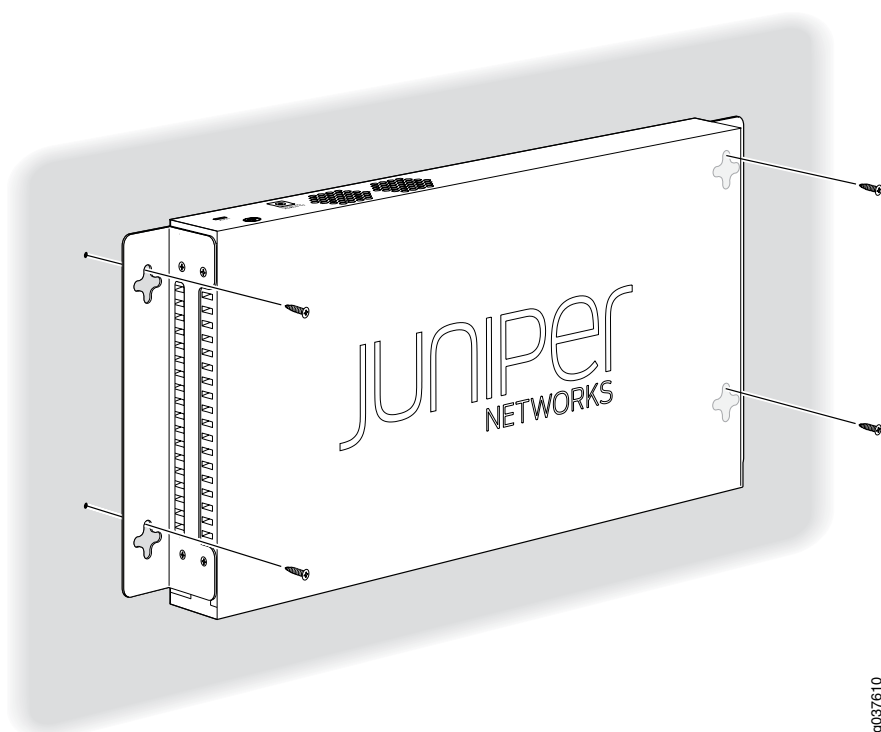
Table 28: SRX220 Services Gateway Wall Installation Parts

| Number | Part | Quantity |
|--------|------------------|----------|
| 1 | Mounting bracket | 2 |
| 2 | Screw | 8 |

3. Use a number-1 Phillips screwdriver to install the screws that secure the mounting brackets to the chassis.
4. If you are using wall anchors to support the chassis, install two pairs of anchors on the wall, spaced apart equal to the width of chassis with mounting brackets attached.

5. Have one person grasp the sides of the device, lift it, and position it on the wall.
6. Have a second person install two pairs of mounting screws through the bracket holes on either side of the device to secure it to the wall.
7. Verify that the mounting screws on one side are aligned with the mounting screws on the opposite side and that the device is level (see [Figure 16 on page 56](#)).

Figure 16: SRX220 Services Gateway Wall Installation – Hanging the Services Gateway on a Wall



RELATED DOCUMENTATION

[SRX220 Services Gateway General Safety Guidelines and Warnings](#) | 124

[Required Tools and Parts for Installing and Maintaining the SRX220 Services Gateway](#) | 42

[Preparing the SRX220 Services Gateway for Rack-Mount Installation](#) | 48

Replacing or Installing Mini-Physical Interface Modules in the SRX220 Services Gateway

Mini-Physical Interface Modules (Mini-PIMs) are circuit boards that you can install in a device for enhanced functionality, based on your requirements. They enable you to easily add or change physical interfaces on a device.

The SRX220 Services Gateway has two Mini-PIM slots. Each slot is covered with a blank faceplate to maintain proper airflow through the services gateway. Before installing a Mini-PIM in a slot, you must remove the blank faceplate from the slot.

See the [SRX Series Services Gateways for the Branch Physical Interface Modules Hardware Guide](#) for information about installing Mini-PIMs.

NOTE: The Mini-PIMs available for the SRX220 Services Gateway do not support hot swapping. You must power off the device and then unplug its power supply adapter before removing or installing Mini-PIMs.

RELATED DOCUMENTATION

[SRX220 Services Gateway Installation Safety Guidelines and Warnings](#) | 133

[Installing the SRX220 Services Gateway on a Wall](#) | 55

[Installing the SRX220 Services Gateway in a Rack](#) | 51

Grounding the SRX220 Services Gateway

IN THIS CHAPTER

- [SRX220 Services Gateway Grounding Specifications | 58](#)
- [Grounding the SRX220 Services Gateway | 59](#)

SRX220 Services Gateway Grounding Specifications

To meet safety and electromagnetic interference (EMI) requirements and to ensure proper operation, the services gateway must be adequately grounded before power is connected. A grounding lug on the back of the services gateway chassis is used to connect the device to earth ground.



WARNING: Before device installation begins, a licensed electrician must attach a cable lug to the grounding and power cables that you supply. A cable with an incorrectly attached lug can damage the device (for example, by causing a short circuit).

To ground the device before connecting power, you connect the grounding cable to earth ground and then attach the lug on the cable to the chassis grounding point with the screw.

[Table 29 on page 58](#) lists the specifications of the grounding cable used with the device.

Table 29: Grounding Cable Specifications for the Services Gateway

| Grounding Requirement | Specification |
|-----------------------------|--|
| Grounding cable | 14 AWG single-strand wire cable |
| Amperage of grounding cable | Up to 4 A |
| Grounding lug | Ring-type, vinyl-insulated TV14-6R lug or equivalent |

RELATED DOCUMENTATION

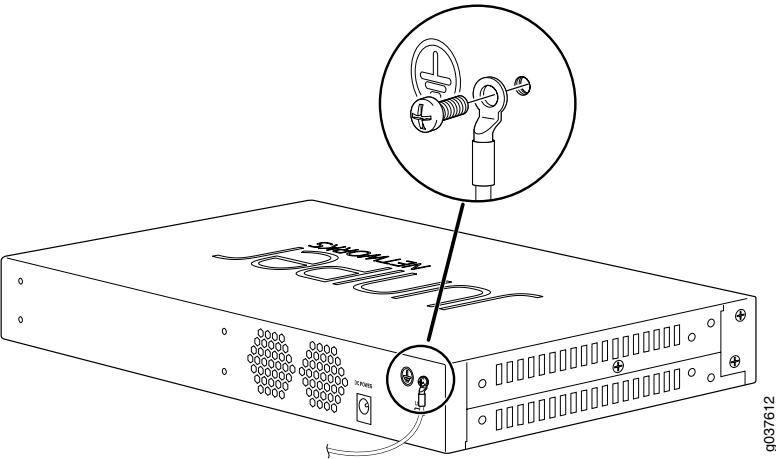
| | |
|---|----|
| SRX220 Services Gateway Site Electrical Wiring Guidelines | 33 |
| SRX220 Services Gateway Power Specifications and Requirements | 35 |
| Grounding the SRX220 Services Gateway | 59 |
| Interface Cable and Wire Specifications for the SRX220 Services Gateway | 37 |

Grounding the SRX220 Services Gateway

To meet safety and electromagnetic interference (EMI) requirements and to ensure proper operation, you must adequately ground the SRX220 Services Gateway before connecting power.

Figure 17 on page 59 shows how to connect a grounding cable to the services gateway.

Figure 17: Grounding the SRX220 Services Gateway



You ground the device by connecting a grounding cable to earth ground and then attaching it to the chassis grounding points using one M3 screw.

Table 30 on page 59 lists the specifications of the grounding cable used with the device.

Table 30: Grounding Cable Specifications for the Services Gateway

| Grounding Requirement | Specification |
|-----------------------------|--|
| Grounding cable | 14 AWG single-strand wire cable |
| Amperage of grounding cable | Up to 4 A |
| Grounding lug | Ring-type, vinyl-insulated TV14-6R lug or equivalent |



CAUTION: Before device installation begins, a licensed electrician must attach a cable lug to the grounding and power cables that you use. A cable with an incorrectly attached lug can damage the device (for example, by causing a short circuit).

To ground the device:

1. Connect the grounding cable to a proper earth ground.
2. Verify that a licensed electrician has attached the cable lug to the grounding cable.
3. Place the grounding cable lug over the grounding point on the upper rear of the chassis.
4. Secure the grounding cable lug to the grounding point with the screw. Apply between 6 in.-lb (0.67 Nm) and 8 in.-lb (0.9 Nm) of torque to the screws.
5. Dress the grounding cable and verify that it does not touch or block access to the services gateway components and that it does not cause create a tripping hazard.

NOTE: The device should be permanently connected to ground during normal operation.

RELATED DOCUMENTATION

[Connecting the SRX220 Services Gateway to the Power Supply | 65](#)

[Connecting and Organizing Interface Cables for the SRX220 Services Gateway | 61](#)

[SRX220 Services Gateway Grounding Specifications | 58](#)

[Powering On and Powering Off the SRX220 Services Gateway | 66](#)

[SRX220 Services Gateway General Safety Guidelines and Warnings | 124](#)

Connecting the SRX220 Services Gateway to External Devices

IN THIS CHAPTER

- [Connecting and Organizing Interface Cables for the SRX220 Services Gateway | 61](#)
- [Connecting the Modem to the Console Port on the SRX220 Services Gateway | 62](#)
- [Connecting to the CLI at the User End for the SRX220 Services Gateway | 63](#)

Connecting and Organizing Interface Cables for the SRX220 Services Gateway

You can connect the interfaces installed in the services gateway to various network media. Each type of interface on the services gateway uses a particular medium to transmit data. You must configure each network interface before it can operate on the device.

To connect and organize an interface cable for the device:

1. Have ready a length of the type of cable used by the interface.
2. Insert the cable connector into the cable connector port on the interface faceplate.
3. Arrange network cables as follows to prevent them from dislodging or developing stress points:
 - Secure cables so that they are not supporting their own weight as they hang to the floor.
 - Place excess cable out of the way in neatly coiled loops.
 - Use fasteners to maintain the shape of cable loops.

RELATED DOCUMENTATION

[Connecting the SRX220 Services Gateway to the Power Supply | 65](#)

[Grounding the SRX220 Services Gateway | 59](#)

Connecting the Modem to the Console Port on the SRX220 Services Gateway

To connect the dial-up modem to the console port on the services gateway:

1. Turn off power to the services gateway.
2. Turn off power to the modem.
3. Plug one end of the Ethernet cable supplied with your services gateway into the console port on the services gateway.
4. Plug the other end of the Ethernet cable into the RJ-45 to DB-9 serial port adapter supplied with your services gateway.
5. Connect the serial port adapter to a separately purchased DB-9 socket to DB-25 plug adapter or other adapter appropriate for your modem.
6. Plug the modem adapter into the DB-25 connector on the modem.
7. Connect the modem to your telephone network.
8. Turn on the power to the modem.
9. Power on the services gateway by pressing the Power button on the front panel. Verify that the **Power** LED on the front panel turns green.

NOTE: Most modems have an RS-232 DB-25 connector. You must separately purchase an adapter to connect your modem to the RJ-45 to DB-9 adapter and the Ethernet cable supplied with the services gateway.

RELATED DOCUMENTATION

| |
|--|
| Configuring the Modem at the SRX220 Services Gateway End 96 |
| Connecting to the CLI at the User End for the SRX220 Services Gateway 63 |
| SRX220 Services Gateway Software Configuration Overview 70 |

Connecting to the CLI at the User End for the SRX220 Services Gateway

To remotely connect to the CLI through a dial-up modem connected to the console port on the services gateway:

1. Connect a modem at your remote location to a management device such as a PC or laptop computer.
2. Start your asynchronous terminal emulation application (such as Microsoft Windows HyperTerminal) on the PC or laptop computer.
3. Select the **COM** port to which the modem is connected (for example, **COM1**).
4. Configure the port settings shown in [Table 31 on page 63](#).

Table 31: Port Settings for Connecting to the CLI at User End

| Port Setting | Value |
|-----------------|-------|
| Bits per second | 9600 |
| Data bits | 8 |
| Parity | None |
| Stop bits | 1 |
| Flow control | None |

5. In the HyperTerminal window, enter **AT**.

An **OK** response verifies that the modem can communicate successfully with the **COM** port on the PC or laptop.

For more information on the AT commands, see [Administration Guide for Security Devices](#).
6. Dial the modem that is connected to the console port on the services gateway by entering **ATDT remote-modem-number**. For example, if the number of the modem connected to the console port on the services gateway is **0013033033030**, enter **ATDT 0013033033030**.

The services gateway login prompt appears.

7. Log in as the user **root**. No password is required at initial connection, but you must assign a root password before committing any configuration settings.

RELATED DOCUMENTATION

[Configuring the Modem at the SRX220 Services Gateway End | 96](#)

[Connecting the Modem to the Console Port on the SRX220 Services Gateway | 62](#)

[SRX220 Services Gateway Software Configuration Overview | 70](#)

Providing Power to the SRX220 Services Gateway

IN THIS CHAPTER

- Connecting the SRX220 Services Gateway to the Power Supply | 65
- Powering On and Powering Off the SRX220 Services Gateway | 66

Connecting the SRX220 Services Gateway to the Power Supply

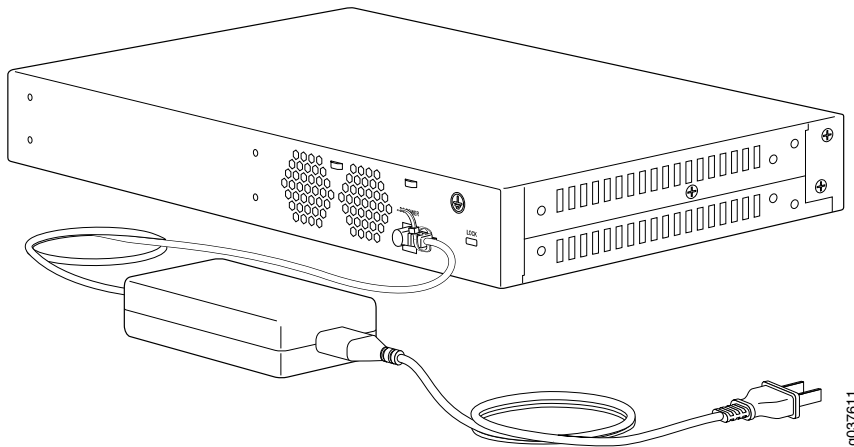


CAUTION: Before connecting the device to the power supply, attach an electrostatic discharge (ESD) strap to an ESD point and place the other end of the strap around your bare wrist.

To connect the device to the power supply:

1. Plug the DC connector end of the power cable into the power connector on the back of the device (see [Figure 18 on page 66](#)).
2. Secure the DC connector end of the power cable in the power connector, using a plastic cable tie, as shown in [Figure 18 on page 66](#).
3. Plug the AC adapter end of the power cable into an AC power outlet.

Figure 18: Connecting the SRX220 Services Gateway to the Power Supply



CAUTION: We recommend using a surge protector for the power connection.

NOTE: Before the services gateway is fully configured and running, you might hear a crackling noise from the power supply unit. This noise is temporary and stops after the device is configured.

