# Cisco Secure Firewall 200 Series Hardware Installation Guide

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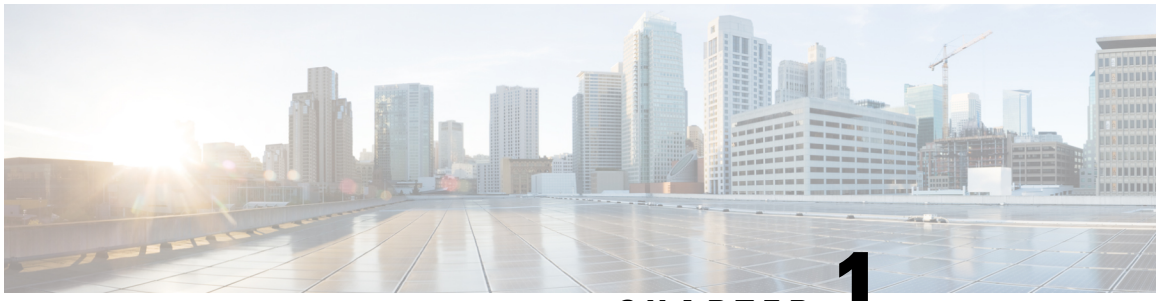


CHAPTER 1

# Overview



## Features

The Cisco Secure Firewall 200 series is a cost-effective, highly efficient addition to our low-end firewall family. It is designed for enterprise branches, retail businesses, and small locations, and offers robust, affordable security with advanced threat intelligence, cloud security features, and optimized performance for comprehensive enterprise-grade protection.

The Secure Firewall 220 is a compact network security appliance in the Cisco Secure Firewall family. It is first supported in Cisco Secure Firewall Threat Defense Version 10.0.0 and Cisco Secure ASA Version 9.24.1.

See the Cisco Secure Firewall Threat Defense Compatibility Guide and Cisco Secure Firewall ASA Compatibility, which provide Cisco Firewall software and hardware compatibility, including operating system and hosting environment requirements, for each supported Firewall version.

The following figure shows the Secure Firewall 220.

*Figure 1: CSF-220*

The following table lists the features for the Secure Firewall 220.

*Table 1: CSF-220 features*

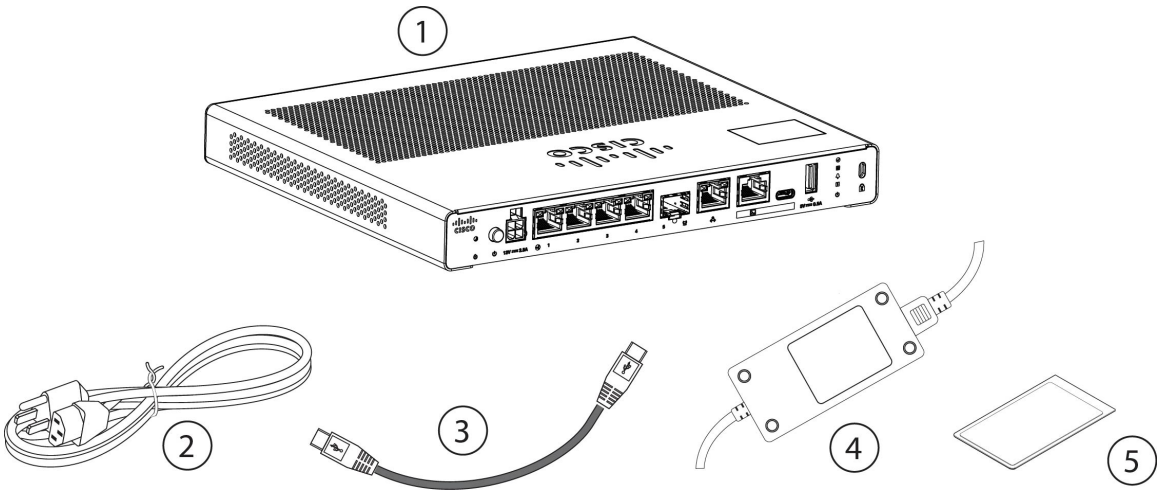
| Feature | CSF-220 |
|---|---|
| Form factor | Compact or 1 RU for the rack-mount shelf |
| Mounting | • Desktop mount (default)<br>• Wall mount (orderable kit)<br>• Rack-mount shelf (orderable kit) |
| Airflow | No fan<br>**Note**<br>Because there is no fan, you cannot stack the chassis. Internal system temperature recordings are expected to be higher than the ambient temperature cited in Hardware specifications, on page 11. |
| Management port | One 1-Gbps Cisco RJ-45<br>Restricted to network management access; connect with an RJ-45 cable |
| Console ports | One Cisco Serial (RS-232 on RJ-45)<br>One USB Type C 2.0<br>Provides management access through an external system |
| USB port | One USB Type A 3.0<br>Use to attach an external device such as storage |
| Network ports | Four 1-Gbps RJ-45 Gigabit Ethernet ports |
| Small form-factor pluggable (SFP) port | One 1-Gbps port |
| Supported SFPs | See Supported transceivers, on page 12 for a list of supported 1-Gbps SFPs. |

| Feature | CSF-220 |
|---|---|
| PoE+ ports | Not supported |
| Reset button | Small recessed button<br>Push and hold with a pin for 5 seconds; resets the chassis to its default state following the next reboot.<br>**Note**<br>Configuration variables are reset to factory default, but the flash is not erased and no files are removed. |
| Lock slot | Accepts a Kensington T-bar locking mechanism for securing the chassis |
| Power button | Located on the left side of the I/O (rear) panel |
| Power cord socket | IEC320-C14<br>See Power cord specifications, on page 15 for the list of supported power cords. |
| AC power supply | External +12 V at 30 W |
| Storage | Internal component only; not field-replaceable.<br>You must return the chassis to Cisco for storage replacement. See the Cisco Returns Portal for more information. |
| Rubber feet | Present for stability and cooling |

# Package contents

The following figure shows the package contents for the Secure Firewall 220. Note that the contents are subject to change and your exact contents might contain additional or fewer items.

*Figure 2: CSF-220 package contents*



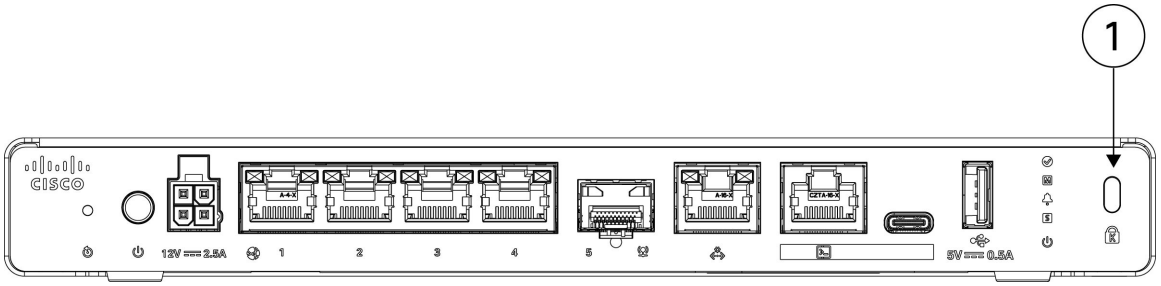

| | | | |
|---|---|---|---|
| **1** | Chassis | **2** | Power cord<br>See Power cord specifications, on page 15 for a list of the approved power cords. |
| **3** | USB-C to USB-C console cable (6 ft)<br>PID: CAB-CONS-USB-C<br>Optional: in package if ordered | **4** | Power supply |
| **5** | *Cisco Secure Firewall 200*<br>This document has links to the hardware installation guide, regulatory and safety information guide, and warranty and licensing information. It also contains a QR code and URL that point to the Digital Documentation Portal. The portal contains links to the product information page, the hardware installation guide, the regulatory and safety information guide, the getting started guide, and the zero-touch provisioning guide. | | — |

# Kensington lock, compliance label, do not stack label, hot system warning label, and digital documentation portal QR code locations

You can find the Kensington lock on the left side of the rear panel (I/O) side of the chassis. It accepts a standard Kensington T-bar locking mechanism for securing the chassis.

The following figure shows the location.

***Figure 3: Kensington lock on the chassis***

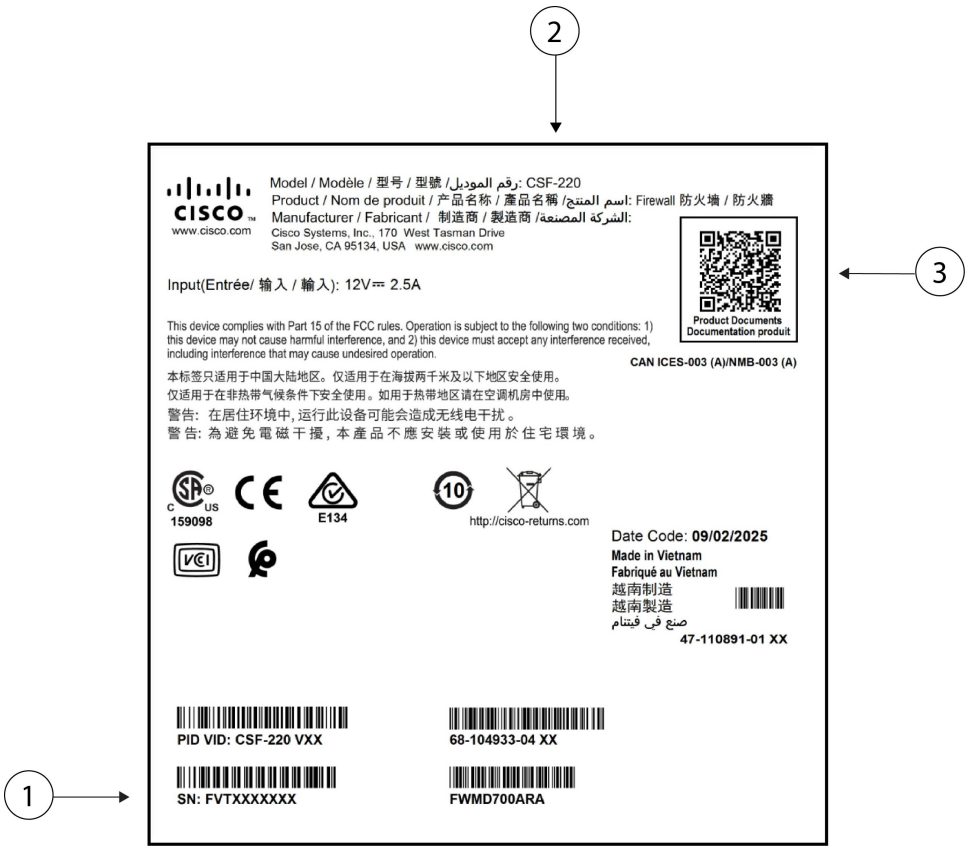



| | | | |
|---|---|---|---|
| **1** | Kensington lock on left side of rear panel (I/O) side of the chassis | | — |

The compliance label on the bottom of the chassis contains the chassis serial number, regulatory compliance marks, and the Digital Documentation Portal QR code that points to the getting started guide, the regulatory and compliance guide, the zero-touch provisioning guide, and the hardware installation guide.

The following figure shows an example compliance label found on the bottom of the chassis.

