ExtremeSwitching

Installing the Virtual Services Platform 7200 Series

9035364 Rev 03
March 2020

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Chapter 1: About this Document

This section discusses the purpose of this document, the conventions used, ways to provide feedback, additional help, and information regarding other Extreme Networks publications.

Purpose

This guide provides information and instructions to install the Extreme Networks Virtual Services Platform 7200 Series switches.

Conventions

This section discusses the conventions used in this guide.

Text Conventions

The following tables list text conventions that can be used throughout this document.

Table 1: Notice Icons

Icon	Alerts you to...
Important:	A situation that can cause serious inconvenience.
Note:	Important features or instructions.
Tip:	Helpful tips and notices for using the product.
Danger:	Situations that will result in severe bodily injury; up to and including death.
Warning:	Risk of severe personal injury or critical loss of data.
Caution:	Risk of personal injury, system damage, or loss of data.

Table 2: Text Conventions

Convention	Description
Angle brackets (< >)	Angle brackets (< >) indicate that you choose the text to enter based on the description inside the brackets. Do not type the brackets when you enter the command. If the command syntax is `cfm maintenance-domain maintenance-level <0-7>` , you can enter `cfm maintenance-domain maintenance-level 4`.
Bold text	Bold text indicates the GUI object name you must act upon. Examples: • Click **OK**. • On the **Tools** menu, choose **Options**.
Braces ({ })	Braces ({ }) indicate required elements in syntax descriptions. Do not type the braces when you enter the command. For example, if the command syntax is `ip address {A.B.C.D}`, you must enter the IP address in dotted, decimal notation.
Brackets ([ ])	Brackets ([ ]) indicate optional elements in syntax descriptions. Do not type the brackets when you enter the command. For example, if the command syntax is `show clock [detail]`, you can enter either `show clock` or `show clock detail`.
Ellipses (…)	An ellipsis (…) indicates that you repeat the last element of the command as needed. For example, if the command syntax is `ethernet/2/1 [ <parameter> <value> ]...`, you enter `ethernet/2/1` and as many parameter-value pairs as you need.
Italic Text	Italics emphasize a point or denote new terms at the place where they are defined in the text. Italics are also used when referring to publication titles that are not active links.
`Plain Courier Text`	Plain Courier text indicates command names, options, and text that you must enter. Plain Courier text also indicates command syntax and system output, for example, prompts and system messages.

Table continues…

Convention	Description
	Examples: • `show ip route` • `Error: Invalid command syntax [Failed][2013-03-22 13:37:03.303 -04:00]`
Separator (>)	A greater than sign (>) shows separation in menu paths. For example, in the Navigation tree, expand the **Configuration** > **Edit** folders.
Vertical Line (|)	A vertical line (|) separates choices for command keywords and arguments. Enter only one choice. Do not type the vertical line when you enter the command. For example, if the command syntax is `access-policy by-mac action { allow | deny }`, you enter either `access-policy by-mac action allow` or `access-policy by-mac action deny`, but not both.

Documentation and Training

Find Extreme Networks product information at the following locations:

Current Product Documentation
Release Notes
Hardware/software compatibility matrices for Campus and Edge products
Supported transceivers and cables for Data Center products
Other resources, like white papers, data sheets, and case studies

Extreme Networks offers product training courses, both online and in person, as well as specialized certifications. For details, visit www.extremenetworks.com/education/.

Getting Help

If you require assistance, contact Extreme Networks using one of the following methods:

Extreme Portal Search the GTAC (Global Technical Assistance Center) knowledge base; manage support cases and service contracts; download software; and obtain product licensing, training, and certifications.

The Hub	A forum for Extreme Networks customers to connect with one another, answer questions, and share ideas and feedback. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.
Call GTAC	For immediate support: (800) 998 2408 (toll-free in U.S. and Canada) or 1 (408) 579 2826. For the support phone number in your country, visit: www.extremenetworks.com/support/contact

Before contacting Extreme Networks for technical support, have the following information ready:

- Your Extreme Networks service contract number, or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any actions already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

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4. Select **Submit**.