RELATED DOCUMENTATION

[Required Tools and Parts for Installing and Maintaining the SRX220 Services Gateway | 42](#)

[Grounding the SRX220 Services Gateway | 59](#)

[Connecting and Organizing Interface Cables for the SRX220 Services Gateway | 61](#)

[SRX220 Services Gateway General Safety Guidelines and Warnings | 124](#)

Powering On and Powering Off the SRX220 Services Gateway

This topic describes the following procedures:

1. [Powering On the SRX220 Services Gateway | 67](#)
2. [Powering Off the SRX220 Services Gateway | 67](#)
3. [Resetting the SRX220 Services Gateway | 69](#)

Powering On the SRX220 Services Gateway

To power on the services gateway:

1. Ensure that you have connected the power supply to the device.
2. Insert the plug of the power supply adapter into an AC power source receptacle.
3. Turn on the power to the AC power receptacle and press the Power button.

The device starts automatically as the power supply completes its startup sequence. The Power LED lights green during startup and remains on when the device is operating normally.

NOTE: After the power supply is turned on, it can take up to 60 seconds for status indicators—such as the Status and Power LEDs—to show that the power supply is functioning normally.

NOTE: If you want to power the device off immediately after you power it on, we recommend that you shut down the device using the command-line interface (CLI) **request system power-off** command.

SEE ALSO

[Connecting the SRX220 Services Gateway to the Power Supply | 65](#)

[Grounding the SRX220 Services Gateway | 59](#)

[SRX220 Services Gateway Front Panel and Back Panel Views | 9](#)

[Using the Reset Config Button on the SRX220 Services Gateway | 109](#)

Powering Off the SRX220 Services Gateway

You can power off the services gateway in one of the following ways:

- Graceful shutdown—Press and release the Power button. The device begins gracefully shutting down the operating system and then powers itself off.

NOTE: Do not press the Power button again while the device is shutting down.

- Forced shutdown—Press the Power button and hold it for more than 10 seconds. The device immediately powers itself off without shutting down the operating system.



CAUTION: Use the graceful shutdown method to halt, power off, or reboot the services gateway under normal circumstances. Use the forced shutdown method as a last resort to recover the services gateway if the services gateway software does not respond to the graceful shutdown method. Forced shutdown can result in data loss and corruption of the file system.

NOTE: To remove power completely from the device, unplug the AC power cord or switch off the power source.

After powering off a power supply, wait at least 10 seconds before turning it back on. After powering on a power supply, wait at least 10 seconds before turning it off.

The Power button on the services gateway is a standby power switch.

If you press the Power button to power off the device when it is still connected to a power source, 12 V (standard model) or 54 V (PoE model) power will still be available in the chassis and the device will be fully powered off.

TIP: When you are powering off the device, the system displays the following message: Turning the system power off. You can now safely remove the power cable to completely disconnect the power from the device.

NOTE: You can use the **request system reboot** command on the CLI to schedule a reboot of the services gateway.

For more information about halting, powering off, or rebooting the services gateway using the CLI, see the [Initial Configuration for Security Devices](#)

SEE ALSO

[Connecting the SRX220 Services Gateway to the Power Supply | 65](#)[Grounding the SRX220 Services Gateway | 59](#)[Using the Reset Config Button on the SRX220 Services Gateway | 109](#)**Resetting the SRX220 Services Gateway**

The Reset Config button on the front panel of the services gateway can be used to remove the current configuration and reset the device to the default (factory) configuration. The button is recessed in the front panel to prevent it from being pressed accidentally.

NOTE: Pressing and holding the Reset Config button for 15 seconds or more deletes all configurations on the device and loads and commits the default (factory) configuration.

SEE ALSO

[Connecting the SRX220 Services Gateway to the Power Supply | 65](#)[Grounding the SRX220 Services Gateway | 59](#)[Using the Reset Config Button on the SRX220 Services Gateway | 109](#)

RELATED DOCUMENTATION

[Connecting the SRX220 Services Gateway to the Power Supply | 65](#)[Grounding the SRX220 Services Gateway | 59](#)[Using the Reset Config Button on the SRX220 Services Gateway | 109](#)

Performing Initial Configuration

IN THIS CHAPTER

- [SRX220 Services Gateway Software Configuration Overview | 70](#)
- [Connecting to the SRX220 Services Gateway Setup Wizard | 74](#)
- [SRX220 Services Gateway Secure Web Access Overview | 76](#)
- [Connecting an SRX220 Services Gateway to the CLI Locally | 77](#)
- [Connecting an SRX220 Services Gateway to the CLI Remotely | 78](#)
- [Viewing Factory-Default Settings of the SRX220 Services Gateway | 79](#)
- [Performing Initial Software Configuration on the SRX220 Services Gateway Using the CLI | 88](#)
- [Performing Initial Software Configuration on the SRX220 Services Gateway Using the J-Web Interface Setup Wizard | 92](#)
- [Configuring the Modem at the SRX220 Services Gateway End | 96](#)
- [Configuring PoE Functionality on the SRX220 Services Gateway | 97](#)

SRX220 Services Gateway Software Configuration Overview

IN THIS SECTION

- [Preparing the SRX220 Services Gateway for Configuration | 71](#)
- [Understanding the Factory-Default Configuration | 71](#)
- [Understanding Built-In Ethernet Ports and Initial Configuration | 72](#)
- [Mapping the Chassis Cluster Ports | 73](#)
- [Understanding Management Access | 73](#)

This topic includes the following sections:

Preparing the SRX220 Services Gateway for Configuration

The services gateway is shipped with the Juniper Networks Junos operating system (Junos OS) preinstalled and ready to be configured when the device is powered on.

When the device powers on, it tries to start the Junos OS on the USB flash drive. If a USB flash drive is not inserted into the USB connector or if the attempt otherwise fails, the device next tries the CompactFlash card, and finally the internal flash memory.

You can perform the initial software configuration of the services gateway by using the browser-based setup wizard or by using the command-line interface (CLI).

Before configuring the device, gather the configuration information required to deploy the device in your network. At minimum, the setup wizard requires the following information:

- Device name to be used on the network
- Password for the root user
- Time information for the services gateway location:
 - Local time zone
 - Name or IP address of a Network Time Protocol (NTP) server, if NTP is used to set the time on the services gateway
 - Local date and time if an NTP server is not used to set the time

Understanding the Factory-Default Configuration

Your services gateway comes configured with a factory-default configuration. This configuration sets up the following network topology:

- Interface **ge-0/0/0** (port 0/0) is configured for Internet access. A DHCP client running on the interface enables the interface to receive its network settings—IP address, default gateway, and DNS servers—from an Internet service provider (ISP).
- Interfaces **ge-0/0/1** through **ge-0/0/7** (port 0/1 through port 0/7) are configured as switched interfaces in a VLAN on which the IP address **192.168.1.1/24** is configured.
- A DHCP server is active on interfaces **ge-0/0/1** through **ge-0/0/7**. The DHCP server assigns IP addresses in the **192.168.1.0/24** network to connected devices.

The default configuration also includes the following security configuration:

- Two security zones are created: trust and untrust.
- Interface **ge-0/0/0** is in the untrust zone, while interfaces **ge-0/0/1** through **ge-0/0/7** are in the trust zone.

- A security policy is created that permits outbound traffic from the trust zone to the untrust zone. Inbound traffic originating in the untrust zone is blocked.
- Source Network Address Translation (NAT) is configured on the trust zone.

Understanding Built-In Ethernet Ports and Initial Configuration

During the initial configuration of the services gateway, how you use the built-in Ethernet ports (ports 0/0 through 0/7) depends on the initial configuration you are performing:

- Configuration using autoinstallation—Use built-in Ethernet port 0/0 to connect to the DHCP server. A DHCP client is configured on this interface, allowing the services gateway to receive its IP address from the DHCP server.
- Configuration using the setup wizard—Use the following built-in Ethernet ports:
 - Port 0/1—Connect your management device to this port. A DHCP server running on this interface automatically assigns your management device an IP address in the same subnetwork as the interface, allowing your management device to communicate with the services gateway through this interface.
 - Port 0/0—Connect your services gateway to the Internet on this port if you plan to download purchased software licenses through the setup wizard. A DHCP client running on this interface allows it to receive its network settings from your ISP.

NOTE: Downloading of purchased licenses from the setup wizard is available only in Junos OS Release 11.2R3 or later.

- Configuration of a chassis cluster—Perform the initial configuration of the chassis cluster using a console connection. Before you perform the initial configuration, connect the built-in Ethernet ports as follows:
 - Port 0/6—Connect to the out-of-band management network for management of the device. When you enable chassis clustering as part of configuring the chassis cluster, the management interface (**fxp0**) is automatically created on this port.
 - Port 0/7—Connect to the other device in the chassis cluster. When you enable chassis clustering, the control interface between the two devices (**fxp1**) is automatically created on this port.

You must also make another connection between the two devices for the fabric link. You can use any available Gigabit Ethernet port for this connection. You must configure the interface you choose as the fabric link. For more information on configuring chassis clusters, see the [Security Basics](#) topic.

Mapping the Chassis Cluster Ports

On the SRX220 Services Gateway, the **fxp1** port is not user-configurable when the services gateway is operating in chassis cluster mode.

The **fxp0** port is dedicated as the out-of-band management port for each device in the chassis cluster setup. The **fxp1** port is dedicated as the chassis-cluster control port.

[Table 32 on page 73](#) shows the mapping of the chassis cluster ports.

Table 32: Mapping of the Chassis Cluster Ports on an SRX220 Services Gateway

| GE Port on SRX220 Services Gateway | Management Interface |
|------------------------------------|------------------------|
| 0/6 | fxp0 (management port) |
| 0/7 | fxp1 (control port) |


Junos OS automatically creates the **fxp0** and **fxp1** interfaces on these ports when the SRX220 Services Gateway is operating in chassis cluster mode.

For more information, see the following topics:

- [Interfaces for Security Devices](#)
- [Security Basics](#)

Understanding Management Access

Telnet allows you to connect to the services gateway and access the CLI to execute commands from a remote system. The Telnet CLI connections are not encrypted and therefore can be intercepted.

**NOTE:** Telnet access to the root user is prohibited. You must use more secure methods, such as SSH, to log in as **root**.

SSH provides the following features:

- Allows you to connect to the device and access the CLI to execute commands from a remote system
- Encrypts traffic so that it cannot be intercepted (unlike Telnet)
- Can be configured so that connections are authenticated by a digital certificate
- Uses public-private key technology for both connection and authentication

The SSH client software must be installed on the machine where the client application runs. If the SSH private key is encrypted (for greater security), the SSH client must be able to access the passphrase used to decrypt the key.

For information about obtaining SSH software, see <http://www.ssh.com> and <http://www.openssh.com>.

If you are using a Junos XML protocol server to configure and monitor devices, you can activate cleartext access on the device to allow unencrypted text to be sent directly over a Transmission Control Protocol (TCP) connection without using any additional protocol (such as SSH, Secure Sockets Layer [SSL], or Telnet). For more information about the Junos XML management protocol, see the [NETCONF XML Management Protocol Guide](#).

If the device is operating in a Common Criteria environment, see the [Configuration Guides for Junos OS Public Sector Certifications](#).

RELATED DOCUMENTATION

[Connecting an SRX220 Services Gateway to the CLI Locally | 77](#)

[Connecting an SRX220 Services Gateway to the CLI Remotely | 78](#)

[Performing Initial Software Configuration on the SRX220 Services Gateway Using the CLI | 88](#)

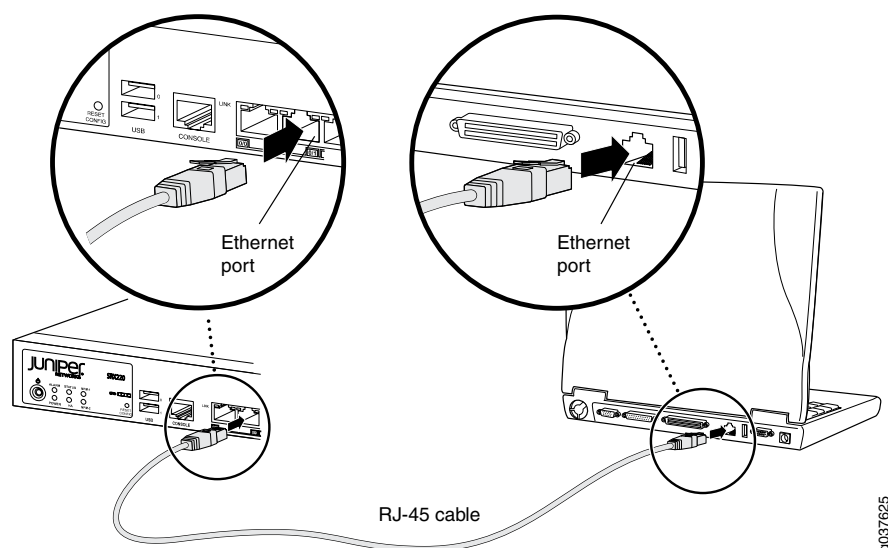
[SRX220 Services Gateway Secure Web Access Overview | 76](#)

Connecting to the SRX220 Services Gateway Setup Wizard

If you plan to use the setup wizard to configure the SRX220 Services Gateway, you must connect your management device (such as a laptop or desktop computer) to one of the built-in Ethernet ports 0/1 through 0/7 on the services gateway as shown in [Figure 19 on page 75](#). Do not use built-in Ethernet port 0/0.

NOTE: To access the J-Web interface, your management device requires a supported browser: either Microsoft Internet Explorer version 7.0 or Mozilla Firefox version 3.0 (or later).

Figure 19: Connecting to the Ethernet Port on an SRX220 Services Gateway



To enable communication between the management device and the services gateway, ports 0/1 through 0/7 are preconfigured with the IP address **192.168.1.1** and use DHCP to assign an IP address in the **192.168.1.0/24** network to any connected device.

To connect to the Ethernet port:

1. Ensure that the IP address for the Ethernet port on the management device is configured in one of the following ways:
 - The IP address is assigned by DHCP.
 - The IP address is in the **192.168.1.0/24** subnetwork (but is not **192.168.1.1**).
2. Turn off the management device.
3. Plug one end of the CAT-5e (Ethernet cable) into the Ethernet port on the management device.
4. Connect the other end of the Ethernet cable to any of the built-in Ethernet ports **0/1** to **0/7** on the services gateway.

If the services gateway has not already been powered on, power it on now.

5. Wait until the Status LED on the front panel of the services gateway lights green.

6. Turn on the power to the management device. The services gateway assigns an IP address to the management device within the **192.168.1.0/24** network if the management device is configured to use DHCP.
7. To access the setup wizard, open a Web browser on the management device and enter the IP address **192.168.1.1** in the address field.

RELATED DOCUMENTATION

[Connecting an SRX220 Services Gateway to the CLI Locally | 77](#)

[SRX220 Services Gateway Software Configuration Overview | 70](#)

[SRX220 Services Gateway Secure Web Access Overview | 76](#)

SRX220 Services Gateway Secure Web Access Overview

You can manage a services gateway remotely through the J-Web interface. To communicate with the services gateway, the J-Web interface uses Hypertext Transfer Protocol (HTTP). HTTP allows easy Web access but no encryption. The data that is transmitted between the Web browser and the services gateway by means of HTTP is vulnerable to interception and attack. To enable secure Web access, the services gateway supports HTTP over Secure Sockets Layer (HTTPS). You can enable HTTP or HTTPS access on specific interfaces and ports as needed.

The services gateway uses the SSL protocol to provide secure management of services gateways through the J-Web. SSL uses public-private key technology that requires a paired private key and an authentication certificate for providing the SSL service. SSL encrypts communication between your device and the Web browser with a session key negotiated by the SSL server certificate.