***Figure 4: Compliance label on the chassis***

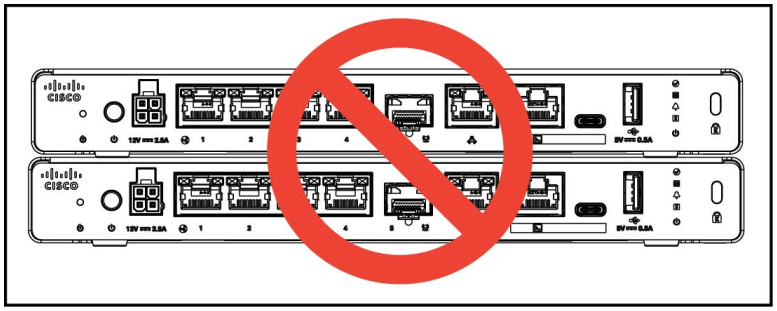



| | | | |
|---|---|---|---|
| **1** | Chassis serial number | **2** | Chassis model number |

| | | | |
|---|---|---|---|
| 3 | Digital Documentation Portal QR code | | — |

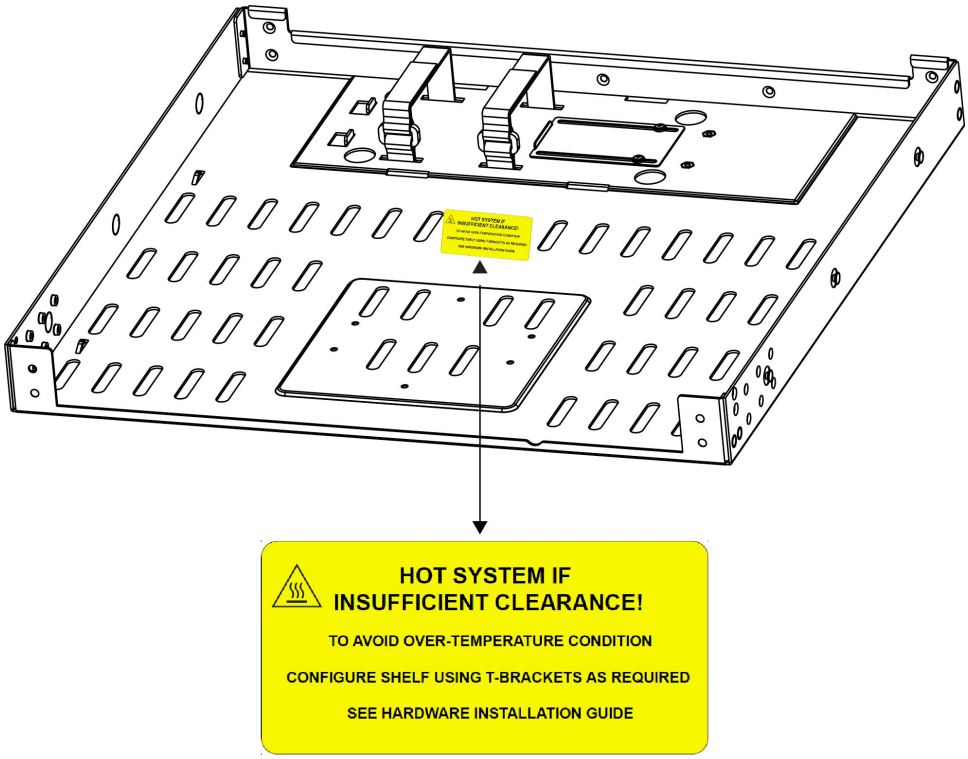
The Do Not Stack label is on the top of the chassis cover. The following figure shows the Do Not Stack label.

***Figure 5: Do Not Stack label on the chassis***



The Hot System warning label is on the rack-mount tray as seen in the following figure.

***Figure 6: Hot system warning label on the rack-mount tray***




# Front panel

The following figure shows the front panel of the Secure Firewall 220 compact appliance. Note that there are no connectors or LEDs on the front panel.

*Figure 7: CSF-220 front panel*


# Management port, console ports, and USB port

### Management port

The Secure Firewall 220 series chassis has one 1-Gbps Cisco RJ-45 management port. It is restricted to network management access; connect with an RJ-45 cable.

### RJ-45 console ports

The Secure Frirewall 200 series has two external console ports, a Cisco RJ-45 serial port and a Type C USB serial port. Only one console port can be active at a time. When a cable is plugged into the USB console port, the RJ-45 port becomes inactive. Conversely, when the USB cable is removed from the USB port, the RJ-45 port becomes active. The console ports do not have any hardware flow control. You can use the CLI to configure the chassis through either serial console port by using a terminal server or a terminal emulation program on a computer.

- RJ-45 (8P8C) port—Supports RS-232 signaling to an internal UART controller. The RJ-45 console port does not support a remote dial-in modem. You can use an adapter to convert the RJ45-to-DB9 connection if necessary.
- Type C USB port—Lets you connect to a USB port on an external computer. You can plug and unplug the USB cable from the console port without affecting Windows HyperTerminal operations. We recommend shielded USB cables with properly terminated shields. The default setting is 9600 baud. Use this for the initial connection. Baud rates for the USB console port are 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200 bps.

### Type A USB 3.0 port

The chassis provides a USB 3.0 Type A port that you can use to attach an external device. The USB port can provide output power of 5 V, and up to a maximum of 0.5 A, and 2.5 W of power.

- External USB drive (optional)—You can use the external USB Type A port to attach a data-storage device. The external USB drive identifier is *disk1*. When the chassis is powered on, a connected USB drive is mounted as disk1 and is available for you to use. Additionally, the file-system commands that are available to disk0 are also available to disk1, including **copy**, **format**, **delete**, **mkdir**, **pwd**, **cd**, and so on.
- FAT-32 File System—The Secure Firewall 200 series only supports FAT-32-formatted file systems for the external USB drive. If you insert an external USB drive that is not in FAT-32 format, the system mounting process fails, and you receive an error message. You can enter the command **format disk1:** to format the partition to FAT-32 and mount the partition to disk1 again; however, data might be lost.

# Power button and reset button

### Power button

The push power button is located on the the left side of the rear panel. It controls power to the system. When the AC power is first turned on, you do not have to press the power button because the system turns on by default. The system is OFF when the button is sticking out and ON when the button is pushed in. During the shutdown process the power LED flashes green indicating that the process has started. Once the shutdown is complete, the system is powered off. Wait for the system power LEDs to turn off before unplugging the AC power cables. See for a detailed description of the power status LED.

At the ROMMON or FX-OS prompt:

- Press the power button for 5 seconds and release it to initiate a power cycle. The power LED flashes green at a rate of 2 Hz.
- Press the power button for 15 seconds and release it to initiate a graceful shutdown. The power LED flashes green at a rate of 10 Hz.

**Note** Threat Defense requires a graceful shutdown. See the Getting Started Guide for the procedure.

**Caution** If you remove the system power cords before the graceful shutdown is complete, disk corruption can occur. You can move the power switch to OFF before the shutdown. The system ignores it.

**Note** After removing power from the chassis by unplugging the power cord, wait at least 10 seconds before turning power back ON. You want to keep the system power off, including the standby power, for 10 seconds.

### Factory reset button

The chassis has a recessed reset button that resets the system to the factory default. Push and hold the button down with a pin for five seconds resets the chassis to its default state following the next reboot.

**Note** Use the reset button if the current credentials are lost and you want to initialize the box without having console access.

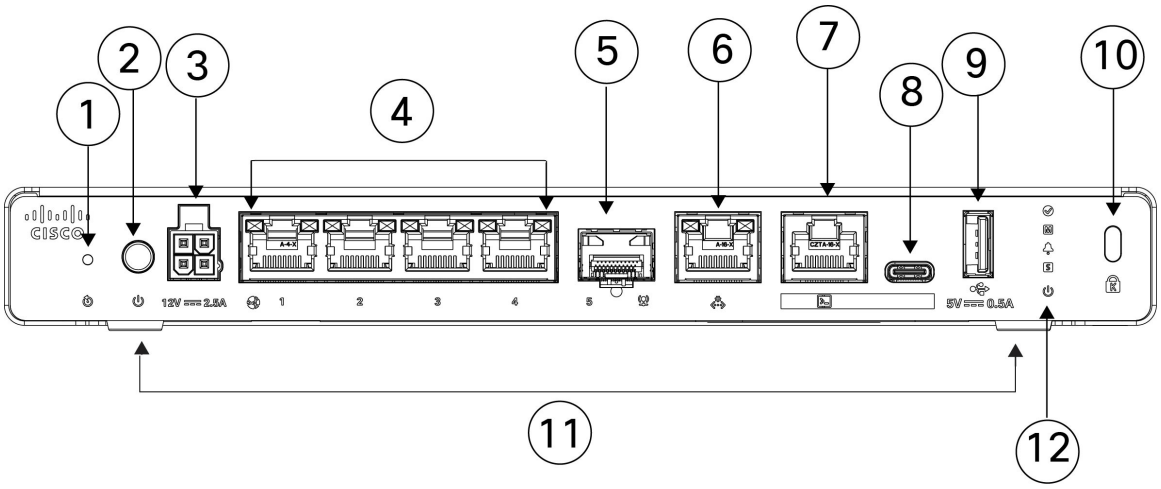
**Note** Configuration variables are reset to factory default, but the flash is not erased and no files are removed.

**Note** If power is lost between when you pushed the reset button and when the reset process is complete, the process stops and you have to push the button again after the system powers back on.

# Rear panel

The following figure shows the rear panel of the Secure Firewall 220. See Rear panel LEDs, on page 9 for a description of the LEDs.

***Figure 8: CSF-220 rear panel***



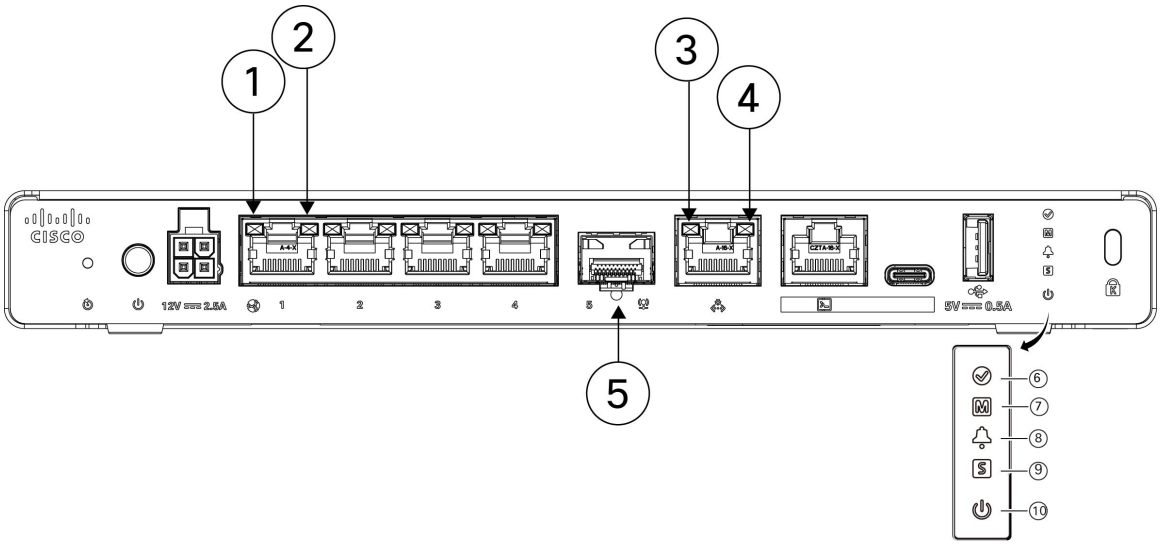

| | | | |
|---|---|---|---|
| **1** | Reset button | **2** | Power button<br>The power button is a two-position button. When it is sticking out, it's in OFF state and when it is pushed in, it's in the ON state. |
| **3** | Power cord socket | **4** | Ethernet ports 1-4<br>1G/100M/10M Auto Duplex Auto MDI-X Base-T interfaces |
| **5** | SFP port (1 Gbps) | **6** | Management port |
| **7** | Console port RJ-45 | **8** | Serial console USB Type C port |
| **9** | USB Type A port | **10** | Kensington lock |
| **11** | Rubber feet | **12** | Status LEDs |

# Rear panel LEDs

The LEDs are found on the rear panel of the Secure Firewall 220.

The following figure shows the LEDs on the rear panel of the Secure Firewall 220 and describes their states.

***Figure 9: CSF-220 rear panel LEDs***




| | | | |
|---|---|---|---|
| **1** | **Network**<br>Status of the network ports:<br>Link status (L):<br>• Off—No link, or port is not in use.<br>• Green—Link established.<br>• Green, flashing—Link activity. | **2** | **Network**<br>Status of the network ports:<br>Activity status (R):<br>• Off—No network activity.<br>• Green—Network activity. |
| **3** | **Management**<br>Status of the management ports:<br>Link status (L):<br>• Off—No link, or port is not in use.<br>• Green—Link is established.<br>• Green, flashing—Link activity. | **4** | **Management**<br>Status of the management ports:<br>Activity status (R):<br>• Green, flashing—One flash every three seconds = 10 Mbps.<br>• Green, flashing—Two rapid flashes = 100 Mbps.<br>• Green, flashing—Three rapid flashes = 1000 Mbps. |

| | | | |
|---|---|---|---|
| **5** | **SFP**<br>Status of SFP port:<br>• Off—No SFP present.<br>• Yellow—An SFP is present but no link is established.<br>• Green, flashing—Link established and transmitting. | **6** | **Active**<br>Status of the failover pair:<br>• Off— Unit in standby mode.<br>• Green—Unit in active mode. |
| **7** | **Managed**<br>Cloud connection status for zero-touch provisioning:<br>• Green, flashing slowly (twice in 5 seconds)—Cloud is connected.<br>• Green and yellow, flashing—Cloud connection failure.<br>• Green—Cloud is disconnected. | **8** | **Alarm**<br>• Off—No alarms.<br>• Yellow—Environmental error. |
| **9** | **System**<br>System operating status:<br>• Off—System has not booted up yet.<br>• Green, flashing quickly—System is booting up.<br>• Green—Normal system function.<br>• Yellow—Critical alarm indicating one or more of the following:<br>  • Major failure of a hardware or software component.<br>  • Over-temperature condition.<br>  • Power voltage outside the tolerance range. | **10** | **Power**<br>Power supply status:<br>• Off —Power supply off.<br>• Green—Power supply on.<br>• Green, flashing—System is in the process of a graceful shutdown.<br>• Yellow—System power is up, IO-MCU is updating (takes up to 3 minutes), or there is a power fault. |

# Hardware specifications

The following table contains hardware specifications for the Secure Firewall 220.