Providing Feedback

The Information Development team at Extreme Networks has made every effort to ensure the accuracy and completeness of this document. We are always striving to improve our documentation and help you work better, so we want to hear from you. We welcome all feedback, but we especially want to know about:

- Content errors, or confusing or conflicting information.
- Improvements that would help you find relevant information in the document.

- Broken links or usability issues.

If you would like to provide feedback, you can do so in three ways:

- In a web browser, select the feedback icon and complete the online feedback form.
- Access the feedback form at https://www.extremenetworks.com/documentation-feedback/.
- Email us at documentation@extremenetworks.com.

Provide the publication title, part number, and as much detail as possible, including the topic heading and page number if applicable, as well as your suggestions for improvement.

Chapter 2: New in This Document

The following section details what is new in this document.

Temperature Sensors

Warning and critical threshold values are updated in the document. For more information, see Install a Fan Module on page 34.

Chapter 3: Hardware Models for VSP 7200 Series

This section lists the VSP 7200 Series hardware.

Two additional VSP 7200 Series models are available: these are referred to as Port-Licensed models. By default these models ship with the first twenty-four of the forty-eight 10 Gigabit ports (SFP+ or RJ45), and the first four of the six 40 Gigabit ports, enabled. The remaining twenty-four 10 Gigabit ports and the remaining two 40 Gigabit ports can be field-enabled through the purchase and installation of the optional Port License.

VSP 7200 Series hardware

Note:

Power cords must be ordered separately. Ensure you order the correct power cord for your region. For more information, see Power cord types and order codes on page 14.

Table 3: VSP 7200 Series Hardware

VSP 7200 Series	Description	Part numbers
VSP 7200 Series AC models		
VSP 7254XSQ – fiber switch Model EC7200x1B-E6 ships with **back-to-front** fan modules and one **back-to-front** 460 W AC PSU. Model EC7200x1F-E6 ships with **front-to-back** fan modules and one **front-to-back** 460 W AC PSU.	• 48 1/10 GbE SFP/SFP+ ports • six 40 GbE QSFP+ ports • one 10/100/1000 BASE-T Out-Of-Band Management Port • one RJ-45 Console Port • one USB 2.0 port • Base Software License • three field-replaceable fan modules	EC7200A1B-E6 and EC7200A1F-E6
VSP 7254XSQ – Port-Licensed fiber switch	Includes all of the above components, with the following changes: • 24 ports (Slot 1, ports 25 to 48) out of the 48 1/10 GbE SFP/SFP+ ports require a port license to be operational.	EC7200A3B-E6 and EC7200a3F-E6

Table continues…

VSP 7200 Series	Description	Part numbers
	• 2 ports (Slot 2, ports 5 and 6) out of the six 40 GbE QSFP+ ports require a port license to be operational.	
VSP 7254XTQ – copper switch Model EC7200x2B-E6 ships with **back-to-front** fan modules and one **back-to-front** 800 W AC PSU. Model EC7200x2F-E6 ships with **front-to-back** fan modules and one **front-to-back** 800 W AC PSU.	• 48 100 Mbps/1 GbE/10 GbE RJ-45 ports • six 40 GbE QSFP+ ports • one 10/100/1000 BASE-T Out-Of-Band Management Port • one RJ-45 Console Port • one USB 2.0 port • Base Software License • three field-replaceable fan modules	EC7200A2B-E6 and EC7200A2F-E6
VSP 7254XTQ – Port-Licensed copper switch	Includes all of the above components, with the following changes: • 24 ports (Slot 1, ports 25 to 48) out of the 48 100 Mbps/1 GbE/10 GbE RJ-45 ports require a port license to be operational. • 2 ports (Slot 2, ports 5 and 6) out of the six 40 GbE QSFP+ ports require a port license to be operational.	EC7200A4B-E6 and EC7200A4F-E6
VSP 7200 Series DC models		
VSP 7254XSQ – fiber switch Model EC720001F-E6 ships with one **front-to-back** 800 W DC PSU.	• 48 1/10 GbE SFP/SFP+ ports • six 40 GbE QSFP+ ports • one 10/100/1000 BASE-T Out-Of-Band Management Port • one RJ-45 Console Port • one USB 2.0 port • Base Software License • three field-replaceable fan modules	EC720001F-E6
VSP 7254XTQ – copper switch Model EC720002F-E6 ships with one **front-to-back** 800 W DC PSU.	• 48 100 Mbps/1 GbE/10 GbE RJ-45 ports • six 40 GbE QSFP+ ports • one 10/100/1000 BASE-T Out-Of-Band Management Port • one RJ-45 Console Port • one USB 2.0 port • Base Software License • three field-replaceable fan modules	EC720002F-E6