An SSL certificate includes identifying information such as a public key and a signature made by a certificate authority (CA). When you access the services gateway through HTTPS, an SSL handshake authenticates the server and the client and begins a secure session. If the information does not match or if the certificate has expired, your access to the services gateway through HTTPS is restricted.

Without SSL encryption, communication between your services gateway and the browser is sent in the open and can be intercepted. We recommend that you enable HTTPS access on your WAN interfaces.

RELATED DOCUMENTATION

[SRX220 Services Gateway Software Configuration Overview | 70](#)

Connecting an SRX220 Services Gateway to the CLI Locally

If you plan to use the command-line interface (CLI) to configure the SRX220 Services Gateway, you must connect through the console port.

NOTE: A remote connection to the services gateway through a modem requires the RJ-45 cable and RJ-45 to DB-9 serial port adapter (provided in the services gateway accessory box), plus a DB-9 plug to DB-25 plug (or similar) adapter for your modem, which you must purchase separately.

To connect to the CLI using a local management device through the console port on the services gateway:

1. Turn off power to the services gateway.
2. Turn off power to the management device, such as a PC or laptop computer, that you are using to access the CLI.
3. Plug one end of the Ethernet cable supplied with your services gateway into the RJ-45 to DB-9 serial port adapter supplied with your services gateway.
4. Plug the RJ-45 to DB-9 serial port adapter into the serial port on the management device.
5. Connect the other end of the Ethernet cable to the console port on the services gateway.
6. Turn on the power to the management device.
7. Start an asynchronous terminal emulation application (such as Microsoft Windows HyperTerminal), and select the appropriate **COM** port to use (for example, **COM1**).
8. Configure the port settings as shown in [Table 33 on page 77](#).

Table 33: Port Settings for Connecting to the Console Port

| Port Settings | Value |
|-----------------|-------|
| Bits per second | 9600 |
| Data bits | 8 |
| Parity | None |
| Stop bits | 1 |

Table 33: Port Settings for Connecting to the Console Port (*continued*)

| Port Settings | Value |
|---------------|-------|
| Flow control | None |

9. Power on the services gateway by pressing the Power button on the front panel.

10. Verify that the Power LED on the front panel turns green.

The terminal emulation screen on your management device displays the startup sequence. When the services gateway has finished starting up, a login prompt appears.

11. Log in as the user **root**. No password is required at initial connection, but you must assign a root password before committing any configuration settings.

RELATED DOCUMENTATION

[Connecting an SRX220 Services Gateway to the CLI Remotely | 78](#)

[Performing Initial Software Configuration on the SRX220 Services Gateway Using the CLI | 88](#)

[SRX220 Services Gateway Software Configuration Overview | 70](#)

[SRX220 Services Gateway Secure Web Access Overview | 76](#)

Connecting an SRX220 Services Gateway to the CLI Remotely

You can connect an SRX220 Services Gateway to the CLI from a remote location through two dial-up modems:

- A modem that is connected to the console port on the services gateway
- A second modem connected to a remote management device

The modem connection allows you to remotely perform the same console operations that you can perform locally.

RELATED DOCUMENTATION

[Connecting an SRX220 Services Gateway to the CLI Locally | 77](#)

Viewing Factory-Default Settings of the SRX220 Services Gateway

To view the factory-default configuration of the services gateway using the CLI:

1. Verify that the services gateway is powered on.
2. Log in as the root user and provide your credentials.
3. In shell mode, navigate to the `/etc/config` folder.

```
% cd /etc/config
```

4. View the list of default config files.

```
% ls
```

The following sample output displays the list of factory-default configuration files:

```
j-series-defaults.conf
jsrxsme-series-defaults.conf
jsrxsme-series-factory.conf
junos-defaults.conf
junos-factory.conf
junos-fips-defaults.conf
ptx-series-defaults.conf
srx100-8xfe-factory.conf
srx100b-defaults.conf
srx100b-factory.conf
srx100h-defaults.conf
srx100h-factory.conf
srx100h2-defaults.conf
srx100h2-factory.conf
srx110-8xfe-vdsl-factory.conf
srx110-8xfe-vdsl-wl-factory.conf
srx110-8xfe-wl-factory.conf
srx110b-defaults.conf
srx110b-vb-defaults.conf
srx110b-vb-factory.conf
srx110b-vb-factory.conf
srx210h-defaults.conf
srx210h-factory.conf
srx210h-poe-defaults.conf
srx210h-poe-factory.conf
srx210he-defaults.conf
srx210he-factory.conf
srx210he-poe-defaults.conf
srx210he-poe-factory.conf
srx210he2-defaults.conf
srx210he2-factory.conf
srx210he2-poe-defaults.conf
srx210he2-poe-factory.conf
srx220-8xge-factory.conf
srx220-poe-8xge-factory.conf
srx220h-defaults.conf
srx220h-factory.conf
srx220h-poe-defaults.conf
srx220h-poe-factory.conf
srx220h2-defaults.conf
srx220h2-factory.conf
srx220h2-poe-defaults.conf
srx220h2-poe-factory.conf
```

```

srx110b-wl-defaults.conf
srx110b-wl-factory.conf
srx110h-defaults.conf
srx110h-vb-defaults.conf
srx110h-vb-factory.conf
srx110h-vb-wl-defaults.conf
srx110h-vb-wl-factory.conf
srx110h-wl-defaults.conf
srx110h-wl-factory.conf
srx110h2-vb-defaults.conf
srx110h2-vb-factory.conf
srx210-2xge-6xfe-factory.conf
srx210-poe-2xge-6xfe-factory.conf
srx210b-defaults.conf
srx210b-factory.conf
srx210be-defaults.conf
srx210be-factory.conf
srx240-16xge-factory.conf
srx240-poe-16xge-factory.conf
srx240b-factory.conf
srx240b2-factory.conf
srx240h-dc-defaults.conf
srx240h-dc-factory.conf
srx240h-defaults.conf
srx240h-factory.conf
srx240h-poe-defaults.conf
srx240h-poe-factory.conf
srx240h2-dc-defaults.conf
srx240h2-dc-factory.conf
srx240h2-defaults.conf
srx240h2-factory.conf
srx240h2-poe-defaults.conf
srx240h2-poe-factory.conf
srx550-6xge-factory.conf
srx550-defaults.conf
srx550-factory.conf
srx650-4xge-factory.conf
srx650-defaults.conf
srx650-factory.conf

```

5. View the required default config file.

% vi config file name

For example, enter the following command to view the default configuration file for the SRX240 Services Gateway.

% vi srx240-poe-16xge-factory.conf

The following sample output displays the factory-default configuration on an SRX240 Services Gateway:

```

##
## $Id: $
##
## Copyright (c) 2009, Juniper Networks, Inc.
## All rights reserved.
##
system {
    autoinstallation {
        delete-upon-commit;
        traceoptions {

```

```

        level verbose;
        flag {
            all;
        }
    }
    interfaces {
        ge-0/0/0 {
            bootp;
        }
    }
}
services {
    ssh;
    telnet;
    dhcp {
        router {
            192.168.1.1;
        }
        pool 192.168.1.0/24 {
            address-range low 192.168.1.2 high 192.168.1.254;
        }
        propagate-settings ge-0/0/0.0;
    }
    web-management {
        http {
            interface [ vlan.0 ];
        }
        https {
            system-generated-certificate;
            interface [ vlan.0 ];
        }
    }
    xnm-clear-text;
}
name-server {
    208.67.222.222;
    208.67.220.220;
}
syslog {
    archive size 100k files 3;
}
}

interfaces {

```

```

ge-0/0/0 {
    unit 0;
}
ge-0/0/1 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}

ge-0/0/2 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}

ge-0/0/3 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}

ge-0/0/4 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}

```

```

ge-0/0/5 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}
ge-0/0/6 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}
ge-0/0/7 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}
ge-0/0/8 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}
ge-0/0/9 {
    unit 0 {
        family ethernet-switching {
            vlan {

```

```

        members vlan-trust;
    }
}

}
}
ge-0/0/10 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}
ge-0/0/11 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}
ge-0/0/12 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}
ge-0/0/13 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}

```

```

    }
}
ge-0/0/14 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}
ge-0/0/15 {
    unit 0 {
        family ethernet-switching {
            vlan {
                members vlan-trust;
            }
        }
    }
}
vlan {
    unit 0 {
        family inet {
            address 192.168.1.1/24;
        }
    }
}

poe {
    interface all;
}

security {
    nat {
        source {
            rule-set trust-to-untrust {
                from zone trust;
                to zone untrust;
                rule source-nat-rule {
                    match {
                        source-address 0.0.0.0/0;

```

```

        }
        then {
            source-nat {
                interface;
            }
        }
    }
}
screen {
    ids-option untrust-screen {
        icmp {
            ping-death;
        }
        ip {
            source-route-option;
            tear-drop;
        }
        tcp {
            syn-flood {
                alarm-threshold 1024;
                attack-threshold 200;
                source-threshold 1024;
                destination-threshold 2048;
                timeout 20;
            }
            land;
        }
    }
}
zones {
    security-zone trust {
        host-inbound-traffic {
            system-services {
                all;
            }
            protocols {
                all;
            }
        }
        interfaces {
            vlan.0;
        }
    }
}

```

```

    }
    security-zone untrust {
        interfaces {
            ge-0/0/0.0 {
                host-inbound-traffic {
                    system-services {
                        dhcp;
                        tftp;
                    }
                }
            }
        }
        screen untrust-screen;
    }
}
policies {
    from-zone trust to-zone untrust {
        policy trust-to-untrust {
            match {
                source-address any;
                destination-address any;
                application any;
            }
            then {
                permit;
            }
        }
    }
}
vlangs {
    vlan-trust {
        vlan-id 3;
        l3-interface vlan.0;
    }
}
protocols {
    stp;
}

```

[RELATED DOCUMENTATION](#)

Performing Initial Software Configuration on the SRX220 Services Gateway Using the CLI

This procedure connects the device to the network but does not enable it to forward traffic. For complete information about enabling the device to forward traffic, including examples, see the appropriate Junos OS configuration guides.

To configure the software:

1. Verify that the device is powered on.
2. Log in as the root user. There is no password.
3. Start the CLI.

```
root@%cli
root>
```

4. Enter configuration mode.

```
configure
[edit]
root#
```

5. Set the root authentication password by entering a cleartext password, an encrypted password, or an SSH public key string (DSA or RSA).

```
[edit]
root# set system root-authentication plain-text-password
New password: password
Retype new password: password
```

6. Configure an administrator account on the device.

```
[edit]  
root# set system login user admin class super-user authentication plain-text-password
```

7. Commit the configuration to activate it on the device.

```
[edit]  
root# commit
```

8. Log in as the administrative user you configured in Step 6.

9. Configure the name of the device. If the name includes spaces, enclose the name in quotation marks (" ").

```
configure  
[edit]  
admin# set system host-name host-name
```

10. Configure the traffic interface.

```
[edit]  
admin# set interfaces ge-0/0/1 unit 0 family inet address address/prefix-length
```

11. Configure the default route.

```
[edit]  
admin# set routing-options static route 0.0.0.0/0 next-hop gateway
```

12. Configure basic security zones and bind them to traffic interfaces.

```
[edit]  
admin# set security zones security-zone untrust interfaces ge-0/0/1
```

13. Configure basic security policies.

```
[edit]
admin# set security policies from-zone trust to-zone untrust policy policy-name match source-address any
      destination-address any application any
admin# set security policies from-zone trust to-zone untrust policy policy-name then permit
```

14. Create a Network Address Translation (NAT) rule for source translation of all Internet-bound traffic.

```
[edit]
admin# set security nat source rule-set interface-nat from zone trust
admin# set security nat source rule-set interface-nat to zone untrust
admin# set security nat source rule-set interface-nat rule rule1 match source-address 0.0.0.0/0
      destination-address 0.0.0.0/0
admin# set security nat source rule-set interface-nat rule rule1 then source-nat interface
```

15. Check the configuration for validity.

```
[edit]
admin# commit check
configuration check succeeds
```

16. Commit the configuration to activate it on the device.

```
[edit]
admin# commit
commit complete
```

17. Optionally, display the configuration to verify that it is correct.

```
[edit]
admin# show
system {
  host-name devicea;
  domain-name lab.device.net;
  domain-search [ lab.device.net device.net ];
  backup-device 192.168.2.44;
  time-zone America/Los_Angeles;
  root-authentication {
    ssh-rsa "ssh-rsa AAAAB3Nza...D9Y2gXF9ac==root@devicea.lab.device.net";
```

```

    }
    name-server {
        10.148.2.32;
    }
    services {
    }
    ntp {
        server 10.148.2.21;
    }
}
interfaces {
    ge-0/0/0 {
        unit 0 {
            family inet {
                address 192.168.1.1/24;
            }
        }
    }
    lo0 {
        unit 0 {
            family inet {
                address 172.16.1.24/32;
            }
        }
    }
}
}

```

18. Optionally, configure additional properties by adding the necessary configuration statements. Then commit the changes to activate them on the services gateway.

```

[edit]
admin@device# commit

```

19. When you have finished configuring the services gateway, exit configuration mode.

```

[edit]
admin@device# exit
admin@device>

```

RELATED DOCUMENTATION

[Connecting an SRX220 Services Gateway to the CLI Locally | 77](#)

[Connecting an SRX220 Services Gateway to the CLI Remotely | 78](#)

[SRX220 Services Gateway Software Configuration Overview | 70](#)

[SRX220 Services Gateway Secure Web Access Overview | 76](#)

Performing Initial Software Configuration on the SRX220 Services Gateway Using the J-Web Interface Setup Wizard

IN THIS SECTION

- [Establishing Basic Connectivity | 92](#)
- [Configuring Basic System Properties | 94](#)

This topic includes the following sections:

Establishing Basic Connectivity

To establish basic connectivity:

1. Connect an Ethernet cable from any of the ports labeled **0/1** through **0/7** (interfaces ge-0/0/1 through ge-0/0/7) on the services gateway to the Ethernet port on the management device (workstation or laptop).
2. Connect the power cable to the device and a power source. (We recommend using a surge protector.)
Note the following indications:
 - Power LED (green): The device is receiving power.
 - Status LED (green): The device is operating normally.

NOTE: The services gateway functions as a DHCP server and assigns an IP address to the management device.

3. Ensure that the management device acquires an IP address on the 192.168.1.0/24 network (other than 192.168.1.1) from the device.

NOTE: If an IP address is not assigned to the management device, manually configure an IP address in the 192.168.1.0/24 network. Do not assign the 192.168.1.1 IP address to the management device because this IP address is assigned to the device.

4. Access the J-Web interface:

- a. Launch a Web browser from the management device.

NOTE: To access the J-Web interface, your management device requires a supported browser: either Microsoft Internet Explorer version 7.0 (or later) or Mozilla Firefox version 3.0 (or later).

- b. In the Address box, enter **http://192.168.1.1** .

- c. Specify the default username as root. Do not enter any value in the Password box.

- d. Press Enter. The J-Web Setup Wizard page opens.

5. Use the wizard to configure the basic settings such as hostname, domain name, and root password, for your services gateway.

The upper left area of the wizard page shows where you are in the setup process. Click a field in the wizard page to display information about that field in the lower left area of the page.

You can also use the wizard to configure the following settings:

- Default gateway
- DNS servers
- Domain search
- VLANs
- Interfaces

See [Table 34 on page 94](#) and [Table 35 on page 95](#) for a summary of the required and optional configuration details.