*Table 2: CSF-220 hardware specifications*

| Specification | CSF-220 |
|---|---|
| Chassis dimensions (H x W x D) | 1.15 x 9.2 x 7.8 inches<br>(2.9 x 23.4 x 19.8 cm) |
| Chassis weight | 2.6 lb (1.18 kg) |
| Rack shelf dimensions (H x W x D) | 1.7 x 17.3 x 15.7 inches<br>(<br>4.3 x 43.9 x 39.9 cm |
| System power | 19 W maximum power |
| Temperature | Operating: 32 to 104°F (0 to 40°C)<br>Derate the maximum operating temperature 2.7°F (1.5°C) per 1000 ft (304.8 m) above sea level to a max of 10,000 ft (3048 m)<br>Nonoperating: -13 to 158°F (-25 to 70°C)<br>Nonoperating: Maximum altitude is 15,000 ft (4570 m) |
| Humidity | Operating: 5 to 85% (noncondensing)<br>Nonoperating:5 to 95% (noncondensing) |
| Altitude | Operating: 0 to 10,000 ft (3048 m)<br>Nonoperating: 0 to 15,000 ft (4570 m) |

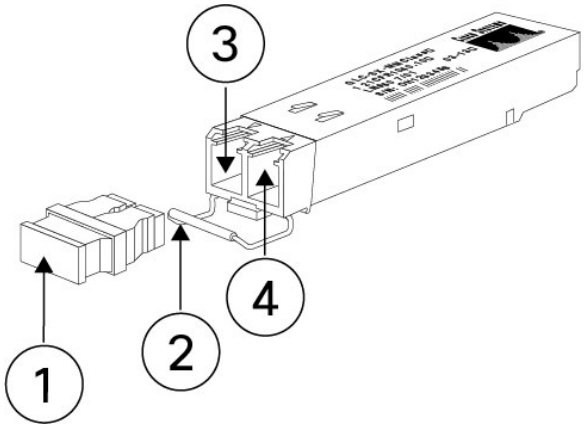
# Supported transceivers

The SFP transceiver is a bidirectional device with a transmitter and receiver in the same physical package. It is a hot-swappable optical or electrical (copper) interface that plugs into the SFP ports on the fixed ports, and provides Ethernet connectivity.

See Cisco SFP Modules for Gigabit Ethernet Applications Data Sheet for more information.

The following figure shows the components of a transceiver.

*Figure 10: SFP transceiver*




| | | | |
|---|---|---|---|
| **1** | Dust plug | **2** | Bail clasp |
| **3** | Receive optical bore | **4** | Transmit optical bore |

### Safety warnings

Take note of the following warnings:

**Warning**

**Statement 1055—**Class 1/1M Laser

Invisible laser radiation is present. Do not expose to users of telescopic optics. This applies to Class 1/1M laser products.


**Warning**

**Statement 1056—**Unterminated Fiber Cable

Invisible laser radiation may be emitted from the end of the unterminated fiber cable or connector. Do not view directly with optical instruments. Viewing the laser output with certain optical instruments, for example, eye loupes, magnifiers, and microscopes, within a distance of 100 mm, may pose an eye hazard.

**Warning**

**Statement 1057—**Hazardous Radiation Exposure

Use of controls, adjustments, or performance of procedures other than those specified may result in hazardous radiation exposure.

**Warning** Use appropriate ESD procedures when inserting the transceiver. Avoid touching the contacts at the rear, and keep the contacts and ports free of dust and dirt. Keep unused transceivers in the ESD packing that they were shipped in.

**Caution** Although non-Cisco SFPs are allowed, we do not recommend using them because they have not been tested and validated by Cisco. Cisco TAC may refuse support for any interoperability problems that result from using an untested third-party SFP transceiver.

The following table lists the SFPs that are supported on the Secure Firewall 220 fixed ports.

***Table 3: CSF220 fixed ports***

| Port type | Transceiver PID | First supported release |
|---|---|---|
| Fixed SFP ports | • GLC-TE=<br>• GLC-SX-MMD=<br>• GLC-LH-SMD=<br>• GLC-EX-SMD=<br>• GLC-GE-100FX=<br>• GLC-FE-100FX-RGD= | Threat Defense 10.0/ASA 9.24 |

# Product ID numbers

The following table lists the field-replaceable PIDs associated with the Secure Firewall 220 compact appliance. The spare components are ones that you can order separately from the appliance. If any internal components fail, you must get a return material authorization (RMA) for the entire chassis. See the Cisco Returns Portal for more information.

**Note** See the **show inventory** command in the Cisco Secure Firewall Threat Defense Command Reference or the Cisco Secure Firewall ASA Series Command Reference to display a list of the PIDs for your Secure Firewall 220.

***Table 4: CSF-220 PIDs***

| PID | Description |
|---|---|
| CSF220-ASA-K9 | Secure Firewall 220 compact desktop appliance, ASA |
| CSF220-TD-K9 | Secure Firewall 220 compact desktop appliance, NGFW |

| PID | Description |
|---|---|
| CSF220-PWR-AC | Secure Firewall 220 30 W AC (12 V) power supply |
| CSF220-PWR-AC= | Secure Firewall 220 30 W AC (12 V) power supply (spare) |
| CSF200-WALL-MNT= | Secure Firewall 200 series wall-mount kit (spare) |
| CSF200-RCKMNT-FX= | Secure Firewall 200 series rack-mount kit with fixed brackets (spare) |
| CSF200-RCKMNT-SR= | Secure Firewall 200 series rack-mount kit with slide rails (spare) |
| CSF200-CBL-MGMT= | Secure Firewall 200 series cable management brackets kit (spare) |

# Power cord specifications

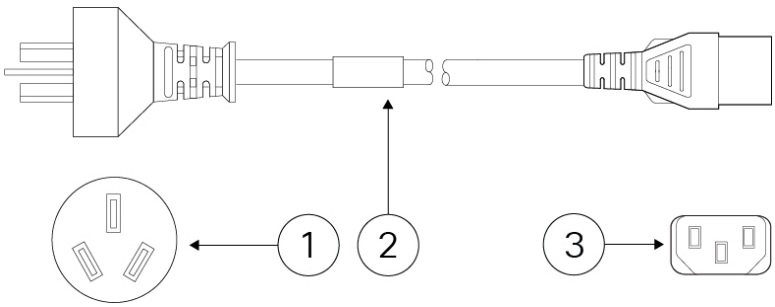
Standard power cords or jumper power cords are available for connection to the security appliance. The jumper power cords for use in racks are available as an optional alternative to the standard power cords.

If you do not order the optional power cord with the system, you are responsible for selecting the appropriate power cord for the product. Using a incompatible power cord with this product may result in electrical safety hazard. Orders delivered to Argentina, Brazil, and Japan must have the appropriate power cord ordered with the system.

**Note** Only the approved power cords or jumper power cords provided with the chassis are supported.

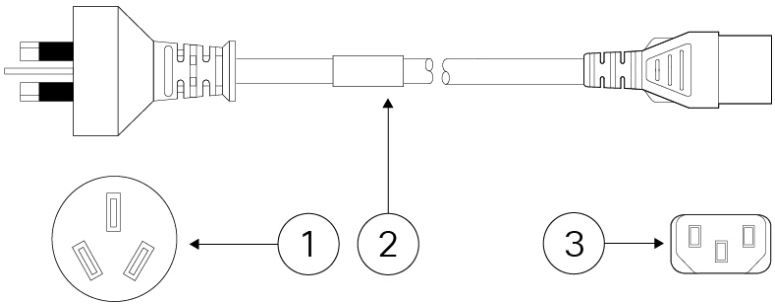
The following power cords are supported.

***Figure 11: Argentina (CAB-250V-10A-AR)***



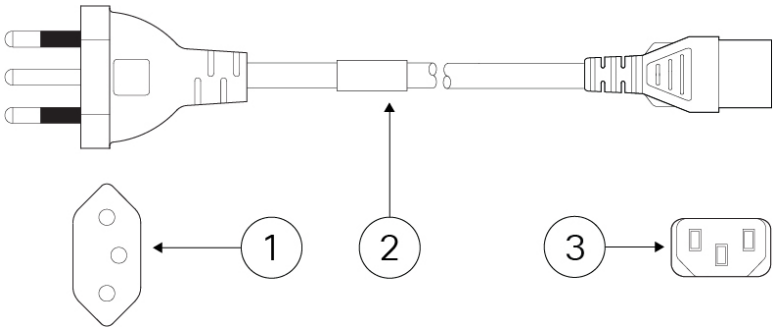

| | | | |
|---|---|---|---|
| **1** | Plug: VA2073 | **2** | Cord set rating: 10 A, 250 V |
| **3** | Connector: V1625 | | — |

*Figure 12: Australia/New Zealand (CAB-ACA)*



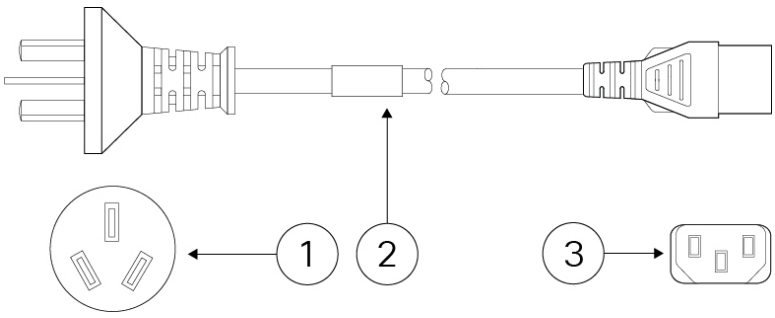

| | | | |
|---|---|---|---|
| **1** | Plug: AU10LS3 | **2** | Cord set rating: 10 A, 250 V |
| **3** | Connector: V1625 | | — |

*Figure 13: Brazil (CAB-C13-ACB)*



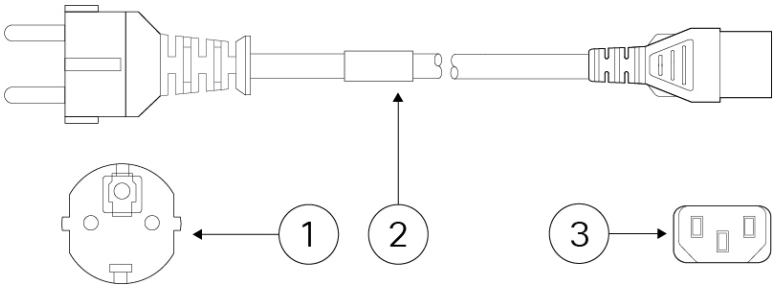

| | | | |
|---|---|---|---|
| **1** | Plug: NBR 14136 | **2** | Cord set rating: 10 A, 250 V |
| **3** | Connector: EL 701B (EN 60320/C13) | | — |

*Figure 14: China (CAB-ACC)*



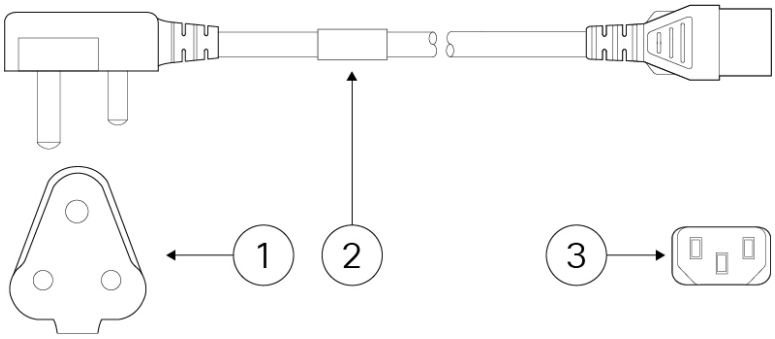

| | | | |
|---|---|---|---|
| **1** | Plug: V3203C | **2** | Cord set rating: 10 A, 250 V |
| **3** | Connector: V1625 | | — |

*Figure 15: Europe (CAB-ACE)*



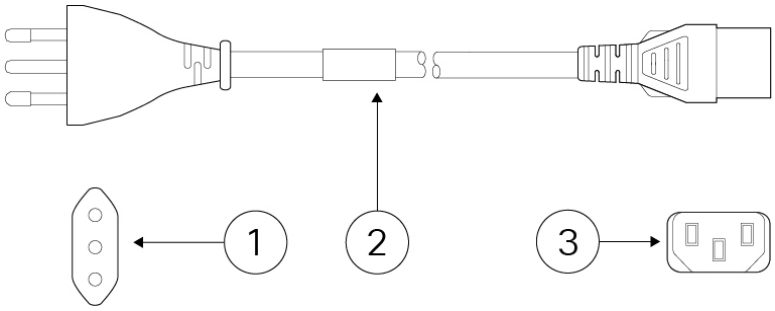

| | | | |
|---|---|---|---|
| **1** | Plug: M2511 | **2** | Cord set rating: 16 A, 250 V |
| **3** | Connector: V1625 | | — |