Table continues…

VSP 7200 Series	Description	Part numbers
Redundant power supplies **Important:** Make sure the air flow direction of your **power supplies** and **fan modules** match the same direction (either front-to-back or back-to-front).		
460 watt AC redundant power supply	• The VSP 7254XSQ comes with one 460 W AC PSU that is either back-to-front or front-to-back. • For full power redundancy, you can install a second 460 W AC PSU.	• EC7205A1B-E6 **(back-to-front)** • EC7205A1F-E6 **(front-to-back)**
800 watt AC redundant power supply	• The VSP 7254XTQ comes with one 800 W AC PSU that is either back-to-front or front-to-back. • For full power redundancy, you can install a second 800 W AC PSU.	EC7205A0B-E6 **(back-to-front)** EC7205A0F-E6 **(front-to-back)**
800 watt DC redundant power supply	• The VSP 7254XSQ and VSP 7254XTQ come with one 800 W DC PSU. • For full power redundancy, you can install a second 800 W DC PSU.	EC8005001-E6 **(front-to-back)** **Note:** A **(back-to-front)** DC power supply is not supported.
Redundant fan modules **Important:** Make sure the air flow direction of your **power supplies** and **fan modules** match the same direction (either front-to-back or back-to-front).		
12 volt redundant fan module	The VSP 7200 Series comes with three 12–V fan modules for either front-to-back or back-to-front air flow switch cooling.	EC7200BTF-E6 — back–to–front fan modules (includes three fan module kits) EC7200FTB-E6 — front-to-back fan modules (includes three fan module kits)
Universal Slide Rack Mount Kit (300mm-900mm)		
Slide Rack Mount Kit (300mm–900mm)	The optional rack mount kit allows a switch to be installed in a four post rack with depths between 300mm and 900mm. It is designed for use on the VSP 7200 Series, VSP 8200 Series and VSP 8400 Series.	EC8011002-E6

Table continues…

VSP 7200 Series	Description	Part numbers
Note: The universal slide rack mount kit is optional and must be ordered separately. The VSP 7200 Series, VSP 8200 Series and VSP 8400 Series ship with rack mount brackets. When using rack mount brackets on the VSP 8200 Series and VSP 8400 Series, you can use a shelf for additional support.		

Compatible transceivers

Important:

Extreme Networks recommends using Extreme SFP, SFP+, QSFP+, and QSFP28 transceivers as they have been through extensive qualification and testing. Extreme Networks will not be responsible for issues related to third party transceivers.

- The VSP 7200 Series operates in forgiving mode for SFP, SFP+, and QSFP+ transceivers, which means that the switch will bring up the port operationally when using third party SFP, SFP+, or QSFP+ transceivers. Extreme Networks does not provide support for operational issues related to these transceivers, but they will operate and the port link will come up. The switch logs the device as an unsupported or unknown device.

For more information about compatible transceivers, see *Extreme Networks Pluggable Transceivers Installation Guide*.