6. Click **Commit** on the Review & Commit page to apply the configuration.

NOTE: After configuring the basic settings, the J-Web setup wizard redirects you to J-Web pages where you can continue working in the J-Web interface.

After you complete initial setup configuration, the Setup Wizard is no longer available. To make changes to the configuration, use the J-Web interface.

Configuring Basic System Properties

Table 34 on page 94 and Table 35 on page 95 summarize the configuration details for initial setup.

Table 34: Required Setup Fields

| Setup Wizard Page | Field | Your Action |
|----------------------------------|-----------------------------|--|
| Introduction | | Read the introduction page for basic instructions on using the setup wizard. Click Start to continue. |
| Configure System: Identification | Hostname | Type the name of the services gateway |
| | Domain name | Type the name of the network or subnetwork to which the services gateway belongs |
| | Root password | Type the password that user root will use to log in to the device. |
| | Verify root password | Retype the root password. |
| Configure J-Web Preferences | J-Web starting page options | Specify the tab that you want to appear when J-Web starts. |
| | J-Web commit options | Specify when you want J-Web to commit your configuration changes. |
| Review & Commit | | Review your configuration settings. Click Back to return to previous wizard pages and change the settings. Click Commit when you are satisfied with the configuration. |

Table 35: Optional Setup Fields

| Setup Wizard Page | Field | Your Action |
|---------------------------------------|---------------------|--|
| Configure System: Network Settings | Default Gateway | Type the IP address of the default gateway |
| | DNS Name Servers | Type the IP address of each server that maintains databases for resolving hostnames and IP addresses, and click Add. |
| | Domain Search | Type the IP address or domain name of each domain that includes the services gateway to include it in a DNS search. |
| Interface Groups (VLANs) | | Use buttons to add, edit, or delete VLANs |
| Configure Interfaces | | Use buttons to add, edit, or delete interfaces other than VLANs. |
| Configure System: Time | Current System Time | Click the Reset Manually button to reset the time. |
| | Time Zone | Choose the time zone from the list |
| | NTP Servers | Add Network Time Protocol (NTP) servers that the gateway can reach to synchronize the system time. |

After you configure the basic setup, the Setup wizard is no longer available, unless you reset the device to the factory default and reboot it. To make changes to the configuration, use the J-Web interface or the CLI.

You can use other wizards to configure basic firewall policies, VPN settings, and NAT rules. Choose **Configure > Wizards** to use the available wizards. Use the J-Web interface or the CLI for more extensive configuration.

For more instructions on managing users and operations, monitoring network performance, upgrading software, and diagnosing common problems on an SRX220 Services Gateway, see the [Administration Guide](#) and [Installation and Upgrade Guide](#).

RELATED DOCUMENTATION

[Connecting to the SRX220 Services Gateway Setup Wizard](#) | 74

[SRX220 Services Gateway Software Configuration Overview](#) | 70

Configuring the Modem at the SRX220 Services Gateway End

NOTE: These instructions use Hayes-compatible modem commands to configure the modem. If your modem is not Hayes-compatible, refer to the documentation for your modem and enter the equivalent modem commands.

To configure the modem on the services gateway end:

1. Connect the modem to a PC or laptop computer.
2. Power on the modem.
3. From the PC or laptop computer, start your asynchronous terminal emulation application (such as Microsoft Windows HyperTerminal), and select the **COM** port to which the modem is connected (for example, **COM1**).
4. Configure the port settings as shown in [Table 36 on page 96](#).

Table 36: Port Settings for Configuring the Modem on the Services Gateway End

| Port Setting | Value |
|-----------------|-------|
| Bits per second | 9600 |
| Data bits | 8 |
| Parity | None |
| Stop bits | 1 |
| Flow control | None |

5. In the HyperTerminal window, enter **AT**.

An **OK** response verifies that the modem can communicate successfully with the **COM** port on the PC or laptop.

For more information on the AT commands, see [Administration Guide for Security Devices](#).

6. Configure the modem to answer a call on the first ring by entering **ATS0=1**.
7. Configure the modem to accept modem control DTR signals by entering **AT&D1**.
8. Disable flow control by entering **AT&K0**.
9. Save modem settings by entering **AT&W**.

RELATED DOCUMENTATION

[Connecting the Modem to the Console Port on the SRX220 Services Gateway | 62](#)

[Connecting to the CLI at the User End for the SRX220 Services Gateway | 63](#)

[SRX220 Services Gateway Software Configuration Overview | 70](#)

Configuring PoE Functionality on the SRX220 Services Gateway

To enable the Power over Ethernet (PoE) feature support on your SRX220 Services Gateway, you must configure the services gateway.

You can configure PoE using the Junos OS command-line interface (CLI).

For more details on configuring PoE, see [Interfaces for Security Devices](#).

RELATED DOCUMENTATION

[SRX220 Services Gateway Description | 2](#)

[SRX220 Services Gateway Specifications | 27](#)

[SRX220 Services Gateway Front Panel and Back Panel Views | 9](#)

[SRX220 Services Gateway Built-In Interfaces | 12](#)

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[SRX220 Services Gateway Mini-Physical Interface Modules | 7](#)

4

PART

Maintaining and Troubleshooting Components

Maintaining Components | **99**

Troubleshooting Components | **101**

Maintaining Components

IN THIS CHAPTER

- [Maintaining the SRX220 Services Gateway Hardware Components](#) | 99

Maintaining the SRX220 Services Gateway Hardware Components

[Table 37 on page 99](#) describes the common tasks for maintaining the hardware components of the services gateway.

Table 37: Maintenance Procedures for Services Gateway Hardware Components

| Maintenance Procedures | Description |
|--------------------------------|---|
| Routine Maintenance | <p>To maintain optimum performance of the services gateway, you should regularly perform the following preventive maintenance procedures:</p> <ul style="list-style-type: none">● Inspect the installation site for moisture, loose wires or cables, and excessive dust.● Make sure that airflow is unobstructed around the device and into the air intake vents.● Check the Status LED on the front panel of the device and on the Mini-Physical Interface Module (Mini-PIM) that you are using. |
| Maintaining the cooling system | <p>The services gateway cooling system works to maintain an optimal temperature for the device. If the fan controller fails, the device temperature will exceed the maximum working temperature, and the device will fail. Ensure that you maintain the recommended clearances behind the device to enable the cooling system to function optimally.</p> |
| Maintaining the power supply | <p>To maintain the power supply on the services gateway:</p> <ul style="list-style-type: none">● Make sure that the power and grounding cables are arranged so that they do not obstruct access to other device components.● Periodically inspect the site to ensure that the grounding and power cables connected to the device are securely in place and that there is no moisture accumulating near the device. <p>CAUTION: We recommend using a surge protector for the power connection.</p> |

RELATED DOCUMENTATION

[Connecting the SRX220 Services Gateway to the Power Supply | 65](#)

[Clearance Requirements for Airflow and Hardware Maintenance of the SRX220 Services Gateway | 31](#)

Troubleshooting Components

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- [Monitoring the SRX220 Services Gateway Chassis Using the CLI | 101](#)
- [Monitoring the SRX220 Services Gateway Components Using LEDs | 103](#)
- [Monitoring the SRX220 Services Gateway Using Chassis Alarm Conditions | 106](#)
- [Monitoring the SRX220 Services Gateway Power System | 108](#)
- [Resetting the SRX220 Services Gateway | 109](#)
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- [Juniper Networks Technical Assistance Center | 111](#)

Monitoring the SRX220 Services Gateway Chassis Using the CLI

You can monitor alarms to troubleshoot hardware problems on a services gateway. The chassis properties include the status of active chassis alarms on the device, environmental measurements, and the status of Mini-PIMs on the device.

To view these chassis properties, select **Monitor** in the J-Web interface, or enter the following **show** commands on the command-line interface (CLI):

- **show chassis hardware**
- **show chassis environment**
- **show chassis fpc**
- **show chassis alarms**

Examples:

The following examples show sample output for CLI commands:

show chassis hardware

```
admin@host > show chassis hardware
```

| Item | Version | Part number | Serial number | Description |
|----------------|---------|-------------|---------------|-------------------|
| Chassis | | | | SRX220-hm |
| Routing Engine | REV X0 | 750-021778 | 000000PS2627 | RE-SRX220-HIGHMEM |
| FPC 0 | | | | FPC |
| PIC 0 | | | | 8x GE |
| Power Supply 0 | | | | |

show chassis environment

admin@host > **show chassis environment**

| Class | Item | Status | Measurement |
|-------|----------------------|--------|------------------------------|
| Temp | Routing Engine | OK | 39 degrees C / 102 degrees F |
| | Routing Engine CPU | Absent | |
| Fans | SRX220 Chassis fan 0 | OK | Spinning at normal speed |
| | SRX220 Chassis fan 1 | OK | Spinning at normal speed |
| Power | Power Supply 0 | OK | |

show chassis fpc

admin@host > **show chassis fpc**

| Slot | State | Temp (C) | CPU Utilization (%) Total Interrupt | Memory DRAM (MB) | Utilization (%) Heap Buffer |
|------|--------|-------------|--|---------------------|--------------------------------|
| 0 | Online | ----- | CPU less FPC | ----- | ----- |
| 1 | Empty | | | | |
| 2 | Empty | | | | |

show chassis alarms

admin@host > **show chassis alarms**

| Alarm time | Class | Description |
|-------------------------|-------|----------------------------|
| 2009-05-11 10:47:47 UTC | Major | SRX220 Chassis Fan Failure |

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[Monitoring the SRX220 Services Gateway Using Chassis Alarm Conditions | 106](#)

[Monitoring the SRX220 Services Gateway Power System | 108](#)

[Maintaining the SRX220 Services Gateway Hardware Components | 99](#)

[Juniper Networks Technical Assistance Center | 111](#)

Monitoring the SRX220 Services Gateway Components Using LEDs

The LEDs available on the services gateway display the status of various components. [Table 38 on page 103](#) describes the LEDs.

Table 38: Component LEDs on the Services Gateway

| LED | State | Meaning | Possible Causes and Corrective Actions |
|--------|-------|---|---|
| Status | Green | The device is functioning normally. | Normal condition. No action is required. |
| | Amber | <ul style="list-style-type: none"> The device is starting up. The Reset Config button is pressed. | Normal condition. No action is required. |
| | Red | An error is detected in the device. | Contact the Juniper Networks Technical Assistance Center (JTAC). See “Juniper Networks Technical Assistance Center” on page 111 . |

Table 38: Component LEDs on the Services Gateway (*continued*)

| LED | State | Meaning | Possible Causes and Corrective Actions |
|-------|-------|--|--|
| Alarm | Red | The device detects a major alarm. | <p>A major alarm indicates a critical situation on the gateway that requires immediate action.</p> <p>See “Monitoring the SRX220 Services Gateway Using Chassis Alarm Conditions” on page 106.</p> |
| | Amber | The device detects a minor alarm. | <p>A minor alarm requires monitoring or maintenance. If left unchecked, it might cause an interruption in service or degradation in performance.</p> <p>See “Monitoring the SRX220 Services Gateway Using Chassis Alarm Conditions” on page 106.</p> |
| | Off | <p>The device is starting up.</p> <p>NOTE: If the system is up and running and the Alarm LED is off, it indicates that no alarms are present on the device.</p> | Normal condition. No action is required. |

Table 38: Component LEDs on the Services Gateway (*continued*)

| LED | State | Meaning | Possible Causes and Corrective Actions |
|-------------------------|-------|---|--|
| Power | Green | The device is receiving power and is functioning normally. | Normal condition. No action is required. |
| | Amber | The Power button has been pressed and quickly released. | Normal condition. No action is required. |
| | Off | The device is not receiving power. | <p>Normal condition if the services gateway is switched off. No action is required.</p> <p>If you have not powered off the services gateway, verify that the AC power cord from the power source to the device is not damaged, the socket is in working condition, and the device has an AC input voltage between 110 and 240 VAC.</p> <p>See “Monitoring the SRX220 Services Gateway Power System” on page 108.</p> |
| HA | Off | The device is not configured for chassis clustering. | Normal condition. No action is required. |
| Mini-PIM1 and Mini-PIM2 | Green | The Mini-PIM is present and detected by the device. | Normal condition. No action is required. |
| | Off | The Mini-PIM is not present or is not detected by the device. | See “Monitoring the SRX220 Services Gateway Using Chassis Alarm Conditions” on page 106. |

RELATED DOCUMENTATION

[Monitoring the SRX220 Services Gateway Chassis Using the CLI | 101](#)
[Monitoring the SRX220 Services Gateway Using Chassis Alarm Conditions | 106](#)
[Monitoring the SRX220 Services Gateway Power System | 108](#)

[Using the Reset Config Button on the SRX220 Services Gateway | 109](#)

[Changing the Reset Config Button Behavior on the SRX220 Services Gateway | 110](#)

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Monitoring the SRX220 Services Gateway Using Chassis Alarm Conditions

When the services gateway detects an alarm condition, the Alarm LED on the front panel turns red or amber as appropriate.

To view a more detailed description of the cause of the alarm, issue the **show chassis alarms** command on the command-line interface (CLI).

For more information on the **show chassis alarms** command, see the [Network Management and Monitoring Guide](#).

[Table 39 on page 106](#) describes alarms that can occur for an SRX220 Services Gateway chassis component.

Table 39: SRX220 Services Gateway Chassis Alarm Conditions and Corrective Actions

| Component | Alarm Condition | Action | Alarm Severity |
|------------|---|---|----------------|
| Boot media | The services gateway boots from an alternate boot device. | <ul style="list-style-type: none"> If the CompactFlash card fails at startup, the services gateway automatically boots from the alternative boot device (USB storage device). <p>NOTE: If you configured your services gateway to boot from an alternative boot device, ignore this alarm condition.</p> <ul style="list-style-type: none"> Reformat the CompactFlash card, and install a bootable image. If you did not configure the services gateway to boot from an alternative boot device, contact Juniper Networks Technical Assistance Center (JTAC). See “Juniper Networks Technical Assistance Center” on page 111. | Amber (minor) |

Table 39: SRX220 Services Gateway Chassis Alarm Conditions and Corrective Actions (*continued*)

| Component | Alarm Condition | Action | Alarm Severity |
|---|--|--|----------------|
| Mini-PIM | A Mini-PIM has failed. | <ul style="list-style-type: none"> • Contact the Juniper Networks Technical Assistance Center (JTAC). See “Juniper Networks Technical Assistance Center” on page 111. • If you must replace the failed Mini-PIM, see the SRX Series Services Gateways for the Branch Physical Interface Modules Hardware Guide for information about replacing the Mini-PIMs. | Red (major) |
| Hardware components on the services gateway | The services gateway chassis temperature is too warm | <ul style="list-style-type: none"> • Check the room temperature. See “SRX220 Services Gateway Specifications” on page 27. • Check the airflow. See “General Site Guidelines for Installing the SRX220 Services Gateway” on page 26. • Check the fans. See “SRX220 Services Gateway Cooling System” on page 19. <p>If you must replace a fan, contact Juniper Networks Technical Assistance Center (JTAC). See “Juniper Networks Technical Assistance Center” on page 111.</p> | Amber (minor) |
| | The services gateway fan has failed. | <p>Place your hand near the exhaust vents at the rear of the chassis to determine whether the fan is pushing air out of the chassis.</p> <p>Replace the failed fan. Contact JTAC. See “Juniper Networks Technical Assistance Center” on page 111.</p> | Red (major) |

RELATED DOCUMENTATION

[Monitoring the SRX220 Services Gateway Chassis Using the CLI | 101](#)

[Monitoring the SRX220 Services Gateway Components Using LEDs | 103](#)

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Monitoring the SRX220 Services Gateway Power System

The LEDs on the services gateway enable you to determine the performance and operation. The Power LED, located on the front panel of the services gateway, indicates the different settings with respect to the power system.