*Figure 16: India (CAB-IND-10A)*



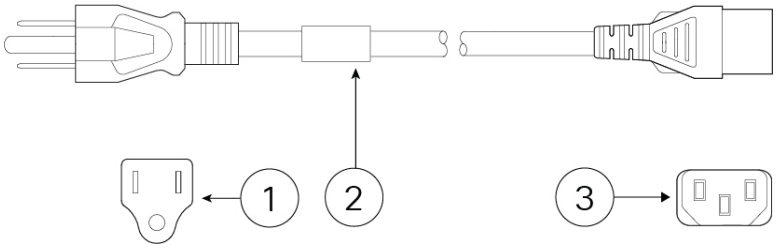

| | | | |
|---|---|---|---|
| **1** | Plug: IA16A3-C | **2** | Cord set rating: 16 A, 250 V |
| **3** | Connector: V1625BS-E | | — |

*Figure 17: Italy (CAB-ACI)*



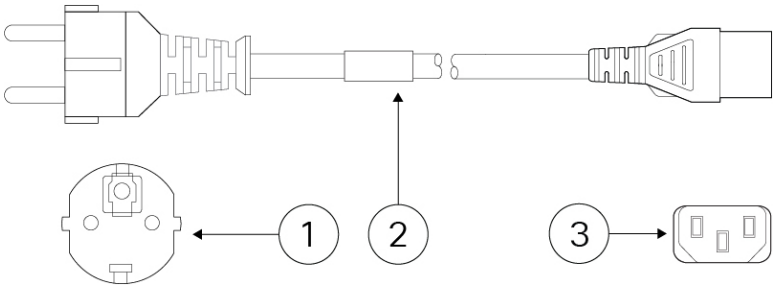

| | | | |
|---|---|---|---|
| **1** | Plug: IT10S3 | **2** | Cord set rating: 10 A, 250 V |
| **3** | Connector: V1625 | | — |

*Figure 18: Japan (CAB-JPN-3PIN)*



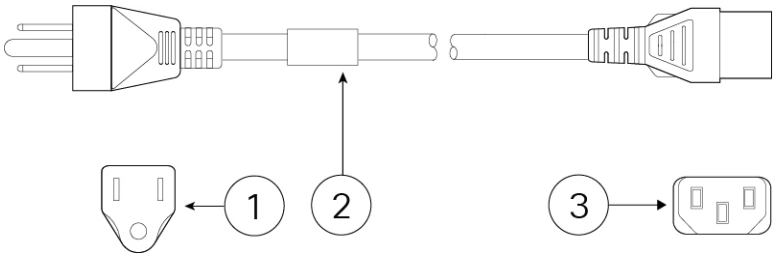

| | | | |
|---|---|---|---|
| **1** | Plug: M744 | **2** | Cord set rating: 12 A, 125 V |
| **3** | Connector: V1625 | | — |

*Figure 19: Korea (CAB-AC-C13-KOR)*



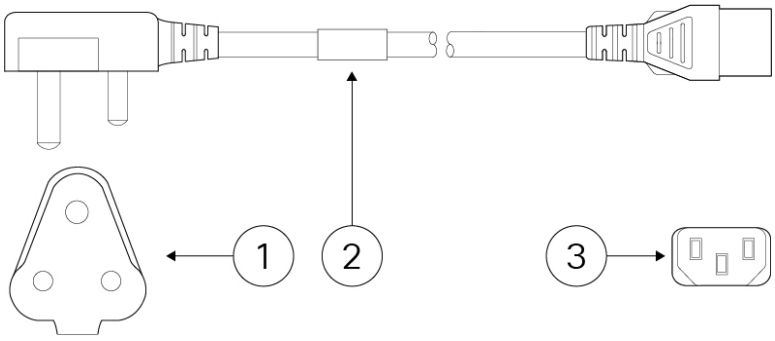

| | | | |
|---|---|---|---|
| **1** | Plug: M2511 | **2** | Cord set rating: 10 A, 250 V |
| **3** | Connector: V1625 | | — |

*Figure 20: North America (CAB-AC)*



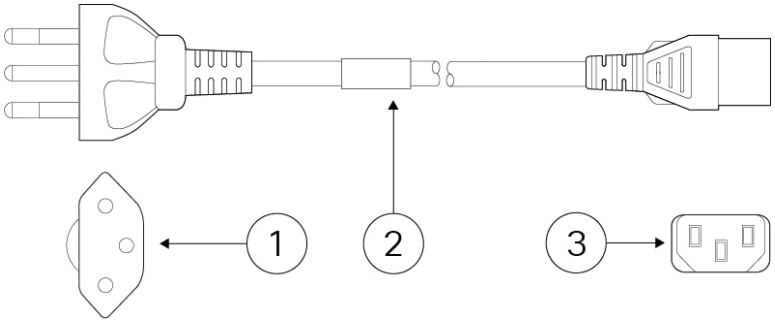

| | | | |
|---|---|---|---|
| **1** | Plug: PS204 | **2** | Cord set rating: 10 A, 250 V |
| **3** | Connector: V1625 | | — |

*Figure 21: South Africa (AIR-PWR-CORD-SA)*



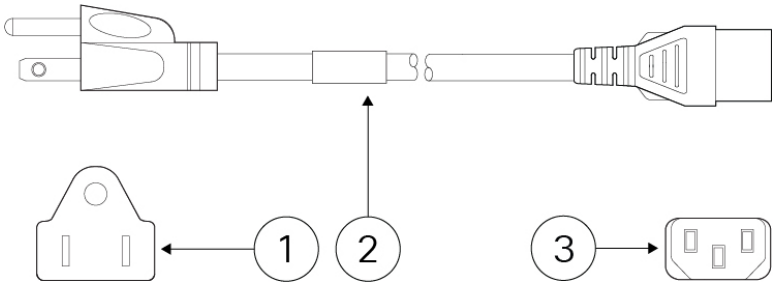

| | | | |
|---|---|---|---|
| **1** | Plug: SA16A | **2** | Cord set rating: 10 A, 250 V |
| **3** | Connector: V1625 | | — |

*Figure 22: Switzerland (CAB-ACS)*



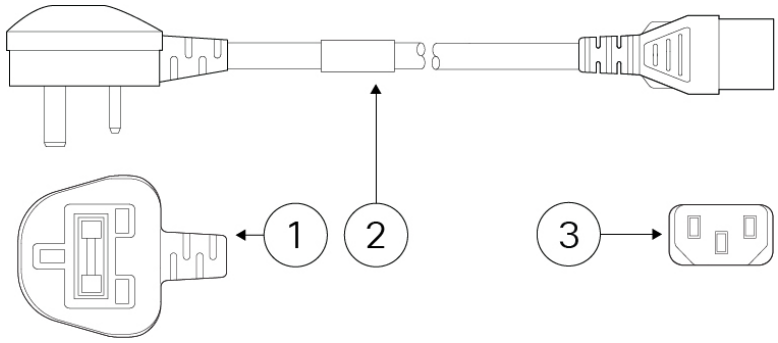

| | | | |
|---|---|---|---|
| **1** | Plug: SW10ZS3 | **2** | Cord set rating: 10 A, 250 V |
| **3** | Connector: V1625 | | — |

*Figure 23: Taiwan (CAB-ACTW)*

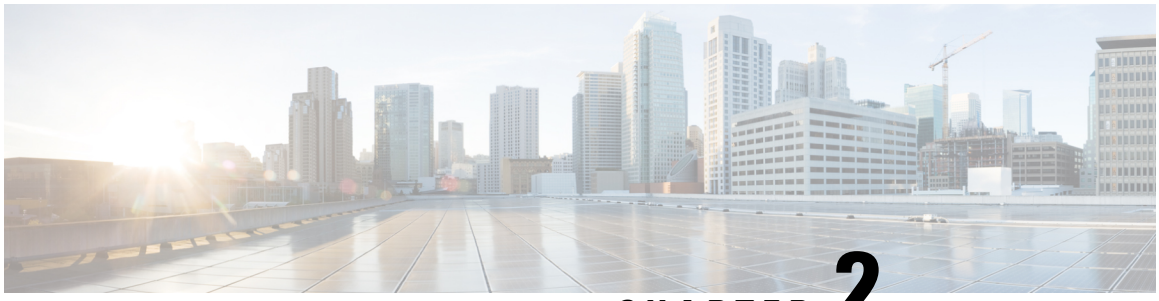



| | | | |
|---|---|---|---|
| **1** | Plug: EL 302 (CNS10917) | **2** | Cord set rating: 10 A, 125 V |
| **3** | Connector: EL 701 (EN 60320/C13) | | — |

*Figure 24: United Kingdom (CAB-ACU)*




| | | | |
|---|---|---|---|
| **1** | Plug: 3P BS 1363 | **2** | Cord set rating: 10 A, 250 V |
| **3** | Connector: IEC 60320/C13 | | — |



CHAPTER 2

# Installation Preparation



## Installation warnings

Read the Regulatory and Compliance Information document before installing the chassis.

**Caution** The CSF-220 compact network security appliance is for indoor use only.

Take note of the following warnings:

**Warning** **Statement 1071—**Warning Definition

IMPORTANT SAFETY INSTRUCTIONS

Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Read the installation instructions before using, installing, or connecting the system to the power source. Use the statement number at the beginning of each warning statement to locate its translation in the translated safety warnings for this device.

SAVE THESE INSTRUCTIONS

**Warning** **Statement 1005**—Circuit Breaker

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 20 A, 120 V, and 16 A, 250 V

**Warning** **Statement 1008—**Class 1 Laser Product

This product is a Class 1 laser product.

**Warning** **Statement 1015**—Battery Handling

To reduce risk of fire, explosion or leakage of flammable liquid or gas:

- Replace the battery only with the same or equivalent type recommended by the manufacturer.
- Do not dismantle, crush, puncture, use sharp tool to remove, short external contacts, or dispose of in fire.
- Do not use if battery is warped or swollen.
- Do not store or use battery in a temperature > 60° C.
- Do not store or use battery in low air pressure environment < 69.7 kPa.

**Warning** **Statement 1017—**Restricted Area

This unit is intended for installation in restricted access areas. Only skilled, instructed, or qualified personnel can access a restricted access area.

**Warning** **Statement 1024—**Ground Conductor

This equipment must be grounded. To reduce the risk of electric shock, never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.

**Warning** **Statement 1029—**Blank Faceplates and Cover Panels

Blank faceplates and cover panels serve three important functions: they reduce the risk of electric shock and fire, they contain electromagnetic interference (EMI) that might disrupt other equipment, and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place.

**Warning** **Statement 1074**—Comply with Local and National Electrical Codes

To reduce risk of electric shock or fire, installation of the equipment must comply with local and national electrical codes.

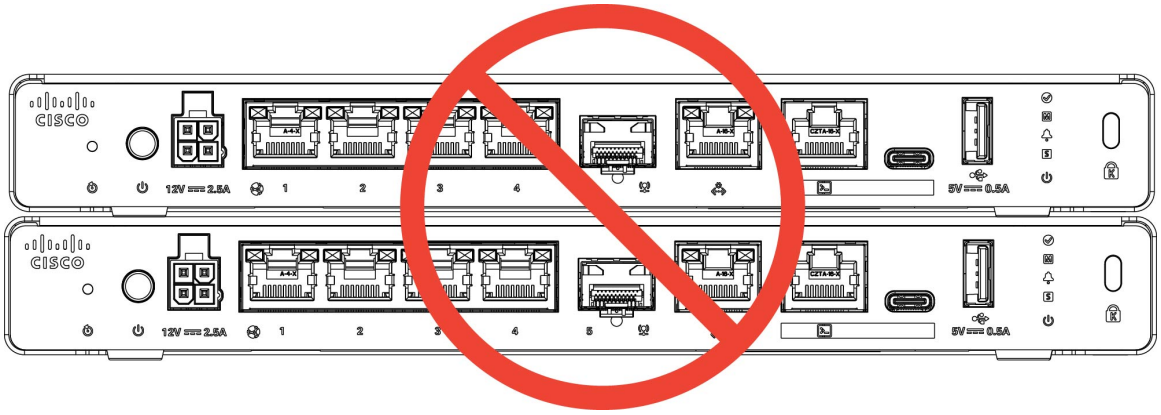
**Warning** **Statement 9001**—Product Disposal

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

# Position the chassis

See Desktop-mount the chassis, on page 28 for information on desktop-mounting the chassis.