VSP 7200 Series Operational Notes

- The VSP 7254XSQ has a PHYless design, which is typical for Data Center top of rack switches. The benefits of a PHYless design are lower power consumption and lower latency. However, due to the PHYless design, the following transceivers that require electronic dispersion compensation (EDC) for proper operation are not supported:
  - AA1403017-E6: 1-port 10GBASE-LRM SFP+
  - AA1403016-E6: 1-port 10GBase-ZR/ZW SFP+

    The AA1403165 10GBASE-ZR CWDM DDI SFP+ transceiver can be substituted for AA1403016-E6 10GBASE-ZR/ZW SFP+
- Software partitions the switch into two logical slots: Slot 1 and Slot 2.
  - Slot 1: 10 Gbps ports: 1 - 48
  - Slot 2: 40 Gbps ports: 1 - 6
- Channelization is supported on the 40 Gbps QSFP+ ports.
- MACsec support:
  - MACsec is only supported on the VSP 7254XTQ 10 Gbps ports.
  - MACsec is not supported on VSP 7254XSQ 10 Gbps ports
  - MACsec is not supported on VSP 7254XTQ and VSP 7254XSQ 40 Gbps ports whether channelization is enabled or not.
- Port licensing support on the port licensed VSP 7254XSQ fiber switch:
  - 24 ports (Slot 1, ports 25 to 48) out of the 48 1/10 GbE SFP/SFP+ ports require a Port License to be unlocked.

  - two ports (Slot 2, ports 5 and 6) out of the six 40 GbE QSFP+ ports require a Port License to be unlocked.
- Port licensing support on the port licensed VSP 7254XTQ copper switch:
  - 24 ports (Slot 1, ports 25 to 48) out of the 48 100 Mbps/1 GbE/10 GbE RJ-45 ports require a Port License to be unlocked.
  - two ports (Slot 2, ports 5 and 6) out of the six 40 GbE QSFP+ ports require a Port License to be unlocked.
- 1000BASE-T SFP (AA1419043-E6) will only operate at 1 Gbps speeds when used on a VSP 7254XSQ.
- When you use 1 Gigabit Ethernet SFP transceivers on VSP 7254XSQ, the software disables auto-negotiation on the port:
  - If you use 1 Gbps fiber SFP transceivers, the remote end must also have auto-negotiation disabled.
  - If you use 1 Gbps copper SFP transceivers, the remote end must have auto-negotiation enabled. If not, the link will not be established.
- When a port on VSP 7254XSQ is disabled or enabled, or a cable replaced, or the switch rebooted, the remote link can flap twice.
- Enable auto-negotiation to ensure proper operation at 100 Mbps speeds on VSP 7254XTQ:
  - Link instability will be seen if both ends are set to 100 Mbps auto-negotiation disabled and you use a straight through cable.
  - If Link instability is seen when you use a cross-over cable, a port disable or enable can fix the issue.

Power cord types and order codes

To connect AC power to the switch, you need an appropriate AC power cord as described in the following table.

Table 4: Power cords for power distribution units

Order Code	Length	Power supply side connector	Power source side connector	Safety Approval
700512239	3 m	C13	C14	USA
700512241	3 m	C13	C14	International except Japan and Taiwan

Table 5: Power Cords with C14 power supply side connector

Order Code	Description	Region
AA0020062E6	Power cord 3.05 m IEC C13 to NEMA 5-15P	North America
AA0020063E6	Power cord 2.5 m IEC C13 to BS1363	United Kingdom
AA0020064E6	Power cord 2.5 m IEC C13 to CEE 7/7	European Union
AA0020065E6	Power cord 2.5 m IEC C13 to CEI 23-16	Italy
AA0020066E6	Power cord 2.5 m IEC C13 to GB 2099.1-1996	China
AA0020067E6	Power cord 2.5 m IEC C13 to BS-546/SANS164-1	India & South Africa
AA0020068E6	Power cord 2.5 m IEC C13 to AS 3112	Australia
AA0020069E6	Power cord 2.5 m IEC C13 to JIS 8303	Japan
AA0020101-E6	Power cord 2.5 m IEC C13 to NBR 14136 (IEC 60906-1)	Brazil
AA0020104-E6	Power cord 2.5 m IEC C13 to SEV 1011	Switzerland
AA0020107-E6	Power cord 2.5 m IEC C13 to SI-32	Israel

Chapter 4: Preinstallation Checklist

Before you install the VSP 7200 Series, make sure that you complete the tasks in the preinstallation checklist.