Table 40 on page 108 describes different Power LED status settings and their corrective actions.

Table 40: Services Gateway Power LED Status

| LED Status | Meaning | Possible Cause and Corrective Action |
|------------|---|--|
| Green | The device is receiving power, and the internal power supply is functional. | Normal indication. No action is required. |
| Amber | The Power button has been pressed and quickly released. The device is shutting down or starting up. | Normal indication. No action is required. |
| Off | The device is not receiving power. | <ul style="list-style-type: none"> • Verify that the AC power cord from the power source to the device is not damaged. If the insulation is cracked or broken, immediately replace the cord or cable. • Ensure that the socket you plug into is in working condition. • Ensure that the device has an AC input voltage between 110 and 240 VAC. • If you cannot determine the cause of the problem or need additional assistance, contact the Juniper Networks Technical Assistance Center (JTAC). See Related Topics. |

RELATED DOCUMENTATION

[Monitoring the SRX220 Services Gateway Chassis Using the CLI | 101](#)

[Monitoring the SRX220 Services Gateway Components Using LEDs | 103](#)

[Monitoring the SRX220 Services Gateway Using Chassis Alarm Conditions | 106](#)

[Using the Reset Config Button on the SRX220 Services Gateway | 109](#)

Resetting the SRX220 Services Gateway

The Reset Config button on the front panel of the services gateway can be used to remove the current configuration and reset the device to the default (factory) configuration. The button is recessed in the front panel to prevent it from being pressed accidentally.

NOTE: Pressing and holding the Reset Config button for 15 seconds or more deletes all configurations on the device and loads and commits the default (factory) configuration.

RELATED DOCUMENTATION

[Connecting the SRX220 Services Gateway to the Power Supply | 65](#)[Grounding the SRX220 Services Gateway | 59](#)[Using the Reset Config Button on the SRX220 Services Gateway | 109](#)

Using the Reset Config Button on the SRX220 Services Gateway

If a configuration fails or denies management access to the services gateway, you can use the RESET CONFIG button to restore the device to the factory-default configuration or a rescue configuration. For example, if someone inadvertently commits a configuration that denies management access to a services gateway, you can delete the invalid configuration and replace it with a rescue configuration by pressing the RESET CONFIG button.

NOTE: The RESET CONFIG button is recessed to prevent it from being pressed accidentally.

The rescue configuration is a previously committed, valid configuration. You must have previously set the rescue configuration through the J-Web interface or the CLI.

To press the RESET CONFIG button, insert a small probe (such as a straightened paper clip) into the pinhole on the front panel.

- By default, pressing and quickly releasing the RESET CONFIG button loads and commits the rescue configuration through the J-Web interface or the CLI. The Status LED is solid amber during this time.
- By default, pressing and holding the RESET CONFIG button for 15 seconds or more—until the Status LED is solid amber — deletes all configurations on the device, including the backup configurations and rescue configuration, and loads and commits the factory configuration.

For details about factory-default settings, see *Viewing Factory Default Settings of the SRX240 Services Gateway*.

For details about performing initial software configuration, see the following topics:

- *Performing Initial Software Configuration on the SRX240 Services Gateway Using the J-Web Interface*
- *Performing Initial Software Configuration on the SRX240 Services Gateway Using the CLI*

RELATED DOCUMENTATION

[Changing the Reset Config Button Behavior on the SRX220 Services Gateway | 110](#)

[Monitoring the SRX220 Services Gateway Chassis Using the CLI | 101](#)

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Changing the Reset Config Button Behavior on the SRX220 Services Gateway

You can change the default operation of the RESET CONFIG button by limiting how the button resets the services gateway:

- To prevent the RESET CONFIG button from setting the device to the factory-default configuration and deleting all other configurations:

```
admin@host# set chassis config-button no-clear
```

You can still press and quickly release the button to reset it to the rescue configuration.

- To prevent the RESET CONFIG button from setting the device to the rescue configuration:

```
admin@host# set chassis config-button no-rescue
```

You can still press and hold the button for 15 seconds or more to reset the gateway to the factory-default configuration.

- To disable the button and prevent the device from resetting to either configuration:

```
admin@host# set chassis config-button no-clear no-rescue
```

The **no-clear** option prevents the RESET CONFIG button from deleting all configurations on the services gateway. The **no-rescue** option prevents the RESET CONFIG button from loading the rescue configuration.

To return the function of the RESET CONFIG button to its default behavior, remove the **config-button** statement from the device configuration.

RELATED DOCUMENTATION

[Using the Reset Config Button on the SRX220 Services Gateway | 109](#)

[Monitoring the SRX220 Services Gateway Chassis Using the CLI | 101](#)

[Monitoring the SRX220 Services Gateway Components Using LEDs | 103](#)

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Juniper Networks Technical Assistance Center

If you need assistance while troubleshooting a services gateway, open a support case using the Case Manager link at <https://www.juniper.net/support/>, or call 1-888-314-JTAC (within the United States) or 1-408-745-9500 (from outside the United States).

RELATED DOCUMENTATION

[Contacting Customer Support | 113](#)

[Information You Might Need to Supply to Juniper Networks Technical Assistance Center | 117](#)

5

PART

Replacing Components

Contacting Customer Support and Returning Components | **113**

Contacting Customer Support and Returning Components

IN THIS CHAPTER

- Contacting Customer Support | 113
- Return Procedure for the SRX220 Services Gateway | 114
- Locating the SRX220 Services Gateway Serial Number and Agency Labels | 115
- Information You Might Need to Supply to Juniper Networks Technical Assistance Center | 117
- Packing the SRX220 Services Gateway and Components for Shipment | 117

Contacting Customer Support

Once you have located the serial numbers of the services gateway or component, you can return them for repair or replacement. For this, you need to contact Juniper Networks Technical Assistance Center (JTAC).

You can contact JTAC 24 hours a day, 7 days a week, using any of the following methods:

- On the Web: Using the Service Request Manager link at <https://support.juniper.net/support/>
- By telephone:
 - From the US and Canada: 1-888-314-JTAC
 - From all other locations: 1-408-745-9500

NOTE: If contacting JTAC by telephone, enter your 12-digit service request number followed by the pound (#) key if this is an existing case, or press the star (*) key to be routed to the next available support engineer.

RELATED DOCUMENTATION

[Return Procedure for the SRX220 Services Gateway | 114](#)

[Locating the SRX220 Services Gateway Serial Number and Agency Labels | 115](#)

[Information You Might Need to Supply to Juniper Networks Technical Assistance Center | 117](#)

[Packing the SRX220 Services Gateway and Components for Shipment | 117](#)

Return Procedure for the SRX220 Services Gateway

Follow the tasks list provided in [Table 41 on page 114](#) to return an SRX220 Services Gateway or component to Juniper Networks for repair or replacement:

Table 41: Return Procedure for SRX220 Services Gateway

| Step | Task | For more information, see |
|------|---|--|
| 1 | Determine the part number and serial number of the device or component. | “Locating the SRX220 Services Gateway Serial Number and Agency Labels” on page 115 |
| 2 | Obtain a Return Materials Authorization (RMA) number from JTAC. | “Contacting Customer Support” on page 113 |
| 3 | Pack the SRX220 Services Gateway or component for shipping. | “Packing the SRX220 Services Gateway and Components for Shipment” on page 117 |

NOTE: Do not return the device or any component to Juniper Networks unless you have first obtained an RMA number. Juniper Networks reserves the right to refuse shipments that do not have an RMA. Refused shipments are returned to the customer via collect freight.

For more information about return and repair policies, see the customer support Web page at <https://www.juniper.net/support/guidelines.html>.

For product problems or technical support issues, open a support case using the Case Manager link at <https://www.juniper.net/support/> or call 1-888-314-JTAC (within the United States) or 1-408-745-9500 (outside the United States).

RELATED DOCUMENTATION

[Locating the SRX220 Services Gateway Serial Number and Agency Labels | 115](#)

[Information You Might Need to Supply to Juniper Networks Technical Assistance Center | 117](#)

[Packing the SRX220 Services Gateway and Components for Shipment | 117](#)

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Locating the SRX220 Services Gateway Serial Number and Agency Labels

IN THIS SECTION

- [Listing the SRX220 Services Gateway and Component Details with the CLI | 115](#)
- [SRX220 Services Gateway Chassis Serial Number and Agency Labels | 116](#)
- [SRX220 Services Gateway Mini-Physical Interface Module Serial Number Label | 116](#)

This topic includes the following sections:

Listing the SRX220 Services Gateway and Component Details with the CLI

Before contacting Juniper Networks to request an RMA, you must find the serial number on the SRX220 Services Gateway or component.

To list all the SRX220 Services Gateway components and their serial numbers:

`admin@host> show chassis hardware`

```
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Routing Engine REV 08    750-031177   AABC5285      RE-SRX220H
FPC 0
  PIC 0
Power Supply 0
```

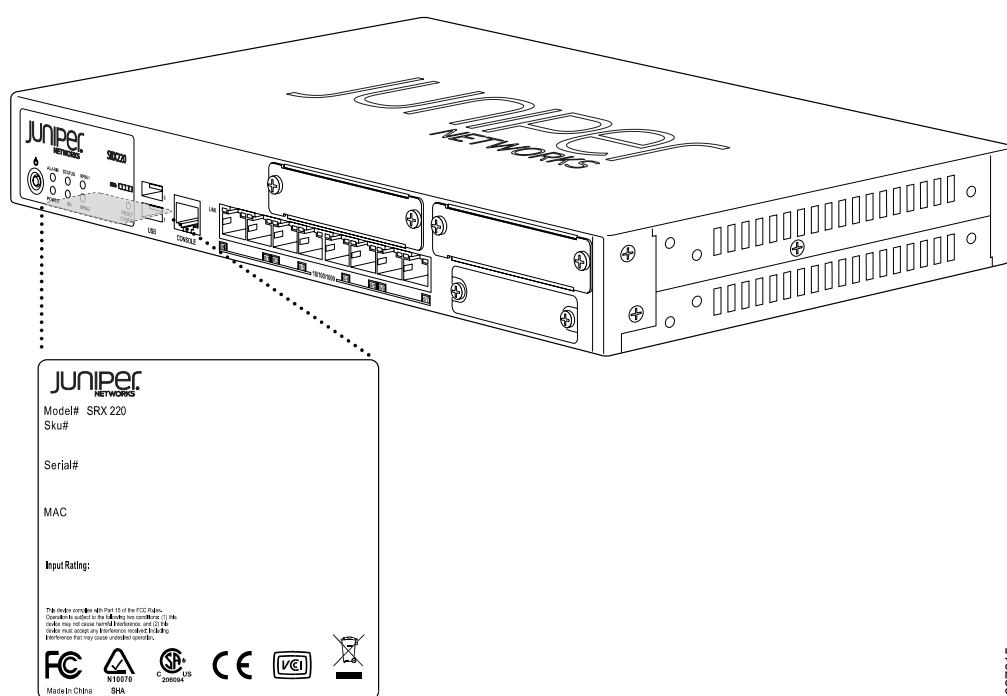
NOTE: In the `show chassis hardware` command, the Mini-PIM slot number is reported as an FPC number, and the Mini-PIM number (always 0) is reported as the PIC number.

Most components also have a serial number ID label attached to the component body.

SRX220 Services Gateway Chassis Serial Number and Agency Labels

The SRX220 Services Gateway has a serial number ID and agency labels on the bottom of the chassis, as shown in [Figure 20 on page 116](#).

Figure 20: Location of SRX220 Serial Number and Agency Labels



SRX220 Services Gateway Mini-Physical Interface Module Serial Number Label

Mini-PIMs are field-replaceable on the SRX220 Services Gateway. Each Mini-PIM has a unique serial number. The serial number label is located on the right side of the Mini-PIM, when the Mini-PIM is horizontally oriented (as it would be when installed on the device). The exact location might be slightly different on different Mini-PIMs, depending on the placement of components on the Mini-PIM.

RELATED DOCUMENTATION

[Packing the SRX220 Services Gateway and Components for Shipment | 117](#)

[Return Procedure for the SRX220 Services Gateway | 114](#)

[Contacting Customer Support | 113](#)

Information You Might Need to Supply to Juniper Networks Technical Assistance Center

If you are returning a services gateway or hardware component to Juniper Networks for repair or replacement, obtain a Return Materials Authorization (RMA) number from Juniper Networks Technical Assistance Center (JTAC).

When requesting support from JTAC by telephone, be prepared to provide the following information:

- Your existing case number, if you have one
- Details of the failure or problem
- Type of activity being performed on the services gateway when the problem occurred
- Configuration data displayed by one or more **show** commands
- Your name, organization name, telephone number, fax number, and shipping address

RELATED DOCUMENTATION

[Return Procedure for the SRX220 Services Gateway | 114](#)

[Locating the SRX220 Services Gateway Serial Number and Agency Labels | 115](#)

[Packing the SRX220 Services Gateway and Components for Shipment | 117](#)

[Contacting Customer Support | 113](#)

Packing the SRX220 Services Gateway and Components for Shipment

IN THIS SECTION

- [Packing the Services Gateway | 118](#)
- [Packing the Components for Shipment | 119](#)

This topic includes the following sections:

Packing the Services Gateway

To pack the services gateway for shipment:

1. Retrieve the shipping box and packing materials in which the device was originally shipped. If you do not have these materials, contact your Juniper Networks representative about approved packaging materials.
2. Attach an ESD grounding strap to your bare wrist and connect the strap to the ESD point on the chassis or to an outside ESD point if the device is disconnected from earth ground.
3. On the console or other management device connected to the services gateway, enter command-line interface (CLI) operational mode and issue the following command to shut down the services gateway software:

`admin@host> request system power-off`

Wait until a message appears on the console confirming that the operating system has halted.
4. Shut down power to the device by pressing the Power button on the front panel of the device.
5. Disconnect power from the device.
6. Remove the cables that connect to all external devices.
7. Remove all field-replaceable FRUs from the device.
8. If the device is installed on a wall or rack, have one person support the weight of the device while another person unscrews and removes the mounting screws.
9. Place the device in the shipping box.
10. Cover the device with an ESD bag, and place the packing foam on top of and around the device.
11. Replace the accessory box on top of the packing foam.
12. Securely tape the box closed.
13. Write the Return Materials Authorization (RMA) number on the exterior of the box to ensure proper tracking.

Packing the Components for Shipment

Follow these guidelines for packing and shipping individual components of the services gateway:

- When you return a component, make sure that it is adequately protected with packing materials and packed so that the pieces are prevented from moving around inside the box.
- Use the original shipping materials if they are available.
- Place individual Mini-PIMs in electrostatic bags.
- Write the Return Materials Authorization (RMA) number on the exterior of the box to ensure proper tracking.



CAUTION: Do not stack any of the services gateway components during packing.