***Figure 25: Do Not Stack the Chassis***



**Caution** Do not stack the chassis on top of another chassis. If you stack the units, they will overheat, which causes the units to power cycle.

Whether positioning the chassis on a desktop, on a closet shelf, or mounting it on a wall, consider the following:

- Be sure to choose an area where the chassis is out of the way to make sure it is not bumped or accidentally dislodged. The chassis has feet on the bottom so it does not sit flush where placed, thus allowing proper air circulation through and around it. Make sure that the chassis is not tightly enclosed or crowded by other objects that might impede proper circulation.
- Choose a location that lets you easily bring the power cord and Ethernet and console cables to the chassis, with plenty of slack and yet tucked away, so they cannot be inadvertently unplugged.

# Safety recommendations

Observe these safety guidelines:

- Keep the area clear and dust free before, during, and after installation.
- Keep tools away from walkways, where you and others might trip over them.
- Do not wear loose clothing or jewelry, such as earrings, bracelets, or chains that could get caught in the chassis.
- Wear safety glasses if you are working under any conditions that might be hazardous to your eyes.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.
- Never attempt to lift an object that is too heavy for one person.

# Maintain safety with electricity

**Warning** Before working on a chassis, be sure the power cord is unplugged.

Read the Regulatory and Compliance Information document before installing the chassis.

Follow these guidelines when working on equipment powered by electricity:

- Before beginning procedures that require access to the interior of the chassis, locate the emergency power-off switch for the room in which you are working. Then, if an electrical accident occurs, you can act quickly to turn off the power.
- Do not work alone if potentially hazardous conditions exist anywhere in your work space.
- Never assume that power is disconnected; always check.
- Look carefully for possible hazards in your work area, such as moist floors, ungrounded power extension cables, frayed power cords, and missing safety grounds.
- If an electrical accident occurs:
  - Use caution; do not become a victim yourself.
  - Disconnect power from the system.
  - If possible, send another person to get medical aid. Otherwise, assess the condition of the victim, and then call for help.
  - Determine whether the person needs rescue breathing or external cardiac compressions; then take appropriate action.
- Use the chassis within its marked electrical ratings and product usage instructions.

- The chassis is equipped with an AC-input power supply, which is shipped with a three-wire electrical cord with a grounding-type plug that fits into a grounding-type power outlet only. Do not circumvent this safety feature. Equipment grounding should comply with local and national electrical codes.

# Prevent ESD damage

ESD occurs when electronic components are improperly handled, and it can damage equipment and impair electrical circuitry, which can result in intermittent or complete failure of your equipment.

Always follow ESD-prevention procedures when removing and replacing components. Ensure that the chassis is electrically connected to an earth ground. Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact. Connect the grounding clip to an unpainted surface of the chassis frame to safely ground ESD voltages. To properly guard against ESD damage and shocks, the wrist strap and cord must operate effectively. If no wrist strap is available, ground yourself by touching the metal part of the chassis.

For safety, periodically check the resistance value of the antistatic strap, which should be between one and 10 megohms.

# Site environment

See Hardware specifications, on page 11 for information about physical specifications.

To avoid equipment failures and reduce the possibility of environmentally caused shutdowns, plan the site layout and equipment locations carefully. If you are currently experiencing shutdowns or unusually high error rates with your existing equipment, these considerations may help you isolate the cause of failures and prevent future problems.

# Site considerations

Considering the following helps you plan an acceptable operating environment for the chassis, and avoid environmentally-caused equipment failures.

- Electrical equipment generates heat. Ambient air temperature might not be adequate to cool equipment to acceptable operating temperatures without adequate circulation. Make sure that the room in which you operate your system has adequate air circulation.
- Ensure that the chassis cover is secure. The chassis is designed to allow cooling air to flow effectively within it. An open chassis allows air leaks, which may interrupt and redirect the flow of cooling air from the internal components.
- Always follow ESD prevention procedures to avoid damage to equipment. Damage from static discharge can cause immediate or intermittent equipment failure.

# Power supply considerations

When installing the chassis, consider the following:

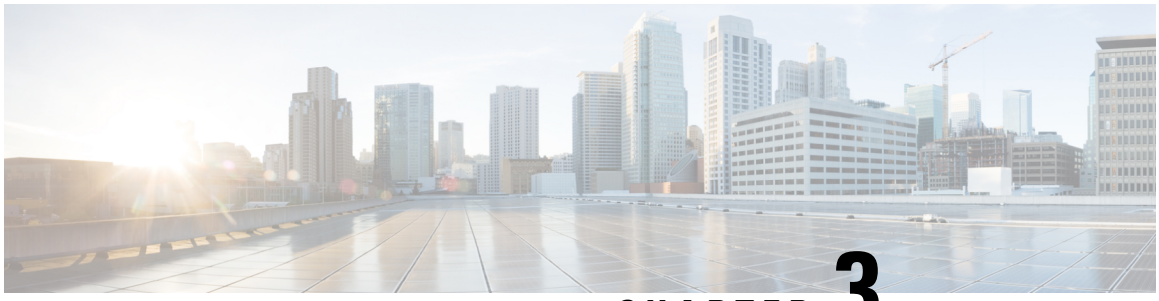
- Check the power at the site before installing the chassis to ensure that it is free of spikes and noise. Install a power conditioner, if necessary, to ensure proper voltages and power levels in the appliance-input voltage.
- Install proper grounding for the site to avoid damage from lightning and power surges.
- The chassis does not have a user-selectable operating range. Refer to the label on the chassis for the correct appliance input-power requirement.
- Several styles of AC-input power supply cords are available for the chassis; make sure that you have the correct style for your site.
- Install an uninterruptible power source for your site, if possible.

# Rack configuration considerations

See Rack-mount the chassis, on page 31 for the procedure for rack-mounting the chassis.

Consider the following when planning a rack configuration:

- Standard 19-inch (48.3 cm) 4-post EIA rack with mounting rails that conform to hole spacing according to section 1 of ANSI/EIA-310-D-1992.
- The rack-mounting posts need to be 2 to 3.5 mm thick to work with the slide rail rack mounting.
- If you are mounting a chassis in an open rack, make sure that the rack frame does not block the intake or exhaust ports.
- Be sure enclosed racks have adequate ventilation. Make sure that the rack is not overly congested as each chassis generates heat. An enclosed rack should have louvered sides and a fan to provide cooling air.
- In an enclosed rack with a ventilation fan in the top, heat generated by equipment near the bottom of the rack can be drawn upward and into the intake ports of the equipment above it in the rack. Ensure that you provide adequate ventilation for equipment at the bottom of the rack.
- Baffles can help to isolate exhaust air from intake air, which also helps to draw cooling air through the chassis. The best placement of the baffles depends on the airflow patterns in the rack. Experiment with different arrangements to position the baffles effectively.



CHAPTER 3

# Mount the Chassis



## Unpack and inspect the chassis

**Note** The chassis is thoroughly inspected before shipment. If any damage occurred during transportation or any items are missing, contact your customer service representative immediately. Keep the shipping container in case you need to send the chassis back due to damage.

See Package contents, on page 3 for a list of what shipped with the chassis.

### Procedure

**Step 1** Remove the chassis from its cardboard container and save all packaging material.

**Step 2** Compare the shipment to the equipment list provided by your customer service representative. Verify that you have all items.

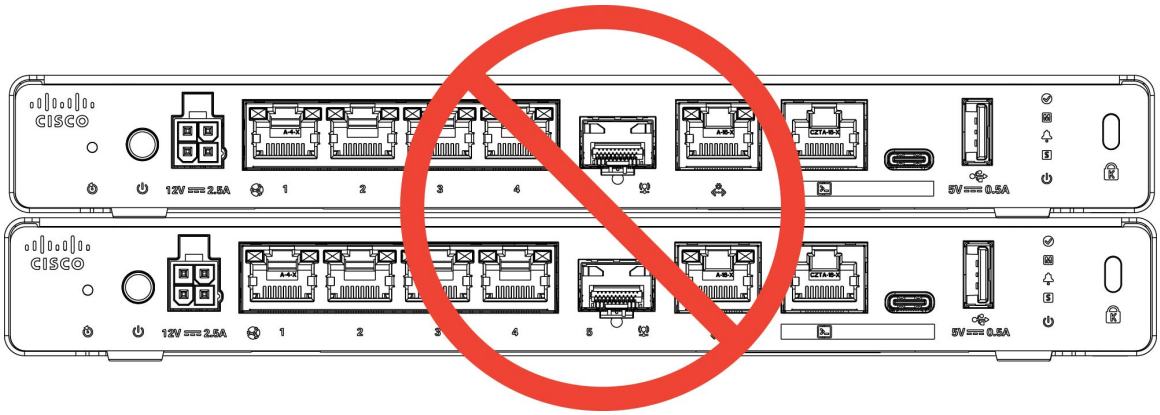
**Step 3** Check for damage and report any discrepancies or damage to your customer service representative. Have the following information ready:

- Invoice number of shipper (see the packing slip)
- Model and serial number of the damaged unit
- Description of damage
- Effect of damage on the installation

# Desktop-mount the chassis

You can mount the chassis on a desktop by placing it on a desk in a horizontal position. Make sure there are no blockages or obstructions within 0.5 inch of the top of the chassis or within 2 inches of the sides and back, so that nothing interferes with cooling. Do not remove the rubber feet included with the chassis. They are also needed for proper cooling.

***Figure 26: Desktop-mount the chassis (Do Not Stack)***



**Caution** Do not stack one chassis on top of another chassis. If you stack the units, they overheat, which causes the units to power cycle.

### What to do next

Install the cables according to your default software configuration as described in the Getting Started Guide.

# Wall-mount the chassis

You can purchase an optional wall-mount kit. You can wall-mount the chassis left, or rear panel-side up. You can use the wall-mount bracket to mark the holes for mounting it on the wall. The wall-mount bracket is 8.9 x 6.5 x 0.378 inches (22.672 x 16.512 x .96 cm). You need to make two level marks on the wall where you want to hang the chassis. For vertical orientation (rear panel up), the holes should be 5.575 inches (14.160 cm) inches apart. For horizontal orientation, the holes should be 8 inches (20.32 cm) apart.

### Wall-mount kit

The wall-mount kit contains the following items:

- Wall-mount bracket
- Three Phillips M3 x 0.5 x 5.2-mm screws
- Two Phillips #6 x 1¼-inch screws
- One #8 wall anchor kit with screws

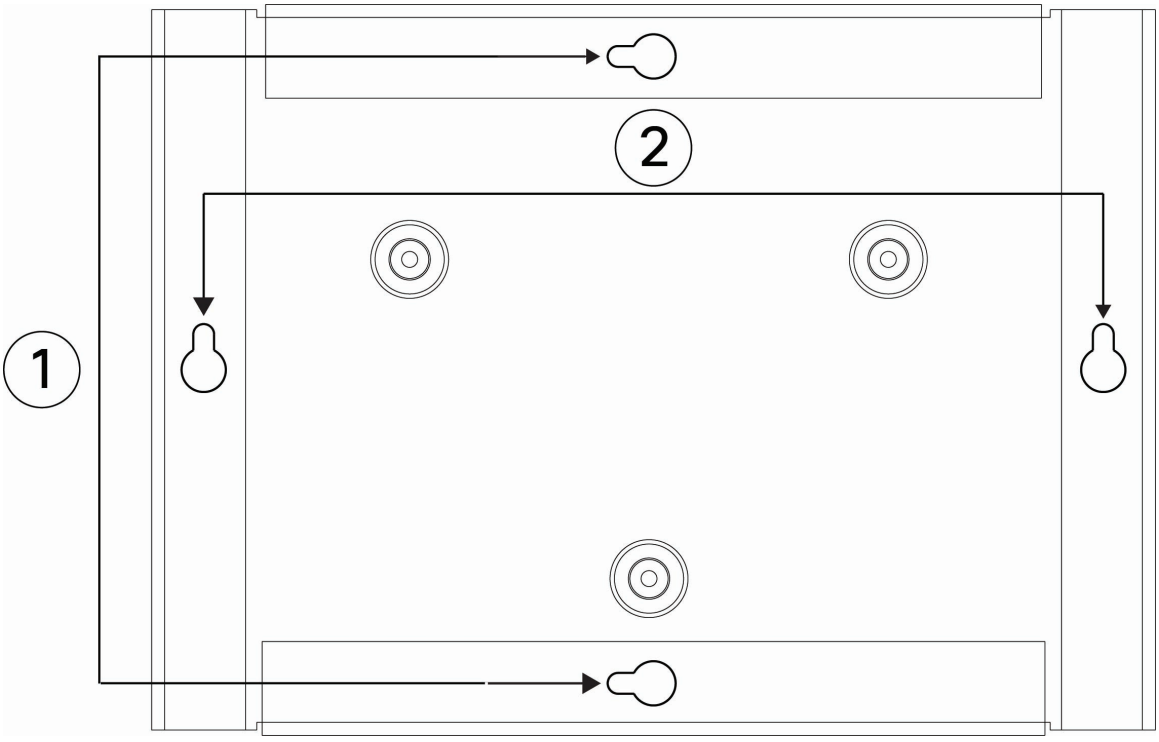
Follow these steps to mount your chassis on a wall.