RELATED DOCUMENTATION

[Required Tools and Parts for Installing and Maintaining the SRX220 Services Gateway | 42](#)

[Locating the SRX220 Services Gateway Serial Number and Agency Labels | 115](#)

[Information You Might Need to Supply to Juniper Networks Technical Assistance Center | 117](#)

[Return Procedure for the SRX220 Services Gateway | 114](#)

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Safety and Regulatory Compliance Information

General Safety Guidelines and Warnings | **121**

Fire Safety Requirements | **131**

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Maintenance and Operational Safety Guidelines and Warnings | **146**

Electrical Safety Guidelines and Warnings | **155**

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General Safety Guidelines and Warnings

IN THIS CHAPTER

- [SRX220 Services Gateway Definition of Safety Warning Levels | 121](#)
- [SRX220 Services Gateway General Safety Guidelines and Warnings | 124](#)
- [SRX220 Services Gateway Safety Requirements, Warnings, and Guidelines | 129](#)

SRX220 Services Gateway Definition of Safety Warning Levels

This topic defines the following four levels of safety warnings used in Juniper Networks technical publications:

NOTE: You might find this information helpful in a particular situation or might otherwise overlook it.



CAUTION: You need to observe the specified guidelines to avoid minor injury or discomfort to you or severe damage to the services gateway.



WARNING: This symbol is used with laser warnings. Unterminated optical connectors can emit invisible laser radiation. Focusing your eye directly on a laser source—even a low-power laser—could permanently damage the eye.



WARNING: This symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

Waarschuwing Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van standaard maatregelen om ongelukken te voorkomen.

Varoitus Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista.

Attention Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents.

Warnung Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körpervletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewußt.

Avvertenza Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti.

Advarsel Dette varselsymbolet betyr fare. Du befinner deg i en situasjon som kan føre til personskade. Før du utfører arbeid på utstyr, må du være oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlig praksis når det gjelder å unngå ulykker.

Aviso Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos físicos. Antes de começar a trabalhar com qualquer equipamento, familiarize-se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes.

¡Atención! Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los procedimientos estándar de prevención de accidentes.

Varning! Denna varningssymbol signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanligt förfarande för att förebygga skador.

RELATED DOCUMENTATION

[SRX220 Services Gateway General Safety Guidelines and Warnings | 124](#)

[SRX220 Services Gateway Fire Safety Requirements | 131](#)

[SRX220 Services Gateway Installation Safety Guidelines and Warnings | 133](#)

[SRX220 Services Gateway Laser and LED Safety Guidelines and Warnings | 140](#)

[SRX220 Services Gateway Electrical Safety Guidelines and Warnings | 155](#)

[SRX220 Services Gateway Maintenance and Operational Safety Guidelines and Warnings | 146](#)

SRX220 Services Gateway General Safety Guidelines and Warnings

General Safety Guidelines and Warnings

The following guidelines help ensure your safety and protect the services gateway from damage. The list of guidelines might not address all potentially hazardous situations in your working environment, so be alert and exercise good judgment at all times.

- Perform only the procedures explicitly described in these topics. Ensure that only authorized service personnel perform other system services.
- Keep the area around the chassis clear and free from dust before, during, and after installation.
- Keep tools away from areas where people could trip on them.
- Wear safety glasses if you are working under any conditions that could be hazardous to your eyes.
- Do not perform any actions that create a potential hazard to people or make the equipment unsafe.
- Never install or manipulate wiring during electrical storms.
- Never install electrical jacks in wet locations unless the jacks are specifically designed for wet environments.
- Do not open or remove chassis covers or sheet metal parts unless instructions are provided in this guide. Such an action could cause severe electrical shock.
- Do not push or force any objects through any opening in the chassis frame. Such an action could result in electrical shock or fire.

- Avoid spilling liquid onto the services gateway chassis or onto any services gateway component. Such an action could cause electrical shock or damage the services gateway.
- Avoid touching uninsulated electrical wires or terminals that have not been disconnected from their power source. Such an action could cause electrical shock.

Qualified Personnel Warning



WARNING: Only trained and qualified personnel should install or replace the services gateway.

Waarschuwing Installatie en reparaties mogen uitsluitend door getraind en bevoegd personeel uitgevoerd worden.

Varoitus Ainoastaan koulutettu ja pätevä henkilökunta saa asentaa tai vaihtaa tämän laitteen.

Attention Tout installation ou remplacement de l'appareil doit être réalisé par du personnel qualifié et compétent.

Warnung Gerät nur von geschultem, qualifiziertem Personal installieren oder auswechseln lassen.

Avvertenza Solo personale addestrato e qualificato deve essere autorizzato ad installare o sostituire questo apparecchio.

Advarsel Kun kvalifisert personell med riktig opplæring bør montere eller bytte ut dette utstyret.

Aviso Este equipamento deverá ser instalado ou substituído apenas por pessoal devidamente treinado e qualificado.

¡Atención! Estos equipos deben ser instalados y reemplazados exclusivamente por personal técnico adecuadamente preparado y capacitado.

Varning! Denna utrustning ska endast installeras och bytas ut av utbildad och kvalificerad personal.

Restricted Access Area Warning



WARNING: The services gateway is intended for installation in restricted access areas. A restricted access area is an area to which access can be gained only by service personnel through the use of a special tool, lock and key, or other means of security, and which is controlled by the authority responsible for the location.

Waarschuwing Dit toestel is bedoeld voor installatie op plaatsen met beperkte toegang. Een plaats met beperkte toegang is een plaats waar toegang slechts door servicepersoneel verkregen kan worden door middel van een speciaal instrument, een slot en sleutel, of een ander veiligheidsmiddel, en welke beheerd wordt door de overheidsinstantie die verantwoordelijk is voor de locatie.

Varoitus Tämä laite on tarkoitettu asennettavaksi paikkaan, johon pääsy on rajoitettua. Paikka, johon pääsy on rajoitettua, tarkoittaa paikkaa, johon vain huoltohenkilöstö pääsee jonkin erikoistyökalun, lukkoon sopivan avaimen tai jonkin muun turvalaitteen avulla ja joka on paikasta vastuussa olevien toimivaltaisten henkilöiden valvoma.

Attention Cet appareil est à installer dans des zones d'accès réservé. Ces dernières sont des zones auxquelles seul le personnel de service peut accéder en utilisant un outil spécial, un mécanisme de verrouillage et une clé, ou tout autre moyen de sécurité. L'accès aux zones de sécurité est sous le contrôle de l'autorité responsable de l'emplacement.

Warnung Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen. Ein Bereich mit beschränktem Zutritt ist ein Bereich, zu dem nur Wartungspersonal mit einem Spezialwerkzeugs, Schloß und Schlüssel oder anderer Sicherheitsvorkehrungen Zugang hat, und der von dem für die Anlage zuständigen Gremium kontrolliert wird.

Avvertenza Questa unità deve essere installata in un'area ad accesso limitato. Un'area ad accesso limitato è un'area accessibile solo a personale di assistenza tramite un'attrezzo speciale, lucchetto, o altri dispositivi di sicurezza, ed è controllata dall'autorità responsabile della zona.

Advarsel Denne enheten er laget for installasjon i områder med begrenset adgang. Et område med begrenset adgang gir kun adgang til servicepersonale som bruker et spesielt verktøy, lås og nøkkel, eller en annen sikkerhetsanordning, og det kontrolleres av den autoriteten som er ansvarlig for området.

Aviso Esta unidade foi concebida para instalação em áreas de acesso restrito. Uma área de acesso restrito é uma área à qual apenas tem acesso o pessoal de serviço autorizado, que possua uma ferramenta, chave e fechadura especial, ou qualquer outra forma de segurança. Esta área é controlada pela autoridade responsável pelo local.

¡Atención! Esta unidad ha sido diseñada para instalarse en áreas de acceso restringido. Área de acceso restringido significa un área a la que solamente tiene acceso el personal de servicio mediante la utilización de una herramienta especial, cerradura con llave, o algún otro medio de seguridad, y que está bajo el control de la autoridad responsable del local.

Varning! Denna enhet är avsedd för installation i områden med begränsat tillträde. Ett område med begränsat tillträde får endast tillträdas av servicepersonal med ett speciellt verktyg, lås och nyckel, eller annan säkerhetsanordning, och kontrolleras av den auktoritet som ansvarar för området.

Preventing Electrostatic Discharge Damage to the Services Gateway

Many services gateway hardware components are sensitive to damage from static electricity. Some components can be impaired by voltages as low as 30 V. You can easily generate potentially damaging static voltages whenever you handle plastic or foam packing material or if you move components across plastic or carpets. Observe the following guidelines to minimize the potential for electrostatic discharge (ESD) damage, which can cause intermittent or complete component failures:

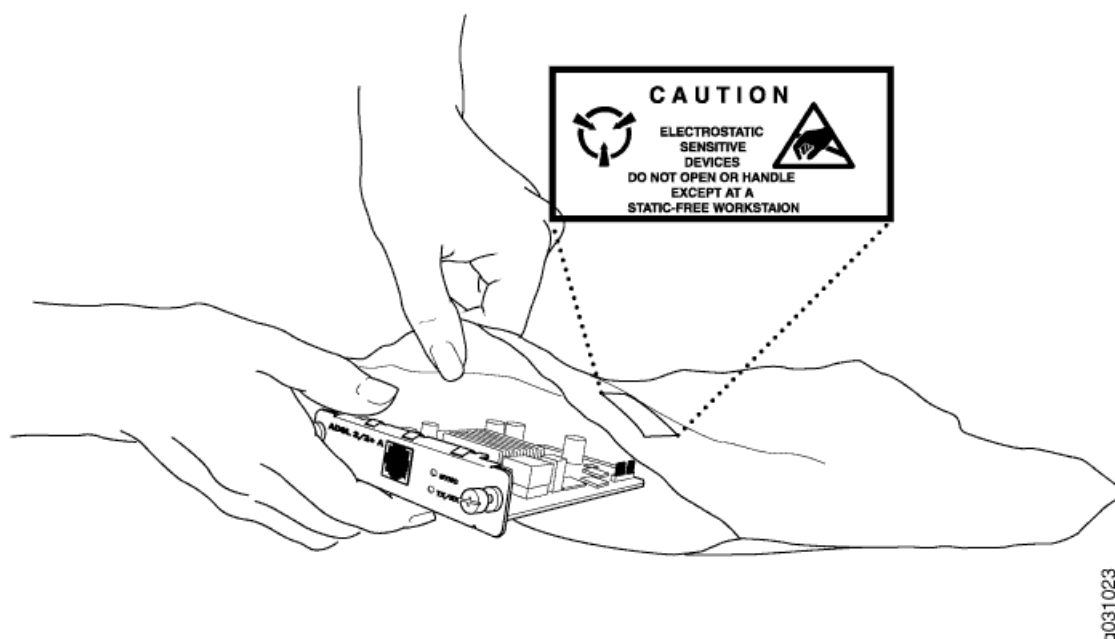
- Always use an ESD wrist strap or ankle strap, and verify that it is in direct contact with your skin.



CAUTION: For safety, periodically check the resistance value of the ESD strap. The measurement should be in the range of 1 to 10 Mohms.

- When handling any component that is removed from the chassis, verify that the equipment end of your ESD strap is attached to one of the ESD points on the chassis.
- Avoid contact between the component and your clothing. ESD voltages emitted from clothing can damage components.
- When removing or installing a component, always place it component-side up on an antistatic surface, in an antistatic card rack, or in an electrostatic bag. If you are returning a component, place it into an electrostatic bag before packing it. See [Figure 21 on page 129](#).

Figure 21: Placing a Component into an Electrostatic Bag



RELATED DOCUMENTATION

[SRX220 Services Gateway Definition of Safety Warning Levels](#) | 121

[SRX220 Services Gateway Fire Safety Requirements](#) | 131

SRX220 Services Gateway Safety Requirements, Warnings, and Guidelines

To avoid harm to yourself or the device as you install and maintain it, follow the guidelines for working with and near electrical equipment, as well as the safety procedures for working with devices. For a discussion of how to make the installation site a safe environment and a list of safety warnings, see [“General Site Guidelines for Installing the SRX220 Services Gateway”](#) on page 26 and [“SRX220 Services Gateway General Safety Guidelines and Warnings”](#) on page 124.

NOTE: Providing an exhaustive set of guidelines for working with electrical equipment is beyond the scope of this guide.

RELATED DOCUMENTATION

[General Site Guidelines for Installing the SRX220 Services Gateway | 26](#)

[SRX220 Services Gateway General Safety Guidelines and Warnings | 124](#)

[Required Tools and Parts for Installing and Maintaining the SRX220 Services Gateway | 42](#)

[Preparing the SRX220 Services Gateway for Rack-Mount and Wall-Mount Installation | 48](#)

Fire Safety Requirements

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SRX220 Services Gateway Fire Safety Requirements

In the event of a fire emergency involving devices and other network equipment, the safety of people is the primary concern. Establish procedures for protecting people in the event of a fire emergency, provide safety training, and properly provision fire-control equipment and fire extinguishers.

In addition, establish procedures to protect your equipment in the event of a fire emergency. Juniper Networks products should be installed in an environment suitable for electronic equipment. We recommend that fire suppression equipment be available in the event of a fire in the vicinity of the equipment and that all local fire, safety, and electrical codes and ordinances be observed when installing and operating your equipment.

In the event of an electrical hazard or an electrical fire, first turn power off to the equipment at the source. Then use a Type C fire extinguisher to extinguish the fire. Type C fire extinguishers, which use noncorrosive fire retardants such as carbon dioxide (CO₂) and Halotron, are most effective for suppressing electrical fires. Type C fire extinguishers displace the oxygen from the point of combustion to eliminate the fire. For extinguishing fire on or around equipment that draws air from the environment for cooling, use this type of inert oxygen displacement extinguisher instead of an extinguisher that leaves residue on equipment.

Do not use multipurpose Type ABC chemical fire extinguishers (dry chemical fire extinguishers) near Juniper Networks equipment. The primary ingredient in these fire extinguishers is monoammonium phosphate, which is very sticky and difficult to clean. In addition, in minute amounts of moisture, monoammonium phosphate can become highly corrosive and corrodes most metals.

Any equipment in a room in which a chemical fire extinguisher has been discharged is subject to premature failure and unreliable operation. The equipment is considered to be irreparably damaged.

NOTE: To keep warranties effective, do not use a dry chemical fire extinguisher to control a fire at or near a Juniper Networks services gateway. If a dry chemical fire extinguisher is used, the unit is no longer eligible for coverage under a service agreement.

We recommend that you dispose of any irreparably damaged equipment in an environmentally responsible manner.

RELATED DOCUMENTATION

[SRX220 Services Gateway General Safety Guidelines and Warnings | 124](#)

[SRX220 Services Gateway Installation Safety Guidelines and Warnings | 133](#)

Installation Safety Guidelines and Warnings

IN THIS CHAPTER

- [SRX220 Services Gateway Installation Safety Guidelines and Warnings](#) | 133

SRX220 Services Gateway Installation Safety Guidelines and Warnings

Installation Instructions Warning



WARNING: Read the installation instructions before you connect the services gateway to a power source.

Waarschuwing Raadpleeg de installatie-aanwijzingen voordat u het systeem met de voeding verbindt.

Varoitus Lue asennusohjeet ennen järjestelmän yhdistämistä virtälähteeseen.

Attention Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation.

Warnung Lesen Sie die Installationsanweisungen, bevor Sie das System an die Stromquelle anschließen.

Avvertenza Consultare le istruzioni di installazione prima di collegare il sistema all'alimentatore.

Advarsel Les installasjonsinstruksjonene før systemet kobles til strømkilden.

Aviso Leia as instruções de instalação antes de ligar o sistema à sua fonte de energia.

¡Atención! Ver las instrucciones de instalación antes de conectar el sistema a la red de alimentación.

Varning! Läs installationsanvisningarna innan du kopplar systemet till dess strömförsörjningsenhet.

Rack-Mounting Requirements and Warnings

Ensure that the equipment rack into which the services gateway is installed is evenly and securely supported to avoid the hazardous condition that could result from uneven mechanical loading.



WARNING: To prevent bodily injury when mounting or servicing the services gateway in a rack, take the following precautions to ensure that the system remains stable. The following directives help maintain your safety:

- The services gateway must be installed into a rack that is secured to the building structure.
- The services gateway should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting the services gateway in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the services gateway in the rack.

Waarschuwing Om lichamelijk letsel te voorkomen wanneer u dit toestel in een rek monteert of het daar een servicebeurt geeft, moet u speciale voorzorgsmaatregelen nemen om ervoor te zorgen dat het toestel stabiel blijft. De onderstaande richtlijnen worden verstrekt om uw veiligheid te verzekeren:

- De Juniper Networks services gateway moet in een stellage worden geïnstalleerd die aan een bouwsel is verankerd.
- Dit toestel dient onderaan in het rek gemonteerd te worden als het toestel het enige in het rek is.
- Wanneer u dit toestel in een gedeeltelijk gevuld rek monteert, dient u het rek van onderen naar boven te laden met het zwaarste onderdeel onderaan in het rek.
- Als het rek voorzien is van stabiliseringshulpmiddelen, dient u de stabilisatoren te monteren voordat u het toestel in het rek monteert of het daar een servicebeurt geeft.

Varoitus Kun laite asetetaan telineeseen tai huolletaan sen ollessa telineessä, on noudatettava erityisiä varotoimia järjestelmän vakavuuden säilyttämiseksi, jotta vältetään loukkaantumiset. Noudata seuraavia turvallisuusohjeita:

- Juniper Networks services gateway on asennettava telineeseen, joka on kiinnitetty rakennukseen.
- Jos telineessä ei ole muita laitteita, aseta laite telineen alaosaan.
- Jos laite asetetaan osaksi täytettyyn telineeseen, aloita kuormittaminen sen alaosasta kaikkein raskaimmalla esineellä ja siirry sitten sen yläosaan.
- Jos telinettä varten on vakaimet, asenna ne ennen laitteen asettamista telineeseen tai sen huoltamista siinä.

Attention Pour éviter toute blessure corporelle pendant les opérations de montage ou de réparation de cette unité en casier, il convient de prendre des précautions spéciales afin de maintenir la stabilité du système. Les directives ci-dessous sont destinées à assurer la protection du personnel:

- Le rack sur lequel est monté le Juniper Networks services gateway doit être fixé à la structure du bâtiment.
- Si cette unité constitue la seule unité montée en casier, elle doit être placée dans le bas.
- Si cette unité est montée dans un casier partiellement rempli, charger le casier de bas en haut en plaçant l'élément le plus lourd dans le bas.
- Si le casier est équipé de dispositifs stabilisateurs, installer les stabilisateurs avant de monter ou de réparer l'unité en casier.

Warnung Zur Vermeidung von Körperverletzung beim Anbringen oder Warten dieser Einheit in einem Gestell müssen Sie besondere Vorkehrungen treffen, um sicherzustellen, daß das System stabil bleibt. Die folgenden Richtlinien sollen zur Gewährleistung Ihrer Sicherheit dienen:

- Der Juniper Networks services gateway muß in einem Gestell installiert werden, das in der Gebäudestruktur verankert ist.
- Wenn diese Einheit die einzige im Gestell ist, sollte sie unten im Gestell angebracht werden.
- Bei Anbringung dieser Einheit in einem zum Teil gefüllten Gestell ist das Gestell von unten nach oben zu laden, wobei das schwerste Bauteil unten im Gestell anzubringen ist.
- Wird das Gestell mit Stabilisierungszubehör geliefert, sind zuerst die Stabilisatoren zu installieren, bevor Sie die Einheit im Gestell anbringen oder sie warten.

Avvertenza Per evitare infortuni fisici durante il montaggio o la manutenzione di questa unità in un supporto, occorre osservare speciali precauzioni per garantire che il sistema rimanga stabile. Le seguenti direttive vengono fornite per garantire la sicurezza personale:

- Il Juniper Networks services gateway deve essere installato in un telaio, il quale deve essere fissato alla struttura dell'edificio.
- Questa unità deve venire montata sul fondo del supporto, se si tratta dell'unica unità da montare nel supporto.
- Quando questa unità viene montata in un supporto parzialmente pieno, caricare il supporto dal basso all'alto, con il componente più pesante sistemato sul fondo del supporto.
- Se il supporto è dotato di dispositivi stabilizzanti, installare tali dispositivi prima di montare o di procedere alla manutenzione dell'unità nel supporto.

Advarsel Unngå fysiske skader under montering eller reparasjonsarbeid på denne enheten når den befinner seg i et kabinett. Vær nøye med at systemet er stabilt. Følgende retningslinjer er gitt for å verne om sikkerheten:

- Juniper Networks services gateway må installeres i et stativ som er forankret til bygningsstrukturen.
- Denne enheten bør monteres nederst i kabinettet hvis dette er den eneste enheten i kabinettet.
- Ved montering av denne enheten i et kabinett som er delvis fylt, skal kabinettet lastes fra bunnen og opp med den tyngste komponenten nederst i kabinettet.
- Hvis kabinettet er utstyrt med stabiliseringsutstyr, skal stabilisatorene installeres før montering eller utføring av reparasjonsarbeid på enheten i kabinettet.

Aviso Para se prevenir contra danos corporais ao montar ou reparar esta unidade numa estante, deverá tomar precauções especiais para se certificar de que o sistema possui um suporte estável. As seguintes directrizes ajudá-lo-ão a efectuar o seu trabalho com segurança:

- O Juniper Networks services gateway deverá ser instalado numa prateleira fixa à estrutura do edifício.
- Esta unidade deverá ser montada na parte inferior da estante, caso seja esta a única unidade a ser montada.
- Ao montar esta unidade numa estante parcialmente ocupada, coloque os itens mais pesados na parte inferior da estante, arrumando-os de baixo para cima.
- Se a estante possuir um dispositivo de estabilização, instale-o antes de montar ou reparar a unidade.

¡Atención! Para evitar lesiones durante el montaje de este equipo sobre un bastidor, o posteriormente durante su mantenimiento, se debe poner mucho cuidado en que el sistema quede bien estable. Para garantizar su seguridad, proceda según las siguientes instrucciones:

- El Juniper Networks services gateway debe instalarse en un bastidor fijado a la estructura del edificio.
- Colocar el equipo en la parte inferior del bastidor, cuando sea la única unidad en el mismo.
- Cuando este equipo se vaya a instalar en un bastidor parcialmente ocupado, comenzar la instalación desde la parte inferior hacia la superior colocando el equipo más pesado en la parte inferior.
- Si el bastidor dispone de dispositivos estabilizadores, instalar éstos antes de montar o proceder al mantenimiento del equipo instalado en el bastidor.

Warning! För att undvika kroppsskada när du installerar eller utför underhållsarbete på denna enhet på en ställning måste du vidta särskilda försiktighetsåtgärder för att försäkra dig om att systemet står stadigt. Följande riktlinjer ges för att trygga din säkerhet:

- Juniper Networks services gateway måste installeras i en ställning som är förankrad i byggnadens struktur.
- Om denna enhet är den enda enheten på ställningen skall den installeras längst ned på ställningen.
- Om denna enhet installeras på en delvis fylld ställning skall ställningen fyllas nedifrån och upp, med de tyngsta enheterna längst ned på ställningen.
- Om ställningen är försedd med stabiliseringsdon skall dessa monteras fast innan enheten installeras eller underhålls på ställningen.

RELATED DOCUMENTATION

[SRX220 Services Gateway Fire Safety Requirements | 131](#)

[SRX220 Services Gateway Laser and LED Safety Guidelines and Warnings | 140](#)

Laser and LED Safety Guidelines and Warnings

IN THIS CHAPTER

- [SRX220 Services Gateway Laser and LED Safety Guidelines and Warnings | 140](#)

SRX220 Services Gateway Laser and LED Safety Guidelines and Warnings

IN THIS SECTION

- [Laser and LED Safety Guidelines and Warnings | 140](#)

The 1-Port SFP Mini-Physical Interface Module (Mini-PIM) is equipped with laser transmitters, which are considered Class 1 Laser Products by the U.S. Food and Drug Administration, and they are evaluated as Class 1 Laser Products per EN 60825-1 +A11 +A2 requirements.

This topic includes the following sections:

Laser and LED Safety Guidelines and Warnings

General Laser Safety Guidelines

When working around Mini-PIMs, observe the following safety guidelines to prevent eye injury:

- Do not look into unterminated ports or at fibers that connect to unknown sources.
- Do not examine unterminated optical ports with optical instruments.
- Avoid direct exposure to the beam.



WARNING: Unterminated optical connectors can emit invisible laser radiation. The lens in the human eye focuses all the laser power on the retina, so focusing the eye directly on a laser source—even a low-power laser—could permanently damage the eye.

Class 1 Laser Product Warning



WARNING: Class 1 laser product.

Waarschuwing Klasse-1 laser produkt.

Varoitus Luokan 1 lasertuote.

Attention Produit laser de classe I.

Warnung Laserprodukt der Klasse 1.

Avvertenza Prodotto laser di Classe 1.

Advarsel Laserprodukt av klasse 1.

Aviso Produto laser de classe 1.

¡Atención! Producto láser Clase I.

Varning! Laserprodukt av klass 1.

Class 1 LED Product Warning

WARNING: Class 1 LED product.

Waarschuwing Klasse 1 LED-product.

Varoitus Luokan 1 valodiodituote.

Attention Alarme de produit LED Class I.

Warnung Class 1 LED-Produktwarnung.

Avvertenza Avvertenza prodotto LED di Classe 1.

Advarsel LED-produkt i klasse 1.

Aviso Produto de classe 1 com LED.

¡Atención! Aviso sobre producto LED de Clase 1.

Varning! Lysdiodprodukt av klass 1.

Laser Beam Warning



WARNING: Do not stare into the laser beam or view it directly with optical instruments.

Waarschuwing Niet in de straal staren of hem rechtstreeks bekijken met optische instrumenten.

Varoitus Älä katso säteeseen äläkä tarkastele sitä suoraan optisen laitteen avulla.

Attention Ne pas fixer le faisceau des yeux, ni l'observer directement à l'aide d'instruments optiques.

Warnung Nicht direkt in den Strahl blicken und ihn nicht direkt mit optischen Geräten prüfen.

Avvertenza Non fissare il raggio con gli occhi né usare strumenti ottici per osservarlo direttamente.

Advarsel Stirr eller se ikke direkte p strlen med optiske instrumenter.

Aviso Não olhe fixamente para o raio, nem olhe para ele directamente com instrumentos ópticos.

¡Atención! No mirar fijamente el haz ni observarlo directamente con instrumentos ópticos.

Varning! Rikta inte blicken in mot strålen och titta inte direkt på den genom optiska instrument.

Radiation from Open Port Apertures Warning



WARNING: Because invisible radiation may be emitted from the aperture of the port when no fiber cable is connected, avoid exposure to radiation and do not stare into open apertures.

Waarschuwing Aangezien onzichtbare straling vanuit de opening van de poort kan komen als er geen fiberkabel aangesloten is, dient blootstelling aan straling en het kijken in open openingen vermeden te worden.

Varoitus Koska portin aukosta voi emittoitua näkymätöntä säteilyä, kun kuitukaapelia ei ole kytkettynä, vältä säteilylle altistumista äläkä katso avoimiin aukkoihin.

Attention Des radiations invisibles à l'il nu pouvant traverser l'ouverture du port lorsqu'aucun câble en fibre optique n'y est connecté, il est recommandé de ne pas regarder fixement l'intérieur de ces ouvertures.

Warnung Aus der Port-Öffnung können unsichtbare Strahlen emittieren, wenn kein Glasfaserkabel angeschlossen ist. Vermeiden Sie es, sich den Strahlungen auszusetzen, und starren Sie nicht in die Öffnungen!

Avvertenza Quando i cavi in fibra non sono inseriti, radiazioni invisibili possono essere emesse attraverso l'apertura della porta. Evitate di esporvi alle radiazioni e non guardate direttamente nelle aperture.

Advarsel Unngå utsettelse for stråling, og stirr ikke inn i åpninger som er åpne, fordi usynlig stråling kan emitteres fra portens åpning når det ikke er tilkoblet en fiberkabel.

Aviso Dada a possibilidade de emissão de radiação invisível através do orifício da via de acesso, quando esta não tiver nenhum cabo de fibra conectado, deverá evitar a exposição à radiação e não deverá olhar fixamente para orifícios que se encontrarem a descoberto.

¡Atención! Debido a que la apertura del puerto puede emitir radiación invisible cuando no existe un cable de fibra conectado, evite mirar directamente a las aperturas para no exponerse a la radiación.

Warning! Osynlig strålning kan avges från en portöppning utan ansluten fiberkabel och du bör därför undvika att bli utsatt för strålning genom att inte stirra in i oskyddade öppningar.

RELATED DOCUMENTATION

SRX220 Services Gateway Installation Safety Guidelines and Warnings | 133

SRX220 Services Gateway Maintenance and Operational Safety Guidelines and Warnings | 146

Maintenance and Operational Safety Guidelines and Warnings

IN THIS CHAPTER

- [SRX220 Services Gateway Maintenance and Operational Safety Guidelines and Warnings | 146](#)

SRX220 Services Gateway Maintenance and Operational Safety Guidelines and Warnings

IN THIS SECTION

- [Safety Guidelines and Warnings | 147](#)

This topic includes the following section:

Safety Guidelines and Warnings

Battery Handling Warning



WARNING: Replacing the battery incorrectly might result in an explosion. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Waarschuwing Er is ontplofingsgevaar als de batterij verkeerd vervangen wordt. Vervang de batterij slechts met hetzelfde of een equivalent type dat door de fabrikant aanbevolen is. Gebruikte batterijen dienen overeenkomstig fabrieksvoorschriften weggegooid te worden.

Varoitus Räjähdyksen vaara, jos akku on vaihdettu väärään akkuun. Käytä vaihtamiseen ainoastaan saman- tai vastaavantyyppistä akkua, joka on valmistajan suosittelema. Hävitä käytetyt akut valmistajan ohjeiden mukaan.

Attention Danger d'explosion si la pile n'est pas remplacée correctement. Ne la remplacer que par une pile de type semblable ou équivalent, recommandée par le fabricant. Jeter les piles usagées conformément aux instructions du fabricant.

Warnung Bei Einsetzen einer falschen Batterie besteht Explosionsgefahr. Ersetzen Sie die Batterie nur durch den gleichen oder vom Hersteller empfohlenen Batterietyp. Entsorgen Sie die benutzten Batterien nach den Anweisungen des Herstellers.

Avvertenza Pericolo di esplosione se la batteria non è installata correttamente. Sostituire solo con una di tipo uguale o equivalente, consigliata dal produttore. Eliminare le batterie usate secondo le istruzioni del produttore.

Advarsel Det kan være fare for eksplosjon hvis batteriet skiftes på feil måte. Skift kun med samme eller tilsvarende type som er anbefalt av produsenten. Kasser brukte batterier i henhold til produsentens instruksjoner.