### Procedure

**Step 1** Choose an orientation (left-, right-, or rear panel-side up) and a location on the wall for the chassis.

**Step 2** Use a pencil, ruler, and level to mark locations for the two mounting screws (#6 x 1¼ inch). You can use the wall-mount bracket itself to mark either the top holes or the side holes.

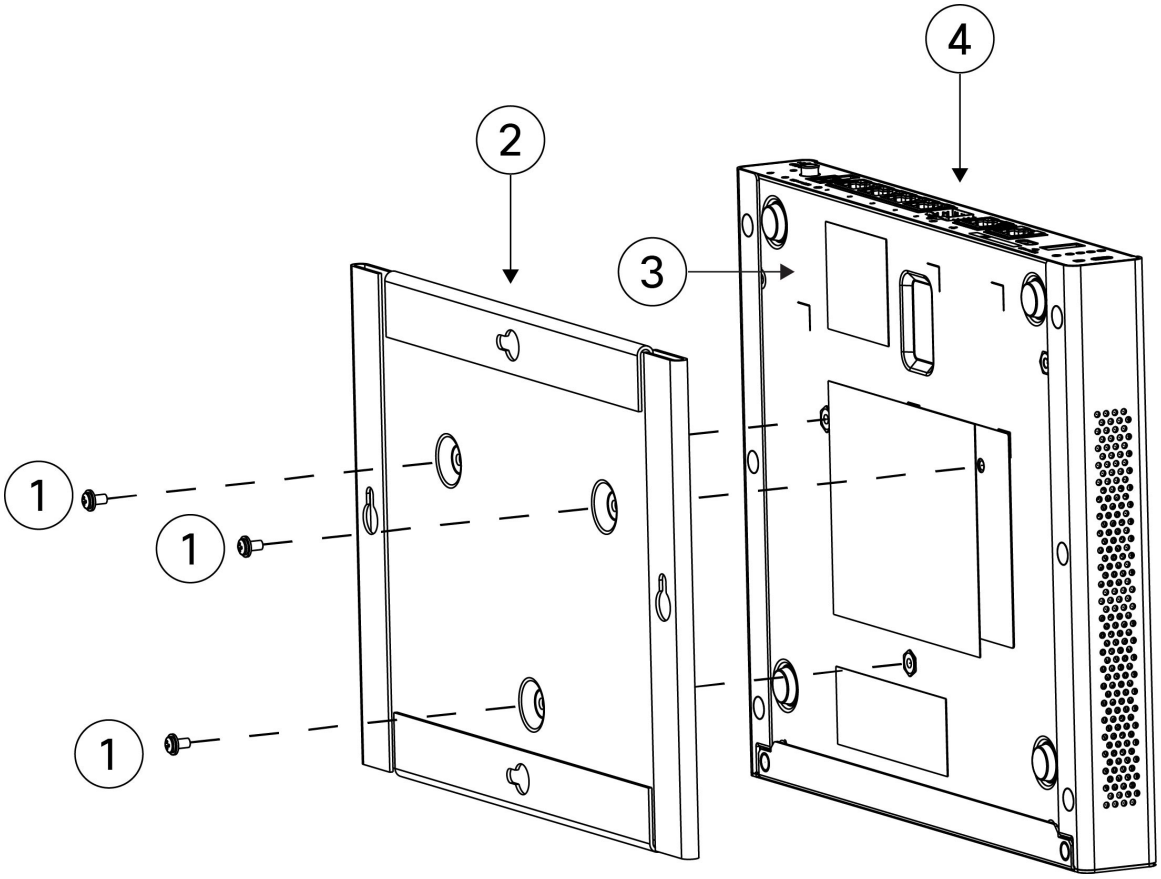
***Figure 27: Wall-mount bracket***




| | | | |
|---|---|---|---|
| **1** | Horizontal mounting<br>8 inches (20.32 cm) apart | **2** | Vertical mounting<br>5.575 inches (14.160 cm) apart |

**Step 3** Attach the wall-mount bracket to the chassis using the three Phillips M3 x 0.5 x 5.2-mm screws.

*Figure 28: Attach the wall-mount bracket to the chassis*




| | | | |
|---|---|---|---|
| **1** | Three Phillips M3 x 0.5 x 5.2-mm screws | **2** | Wall-mount bracket |
| **3** | Bottom of the chassis | **4** | Rear panel (I/O side) |

**Step 4** Use the two #6 x 1¼-inch screws to drill into a stud, or use the anchors (#8 wall screw) from the wall-anchor kit to hang it into dry wall.

If you are mounting the chassis onto something other than drywall, such as wood or sheet metal, anchors may not be required.

**Step 5** Drill a hole into the wall at each mark that you made in Step 2.

These holes should be slightly smaller in diameter than anchors if you are using them. The recommended drill hole size is 3/16 inches.

**Step 6** Insert the anchors into the holes if needed, and be sure they are properly seated.

**Step 7** Fasten each screw into its anchor until it protrudes about ¼ inch.

**Step 8** Pick up the chassis, align the screws in the anchors with the holes in the bottom of the wall-mount bracket, move the chassis toward the wall until the screw heads are in the wall-mount bracket, and then slide it down until it rests on the screws.

**Caution**
Do not mount the chassis with the rear panel facing downward. This orientation is not supported.

**Step 9** To uninstall the chassis from the wall mount, slide the wall-mounted chassis from the wall, and remove the three screws from the bottom of the chassis.

### What to do next

Install the cables according to your default software configuration as described in the Getting Started Guide.

# Rack-mount the chassis

You can mount the chassis into a 1-RU space in a 19-inch EIA rack using the rack-mount shelf. The rack-mount shelf is 1.72 x 18.97 x 16.09 inches (H x W x D) (4.37 x 48.18 x 40.87 cm). You can also mount the chassis in a sliding rail rack. You order the rack-mount kit with fixed brackets or the rack-mount kit with slide rails. The cable management bracket kit is optional.

### Rack-mount kit with fixed brackets

The rack-mount kit with fixed brackets (CSF200-RCKMNT-FX=) contains the following items. You need two rack-mount scews that you provide to install the rack-mount shelf into your rack.

- Rack-mount shelf
- Two two-post rack-mount brackets
- Two T-brackets for 2RU mounting

**Note** These T-brackets are a vertical spacing aid for the rack-mount shelf that prevents overheating if the rack mount does not have adequate vertical clearance. They are reserved for the 2RU rack and are not in use at this time.

- 16 Phillips 6-32 x 0.31-inch screws; use these screws to secure the brackets to the rack-mount shelf.

**Note** Use 12 of the screws for a 1RU rack. The other four are reserved for a 2RU rack and are not in use at this time.

- Three Phillips M3 x 0.5 x 5-mm screws; use these screws to secure the rack-mount shelf to the chassis.

### Rack-mount kit with slide rails

The rack-mount kit with slide rails (CSF200-RCKMNT-SR=) contains the following items. You need two rack-mount scews that you provide to install the rack-mount shelf into your rack.

- Rack-mount shelf
- Two T-brackets for 2RU mounting

**Note** These T-brackets are a vertical spacing aid for the rack-mount shelf that prevents overheating if the rack mount does not have adequate vertical clearance. They are reserved for the 2RU rack and are not in use at this time.

- Four Phillips 6-32 x 0.31-inch screws; use these screws to secure the rack-mount brackets to the rack-nount shelf.

**Note** These screws are reserved for the 2RU brackets and are not in use at this time.

- Three Phillips M3 x 0.5 x 5-mm screws; use these screws to secure the rack-mount shelf to the chassis.

### Cable-management bracket kit

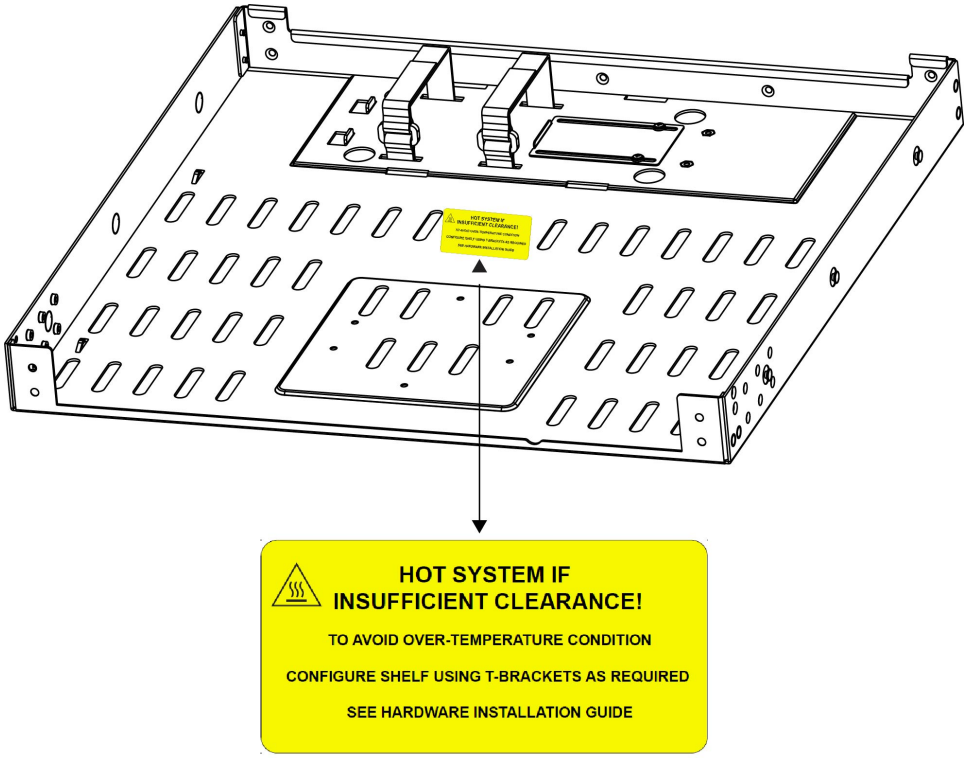
The cable-management bracket kit (CSF200-CBL-MGMT=) contains the following items.

- Two cable-management brackets
- Four Phillips 8-32 x 0.375-inch screws; use these screws to secure the brackets to the rack-mount shelf.

**Note** See Rack configuration considerations, on page 26 for more information on rack configuration.

The rack-mount shelf contains an overheating warning label. This label does not apply to the CSF-220, but to future Secure Firewall 200 series models that use a 2RU rack-mount shelf. The T-brackets, included in the rack-mount shelf kit, are a vertical spacing aid for the rack-mount shelf to prevent thermal concerns from inadequate product vertical clearance. The CSF-220 does not require the installation of the T-brackets but future models may.

*Figure 29: Rack-mount shelf overheating warning label for 2RU rack-mount shelves*

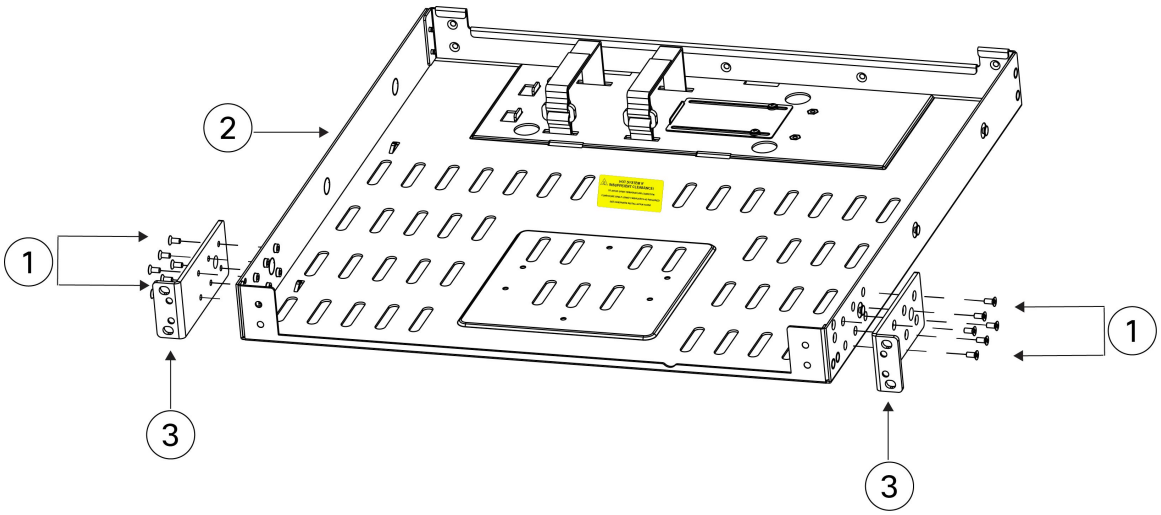



## Procedure

**Step 1** To mount the chassis in the rack-mount shelf in a two-post rack:

a) Install the two-post rack-mount brackets on the rack-mount shelf.