Aviso Existe perigo de explosão se a bateria for substituída incorrectamente. Substitua a bateria por uma bateria igual ou de um tipo equivalente recomendado pelo fabricante. Destrua as baterias usadas conforme as instruções do fabricante.

¡Atención! Existe peligro de explosión si la batería se reemplaza de manera incorrecta. Reemplazar la batería exclusivamente con el mismo tipo o el equivalente recomendado por el fabricante. Desechar las baterías gastadas según las instrucciones del fabricante.

Varning! Explosionsfara vid felaktigt batteribyte. Ersätt endast batteriet med samma batterityp som rekommenderas av tillverkaren eller motsvarande. Följ tillverkarens anvisningar vid kassering av använda batterier.

Jewelry Removal Warning



WARNING: Before working on equipment that is connected to power lines, remove jewelry, including rings, necklaces, and watches. Metal objects heat up when connected to power and ground and can cause serious burns or weld the metal object to the terminals.

Waarschuwing Alvorens aan apparatuur te werken die met elektrische leidingen is verbonden, sieraden (inclusief ringen, kettingen en horloges) verwijderen. Metalen voorwerpen worden warm wanneer ze met stroom en aarde zijn verbonden, en kunnen ernstige brandwonden veroorzaken of het metalen voorwerp aan de aansluitklemmen lassen.

Varoitus Ennen kuin työskentelet voimavirtajohtoihin kytkettyjen laitteiden parissa, ota pois kaikki korut (sormukset, kaulakorut ja kellot mukaan lukien). Metalliesineet kuumenevat, kun ne ovat yhteydessä sähkövirran ja maan kanssa, ja ne voivat aiheuttaa vakavia palovammoja tai hitsata metalliesineet kiinni liitännänapoihin.

Attention Avant d'accéder à cet équipement connecté aux lignes électriques, ôter tout bijou (anneaux, colliers et montres compris). Lorsqu'ils sont branchés à l'alimentation et reliés à la terre, les objets métalliques chauffent, ce qui peut provoquer des blessures graves ou souder l'objet métallique aux bornes.

Warnung Vor der Arbeit an Geräten, die an das Netz angeschlossen sind, jeglichen Schmuck (einschließlich Ringe, Ketten und Uhren) abnehmen. Metallgegenstände erhitzen sich, wenn sie an das Netz und die Erde angeschlossen werden, und können schwere Verbrennungen verursachen oder an die Anschlußklemmen angeschweißt werden.

Avvertenza Prima di intervenire su apparecchiature collegate alle linee di alimentazione, togliersi qualsiasi monile (inclusi anelli, collane, braccialetti ed orologi). Gli oggetti metallici si riscaldano quando sono collegati tra punti di alimentazione e massa: possono causare ustioni gravi oppure il metallo può saldarsi ai terminali.

Advarsel Fjern alle smykker (inkludert ringer, halskjeder og klokker) før du skal arbeide på utstyr som er koblet til kraftledninger. Metallgjenstander som er koblet til kraftledninger og jord blir svært varme og kan forårsake alvorlige brannskader eller smelte fast til polene.

Aviso Antes de trabalhar em equipamento que esteja ligado a linhas de corrente, retire todas as jóias que estiver a usar (incluindo anéis, fios e relógios). Os objectos metálicos aquecerão em contacto com a corrente e em contacto com a ligação à terra, podendo causar queimaduras graves ou ficarem soldados aos terminais.

¡Atención! Antes de operar sobre equipos conectados a líneas de alimentación, quitarse las joyas (incluidos anillos, collares y relojes). Los objetos de metal se calientan cuando

se conectan a la alimentación y a tierra, lo que puede ocasionar quemaduras graves o que los objetos metálicos queden soldados a los bornes.

Varning! Tag av alla smycken (inklusive ringar, halsband och armbandsur) innan du arbetar på utrustning som är kopplad till kraftledning. Metallobjekt hettas upp när de kopplas ihop med ström och jord och kan förorsaka allvarliga brännskador; metallobjekt kan också sammansvetsas med kontakterna.

Lightning Activity Warning



WARNING: Do not work on the system or connect or disconnect cables during periods of lightning activity.

Waarschuwing Tijdens onweer dat gepaard gaat met bliksem, dient u niet aan het systeem te werken of kabels aan te sluiten of te ontkoppelen.

Varoitus Älä työskentele järjestelmän parissa äläkä yhdistä tai irrota kaapeleita ukkosilmalla.

Attention Ne pas travailler sur le système ni brancher ou débrancher les câbles pendant un orage.

Warnung Arbeiten Sie nicht am System und schließen Sie keine Kabel an bzw. trennen Sie keine ab, wenn es gewittert.

Avvertenza Non lavorare sul sistema o collegare oppure scollegare i cavi durante un temporale con fulmini.

Advarsel Utfør aldri arbeid på systemet, eller koble kabler til eller fra systemet når det tordner eller lynr.

Aviso Não trabalhe no sistema ou ligue e desligue cabos durante períodos de mau tempo (trovoada).

¡Atención! No operar el sistema ni conectar o desconectar cables durante el transcurso de descargas eléctricas en la atmósfera.

Varning! Vid åska skall du aldrig utföra arbete på systemet eller ansluta eller koppla loss kablar.

Operating Temperature Warning



WARNING: To prevent the services gateway from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of 104°F (40°C). To prevent airflow restriction, allow at least 6 in. (15.2 cm) of clearance around the ventilation openings.

Waarschuwing Om te voorkomen dat welke services gateway van de Juniper Networks services gateway dan ook oververhit raakt, dient u deze niet te bedienen op een plaats waar de maximale aanbevolen omgevingstemperatuur van 40°C wordt overschreden. Om te voorkomen dat de luchtstroom wordt beperkt, dient er minstens 15,2 cm speling rond de ventilatie-openingen te zijn.

Varoituis Ettei Juniper Networks services gateway-sarjan reititin ylikuumentuusi, sitä ei saa käyttää tilassa, jonka lämpötila ylittää korkeimman suositellun ympäristölämpötilan 40°C. Ettei ilmanvaihto estyisi, tuuletusaukkojen ympärille on jätettävä ainakin 15,2 cm tilaa.

Attention Pour éviter toute surchauffe des routeurs de la gamme Juniper Networks services gateway, ne l'utilisez pas dans une zone où la température ambiante est supérieure à 40°C. Pour permettre un flot d'air constant, dégagez un espace d'au moins 15,2 cm autour des ouvertures de ventilations.

Warnung Um einen services gateway der services gateway vor Überhitzung zu schützen, darf dieser nicht in einer Gegend betrieben werden, in der die Umgebungstemperatur das empfohlene Maximum von 40°C überschreitet. Um Lüftungsverschluß zu verhindern, achten Sie darauf, daß mindestens 15,2 cm lichter Raum um die Lüftungsöffnungen herum frei bleibt.

Avvertenza Per evitare il surriscaldamento dei services gateway, non adoperateli in un locale che ecceda la temperatura ambientale massima di 40°C. Per evitare che la circolazione dell'aria sia impedita, lasciate uno spazio di almeno 15.2 cm di fronte alle aperture delle ventole.

Advarsel Unngå overoppheting av eventuelle rutere i Juniper Networks services gateway Disse skal ikke brukes på steder der den anbefalte maksimale omgivelsestemperaturen overstiger 40°C (104°F). Sørg for at klaringen rundt lufteåpningene er minst 15,2 cm (6 tommer) for å forhindre nedsatt luftsirkulasjon.

Aviso Para evitar o sobreaquecimento do encaminhador Juniper Networks services gateway, não utilize este equipamento numa área que exceda a temperatura máxima recomendada de 40°C. Para evitar a restrição à circulação de ar, deixe pelo menos um espaço de 15,2 cm à volta das aberturas de ventilação.

¡Atención! Para impedir que un encaminador de la serie Juniper Networks services gateway se recaliente, no lo haga funcionar en un área en la que se supere la temperatura ambiente máxima recomendada de 40°C. Para impedir la restricción de la entrada de aire, deje un espacio mínimo de 15,2 cm alrededor de las aperturas para ventilación.

Warning! Förhindra att en Juniper Networks services gateway överhettas genom att inte använda den i ett område där den maximalt rekommenderade omgivningstemperaturen på 40°C överskrids. Förhindra att luftcirkulationen inskränks genom att se till att det finns fritt utrymme på minst 15,2 cm omkring ventilationsöppningarna.

Product Disposal Warning



WARNING: Disposal of this product must be handled according to all national laws and regulations.

Waarschuwing Dit produkt dient volgens alle landelijke wetten en voorschriften te worden afgedankt.

Varoitus Tämän tuotteen lopullisesta hävittämisestä tulee huolehtia kaikkia valtakunnallisia lakeja ja säännöksiä noudattaen.

Attention La mise au rebut définitive de ce produit doit être effectuée conformément à toutes les lois et réglementations en vigueur.

Warnung Dieses Produkt muß den geltenden Gesetzen und Vorschriften entsprechend entsorgt werden.

Avvertenza L'eliminazione finale di questo prodotto deve essere eseguita osservando le normative italiane vigenti in materia

Advarsel Endelig disponering av dette produktet må skje i henhold til nasjonale lover og forskrifter.

Aviso A descartagem final deste produto deverá ser efectuada de acordo com os regulamentos e a legislação nacional.

¡Atención! El desecho final de este producto debe realizarse según todas las leyes y regulaciones nacionales

Warning! Slutlig kassering av denna produkt bör skötas i enlighet med landets alla lagar och föreskrifter.

RELATED DOCUMENTATION

[SRX220 Services Gateway Laser and LED Safety Guidelines and Warnings | 140](#)

[SRX220 Services Gateway Electrical Safety Guidelines and Warnings | 155](#)

Electrical Safety Guidelines and Warnings

IN THIS CHAPTER

- [SRX220 Services Gateway Electrical Safety Guidelines and Warnings | 155](#)

SRX220 Services Gateway Electrical Safety Guidelines and Warnings

In Case of Electrical Accident

If an electrical accident results in an injury, take the following actions in this order:

1. Use caution. Be aware of potentially hazardous conditions that could cause further injury.
2. Disconnect power from the services gateway.
3. If possible, send another person to get medical aid. Otherwise, assess the condition of the victim, and then call for help.

General Electrical Safety Guidelines and Warnings

- Install the services gateway in compliance with the following local, national, or international electrical codes:
 - United States—National Fire Protection Association (NFPA 70), United States National Electrical Code
 - Canada—Canadian Electrical Code, Part 1, CSA C22.1
 - Other countries—International Electromechanical Commission (IEC) 60364, Part 1 through Part 7
 - Evaluated to the TN power system
- Locate the emergency power-off switch for the room in which you are working so that if an electrical accident occurs, you can quickly turn off the power.
- Do not work alone if potentially hazardous conditions exist anywhere in your workspace.
- Never assume that power is disconnected from a circuit. Always check the circuit before starting to work.

- Carefully look for possible hazards in your work area, such as moist floors, ungrounded power extension cords, and missing safety grounds.
- Operate the services gateway within marked electrical ratings and product usage instructions.
- For the services gateway and peripheral equipment to function safely and correctly, use the cables and connectors specified for the attached peripheral equipment, and make certain they are in good condition.

RELATED DOCUMENTATION

[SRX220 Services Gateway Electrical and Power Requirements | 35](#)

[SRX220 Services Gateway Maintenance and Operational Safety Guidelines and Warnings | 146](#)

[SRX220 Services Gateway Agency Approvals | 157](#)

[Grounding the SRX220 Services Gateway | 59](#)

Agency Approvals and Regulatory Compliance Information

IN THIS CHAPTER

- [SRX220 Services Gateway Agency Approvals | 157](#)
- [SRX220 Services Gateway Compliance Statements for EMC Requirements | 158](#)
- [SRX220 Services Gateway Compliance Statements for Environmental Requirements | 160](#)
- [SRX220 Services Gateway Compliance Statements for Acoustic Noise | 160](#)

SRX220 Services Gateway Agency Approvals

The SRX220 Services Gateway complies with the following standards:

- Safety
 - CSA 60950-1 (2003) Safety of Information Technology Equipment
 - UL 60950-1 (2003) Safety of Information Technology Equipment
 - EN 60950-1 (2001) Safety of Information Technology Equipment
 - IEC 60950-1 (2001) Safety of Information Technology Equipment (with country deviations)
 - EN 60825-1 +A1+A2 (1994) Safety of Laser Products - Part 1: Equipment Classification
 - EN 60825-2 (2000) Safety of Laser Products - Part 2: Safety of Optical Fiber Comm. Systems
- EMC
 - EN 300 386 V1.3.3 (2005) Telecom Network Equipment - EMC requirements
- EMI
 - FCC Part 15 Class A (2007) USA Radiated Emissions
 - EN 55022 Class A (2006) European Radiated Emissions
 - VCCI Class A (2007) Japanese Radiated Emissions

- Immunity

- EN 55024 +A1+A2 (1998) Information Technology Equipment Immunity Characteristics
- EN-61000-3-2 (2006) Power Line Harmonics
- EN-61000-3-3 +A1 +A2 +A3 (1995) Power Line Voltage Fluctuations
- EN-61000-4-2 +A1 +A2 (1995) Electrostatic Discharge
- EN-61000-4-3 +A1+A2 (2002) Radiated Immunity
- EN-61000-4-4 (2004) Electrical Fast Transients
- EN-61000-4-5 (2006) Surge
- EN-61000-4-6 (2007) Immunity to Conducted Disturbances
- EN-61000-4-11 (2004) Voltage Dips and Sags

RELATED DOCUMENTATION

[SRX220 Services Gateway Electrical Safety Guidelines and Warnings | 155](#)

[SRX220 Services Gateway Compliance Statements for EMC Requirements | 158](#)

[SRX220 Services Gateway Compliance Statements for Environmental Requirements | 160](#)

[SRX220 Services Gateway Compliance Statements for Acoustic Noise | 160](#)

SRX220 Services Gateway Compliance Statements for EMC Requirements

Canada

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

European Community

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

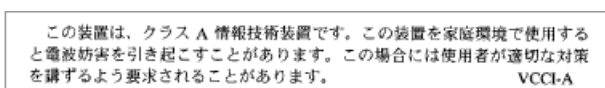
Israel



The preceding translates as follows:

This product is Class A. In residential environments, the product may cause radio interference, and in such a situation, the user may be required to take adequate measures.

Japan



The preceding translates as follows:

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

VCCI-A

United States

The services gateway has been tested and found to comply with the limits for a Class A digital device of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

RELATED DOCUMENTATION

[SRX220 Services Gateway Agency Approvals | 157](#)

[SRX220 Services Gateway Compliance Statements for Environmental Requirements | 160](#)

[SRX220 Services Gateway Compliance Statements for Acoustic Noise | 160](#)

SRX220 Services Gateway Compliance Statements for Environmental Requirements

This topic includes the compliance statement for the following environmental requirement:

Lithium Battery

Batteries in this product are not based on mercury, lead, or cadmium substances. The batteries used in this product are in compliance with EU Directives 91/157/EEC, 93/86/EEC, and 98/101/EEC. The product documentation includes instructional information about the proper method of reclamation and recycling.

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SRX220 Services Gateway Compliance Statements for Acoustic Noise

Maschinenlärminformations-Verordnung - 3. GPSGV, der höchste Schalldruckpegel beträgt 52 dB(A) oder weniger gemäss EN ISO 7779

Translation:

The maximum emitted sound pressure level is 52 dB(A) or less per EN ISO 7779.

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