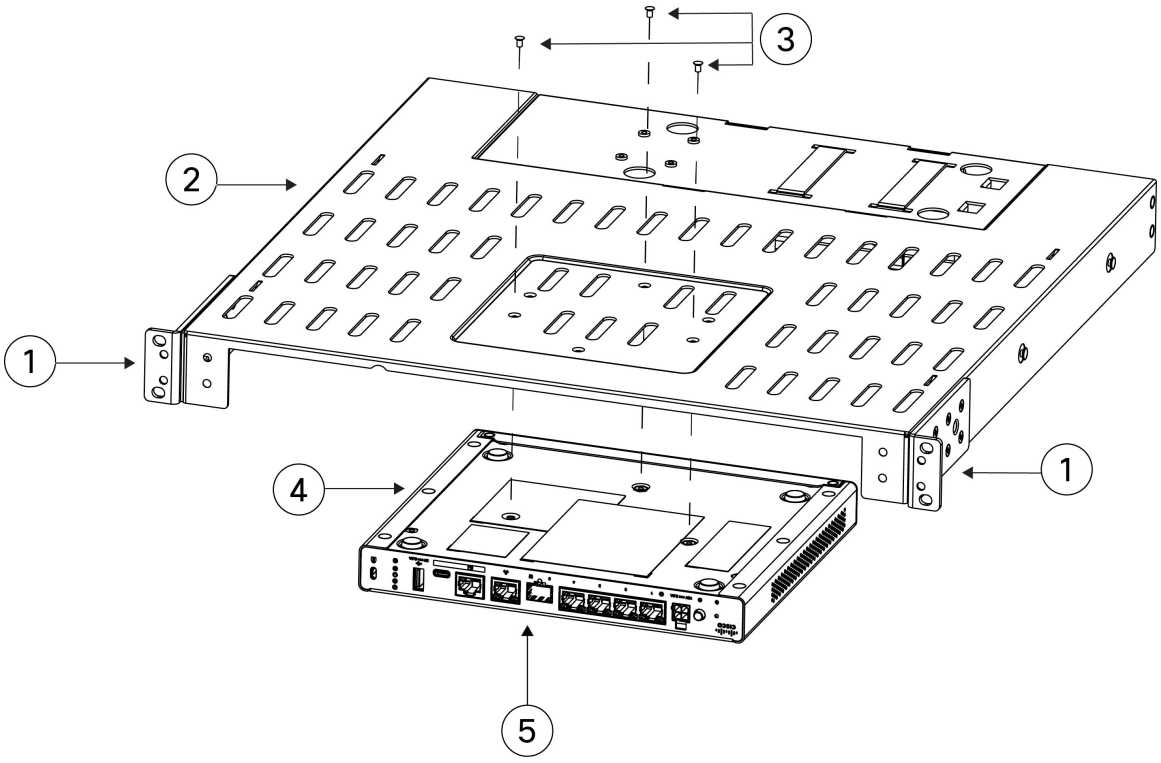
*Figure 30: Install the two-post rack-mount brackets on the rack-mount shelf*



| | | | |
|---|---|---|---|
| **1** | Rack-mount bracket screws (six Phillips 6-32 x 0.31-inch screws for each rack-mount bracket) | **2** | Rack-mount shelf |
| **3** | Rack-mount brackets | | — |

b) Install the chassis on the rack-mount shelf.

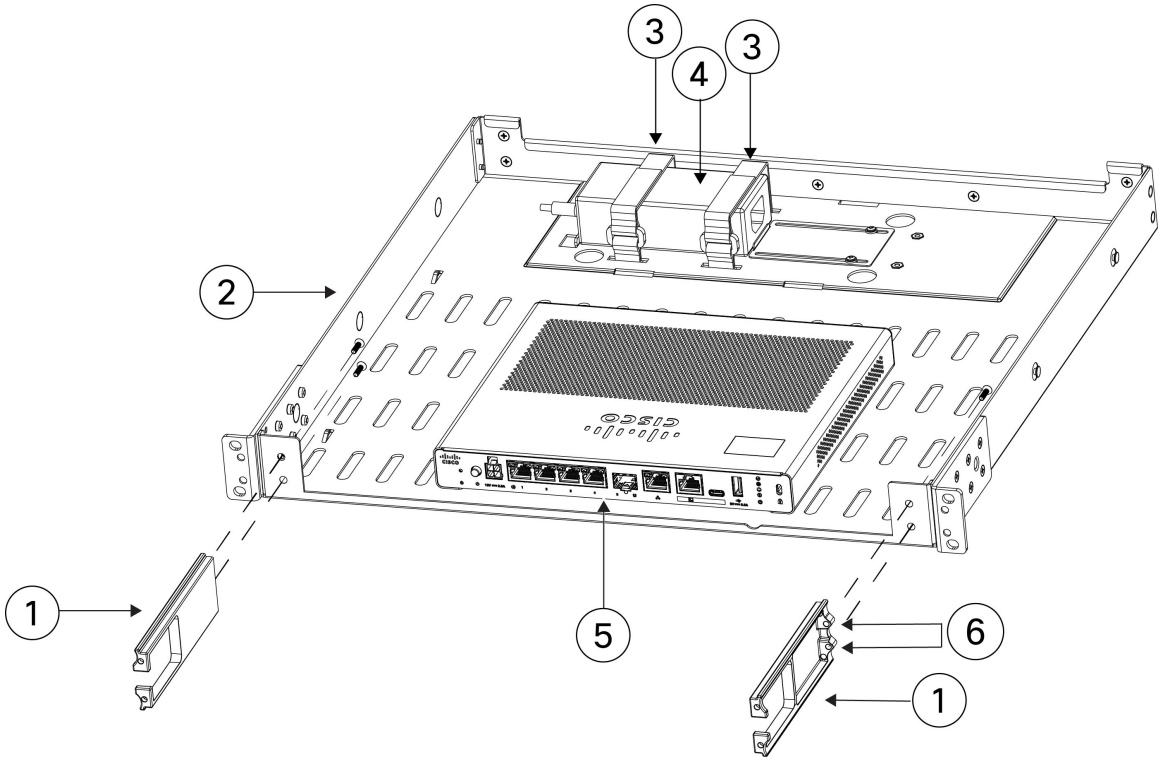
***Figure 31: Install the chassis on the rack-mount shelf***




| | | | |
|---|---|---|---|
| **1** | Rack-mount brackets | **2** | Rack-mount shelf |
| **3** | Rack-mount shelf screws (three Phillips M3 x 0.5 x 5-mm screws) | **4** | Chassis (I/O side) |
| **5** | Rear panel (I/O side) | | — |

c) (Optional) Install the cable management brackets on the rack-mount shelf and install the power supply at the back of the rack-mount shelf using the velcro straps to secure it.

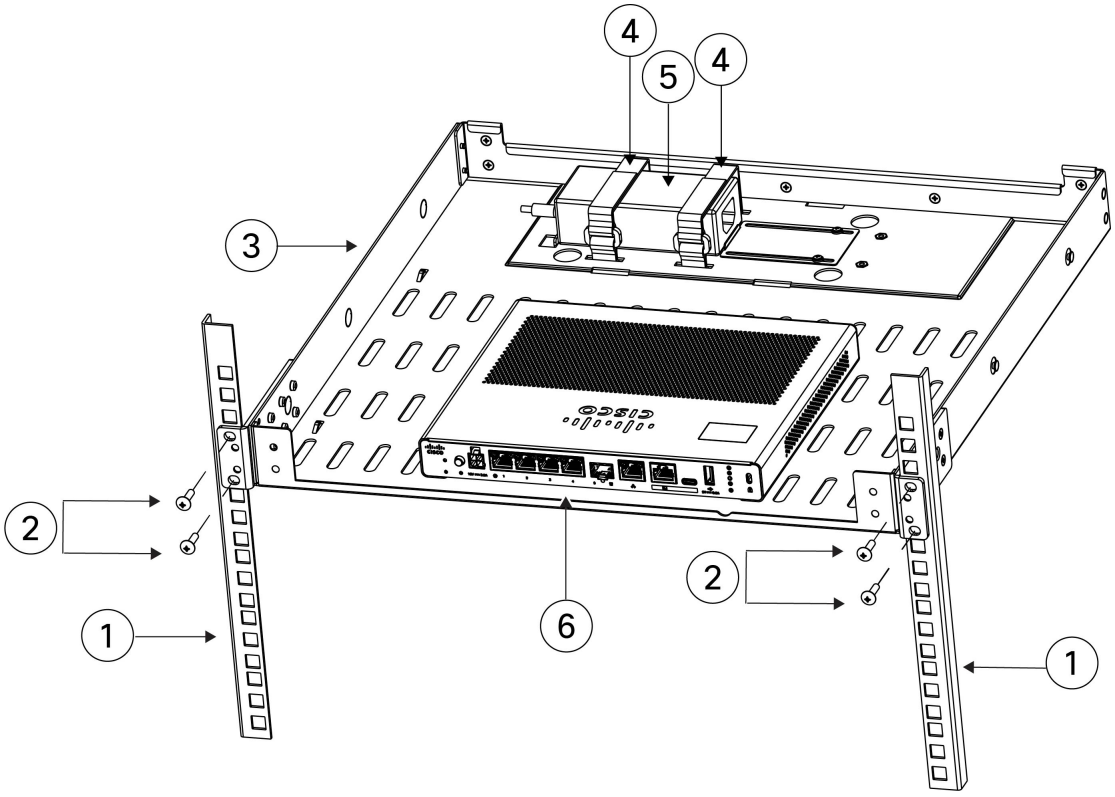
*Figure 32: Install the cable management brackets on the rack-mount shelf*




| | | | |
|---|---|---|---|
| **1** | Cable management brackets | **2** | Rack-mount shelf |
| **3** | Velcro straps for securing the power supply | **4** | Power supply |
| **5** | Chassis rear panel (I/O side) | **6** | Cable management bracket screws (Two Phillips 8-32 x 0.375-inch screws)<br>**Note**<br>Shown only on the right cable management bracket due to the angle of the left cable bracket, which is obscuring the two screws there. |

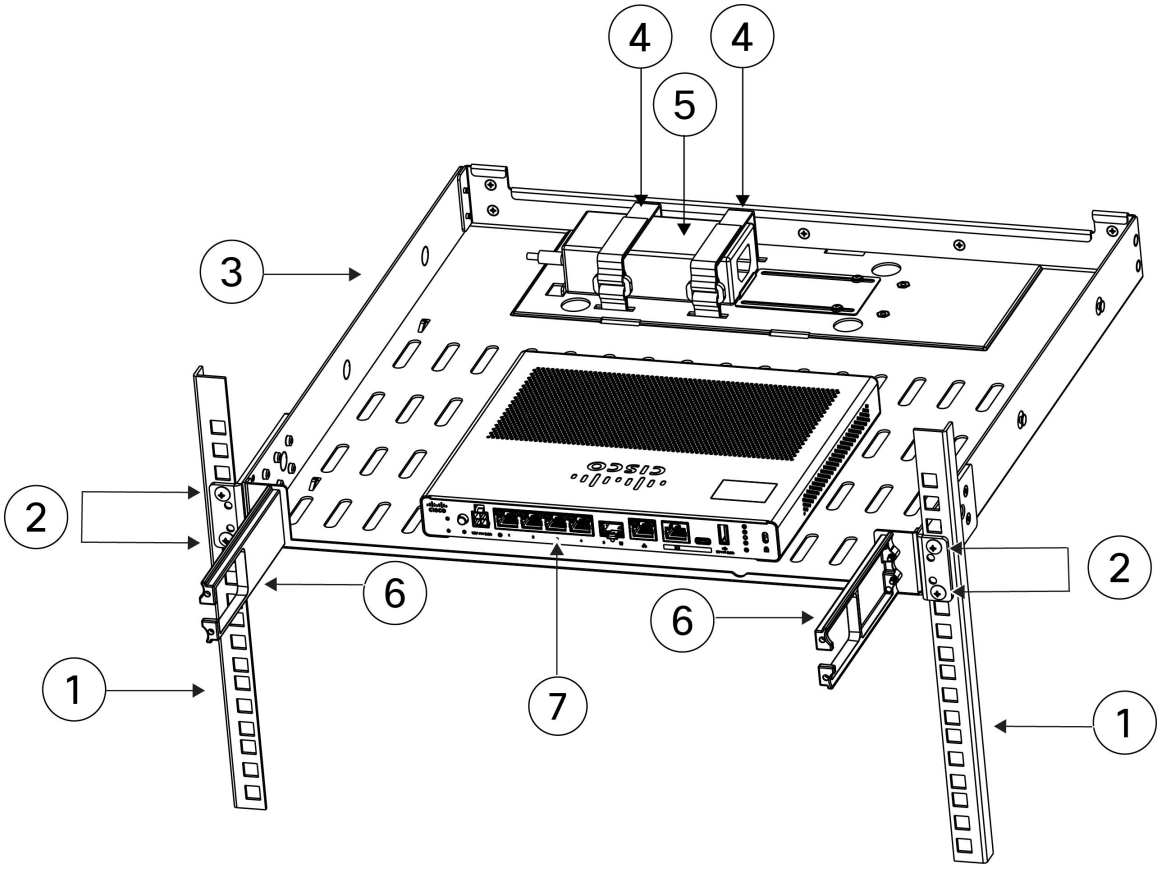
d) Install the rack-mount shelf into the two-post rack. The first figure shows the rack-mount shelf installed in the two-post rack without the cable management brackets installed. The second figure shows the rack-mount shelf installed in the two-post rack with the cable management brackets installed.

*Figure 33: Install the rack-mount shelf in the two-post rack (without cable management brackets)*




| | | | |
|---|---|---|---|
| **1** | Two-post rack | **2** | Two rack screws (you supply the screws that fit your rack) |
| **3** | Rack-mount shelf | **4** | Velcro straps to secure the power supply |
| **5** | Power supply | **6** | Chassis rear panel (I/O side) |

*Figure 34: Install the rack-mount shelf in the two-post rack (with cable management brackets)*




| | | | |
|---|---|---|---|
| **1** | Two-post rack | **2** | Two rack screws installed (you supply the screws that fit your rack) |
| **3** | Rack-mount shelf | **4** | Velcro straps to secure the power supply |
| **5** | Power supply | **6** | Cable management brackets |
| **7** | Chassis rear panel (I/O side) | | — |

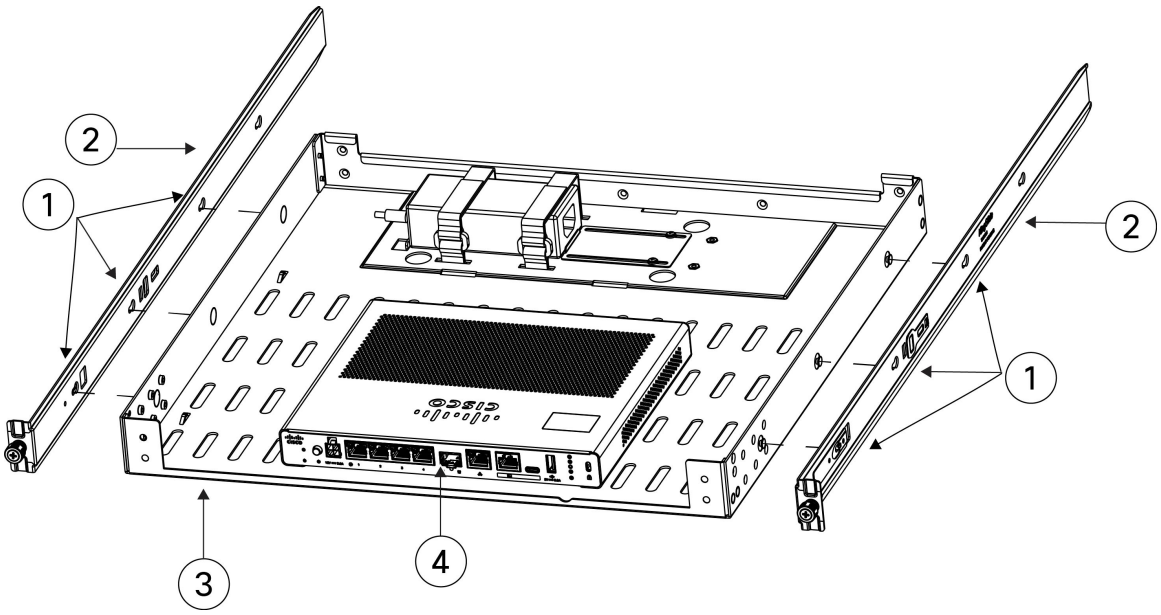
**Step 2** To install the chassis in the rack-mount shelf using slide rails:

a) Remove the inner rail from the slide rail outer rail.

b) Install the slide rail outer rail into the 4-post rack. Line up the pegs on the slide rail ends with the holes in the rack. Locate the mechanism at each end of the outer slide rail to secure the pegs with the rack.

c) Install the two inner slide rails onto the rack-mount shelf. Line each hole on the inner slide rail with the pegs on the chassis and snap the inner slide rail into place.

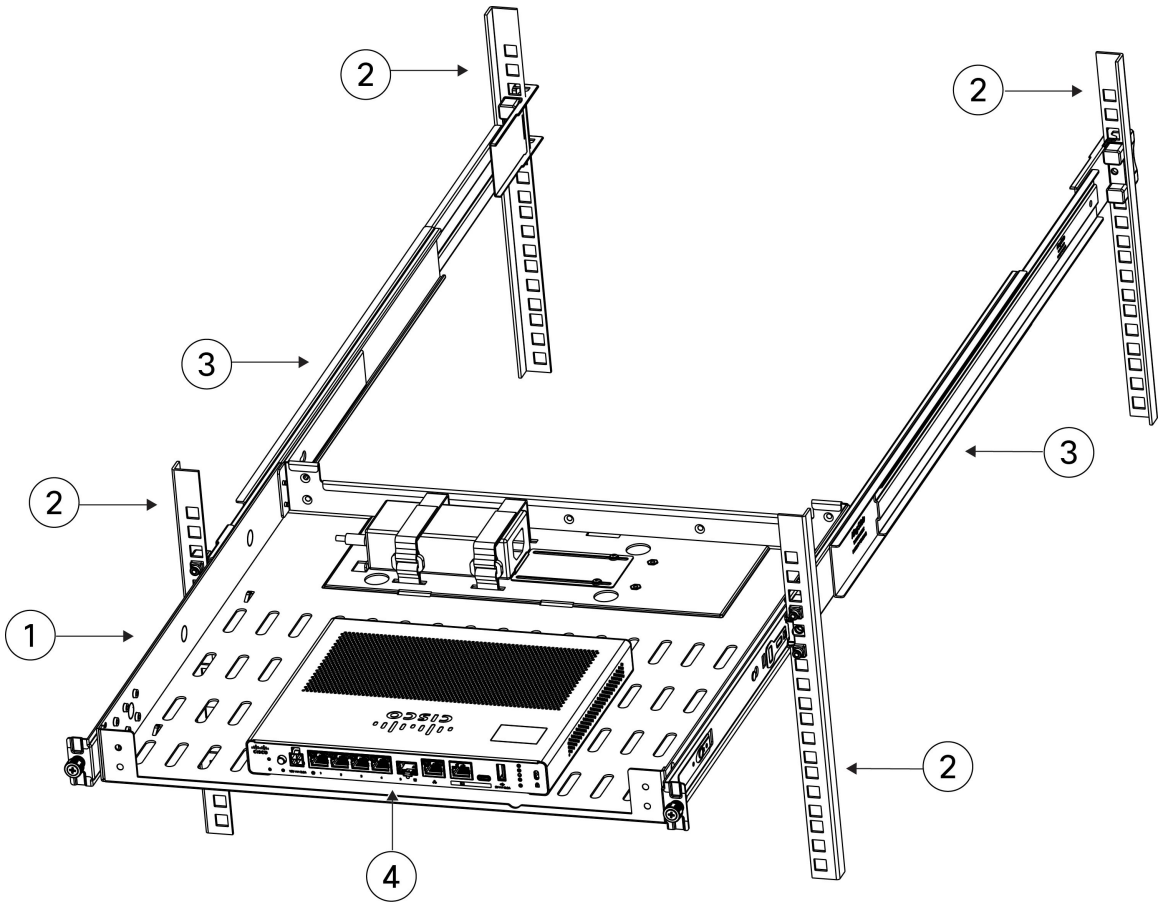
*Figure 35: Install the slide rails onto the rack-mount shelf*




| | | | |
|---|---|---|---|
| **1** | Three holes on the slide rail to line up with the pegs on the side of the chassis | **2** | Slide rails |
| **3** | Rack-mount shelf | **4** | Chassis rear panel (I/O side) |

d) Slide the rack-mount shelf containing the chassis into the sliding rack.

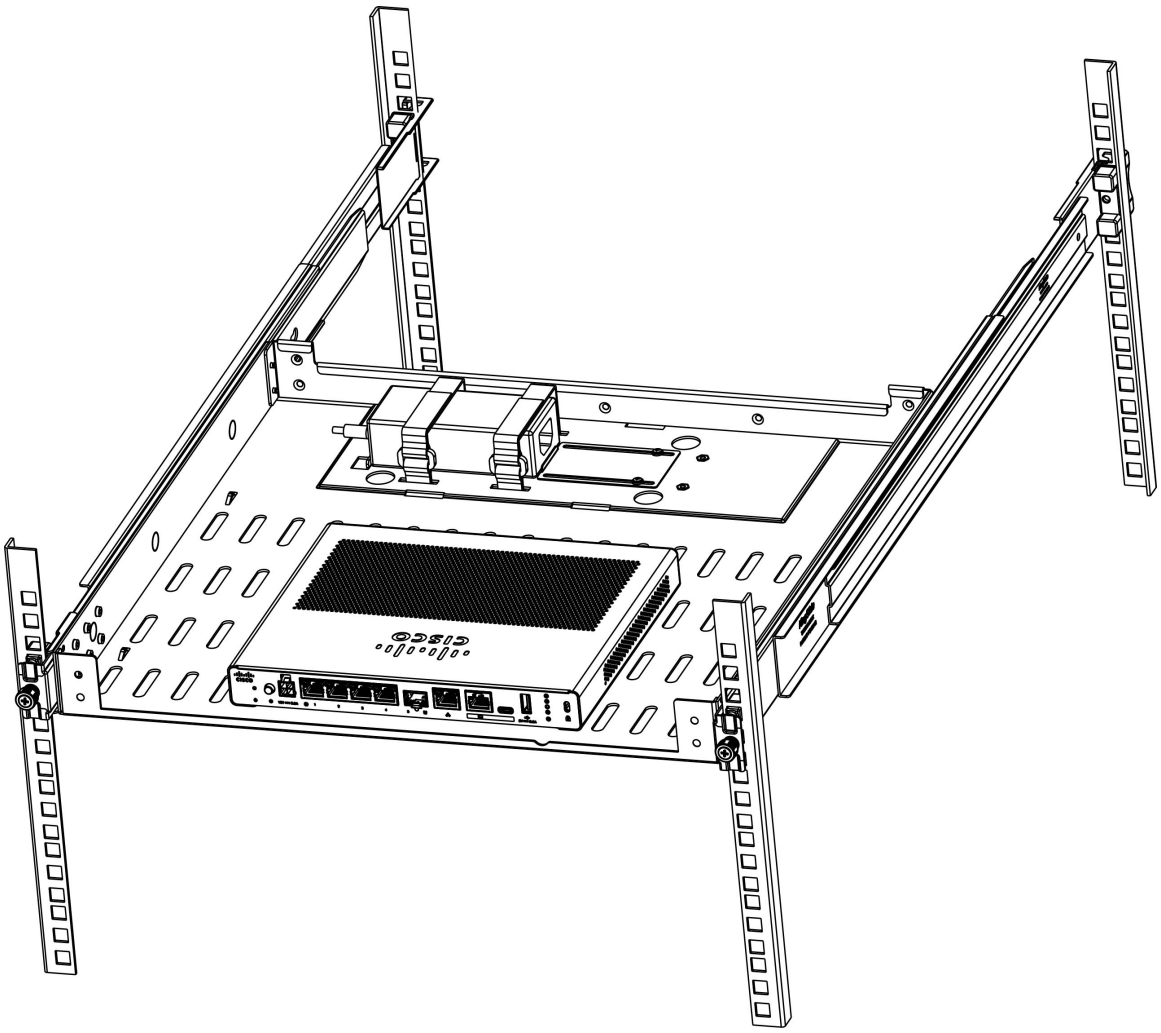
*Figure 36: Slide the rack-mount shelf into the sliding rack*




| | | | |
|---|---|---|---|
| **1** | Rack-mount shelf | **2** | Slide rail rack |
| **3** | Slide rails attached | **4** | Chassis rear panel (I/O side) |

**Step 3** The chassis is now installed in the rack-mount shelf, which is installed in the sliding rack.

*Figure 37: Rack-mount shelf installed in the sliding rack*



### What to do next

Install the cables according to your default software configuration as described in the Getting Started Guide.