Important:

Make sure the air flow direction of the **power supplies** and **fan modules** match the same direction (either front-to-back or back-to-front).

No.	Task	Description	✔
1.	Review the technical specification for the switch. Make sure that the area where you install the switch and where it will operate meet the requirements.	For the physical, electrical, and environmental specifications, see Technical specifications on page 21.	
2.	Verify the power supply unit (PSU) specifications. Optionally order a redundant PSU to provide redundancy and load sharing.	See AC power supply specifications on page 26 or DC power supply specifications on page 32. To order redundant PSUs, see Hardware Models for VSP 7200 Series on page 10 for part numbers.	
3.	Verify that the fan module air flow is going in the same direction as the power supplies (either front-to-back or back-to-front). Optionally order redundant fan modules.	To order redundant fan modules, see Hardware Models for VSP 7200 Series on page 10 for part numbers.	
4.	Make sure that you have the following tools and cables: • Phillips #2 screwdriver • RJ-45 console port cable • ESD cable	See Cable Requirements for the VSP 7200 Series on page 73.	
5.	Unpack the equipment.	Observe ESD precautions when you unpack the equipment. See Electrostatic discharge on page 20.	
6.	Verify the contents of the shipped package.	See Package contents on page 23 for a description of the components that are provided with the switch. If any components	

Table continues…

No.	Task	Description	✔
		are missing, contact Extreme Networks support.	
7.	Make sure that the power cord has the correct country-specific termination.	See Power cord types and order codes on page 14.	
8.	Prepare the rack.	Ensure that there is enough rack space to accommodate a 1RU switch (4.45 cm). Ensure that the rack is bolted to the floor and braced if necessary. Ensure that the rack is grounded to the same grounding electrode used by the power service in the area. The ground path must be permanent and must not exceed 1 Ohm of resistance from the rack to the grounding electrode.	

Chapter 5: Installing the Virtual Services Platform 7200 Series

This section provides the information and procedures to install the VSP 7200 Series.

Installation checklist

Use this checklist to install the VSP 7200 Series.

No.	Task	Description	✔
1.	Mount the VSP 7200 Series in the equipment rack.	See Installing the switch in an equipment rack on page 40. You have two options for installing the switch in an equipment rack: • Using the optional slide rack mount kit on page 41 • Using the supplied brackets on page 71	
2.	Install the primary or redundant power supply. **Important:** A combination of AC-input and DC-input power supplies in the same chassis is not supported.	If you have an AC power supply, see Installing an AC power supply on page 24. If you have a DC power supply, see Installing a DC power supply on page 29.	
3.	Install the fan modules.	See Install a Fan Module on page 34.	
4.	Check the LEDs to verify the installation.	For a description of the LEDs, see LED state definitions on page 37.	

Installation fundamentals

The VSP 7200 Series has four models: VSP 7254XSQ (fiber) and VSP 7254XTQ (copper) and their port licensed versions.

The VSP 7254XSQ consists of forty eight 1/10 GbE SFP/SFP+ ports. The VSP 7254XTQ consists of forty eight 100 Mbps/1 GbE/10 GbE RJ-45 ports. In the port-licensed versions of either of the models, twenty four ports require a port-license to unlock them.

Both models include the following features:

- six 40 GbE QSFP+ ports. In the port-licensed versions, two out of the six ports require a port license to unlock them.
- one USB 2.0 port
- Base Software License
- one field-replaceable power supply (either AC or DC)
- three field-replaceable 12 volt fan modules

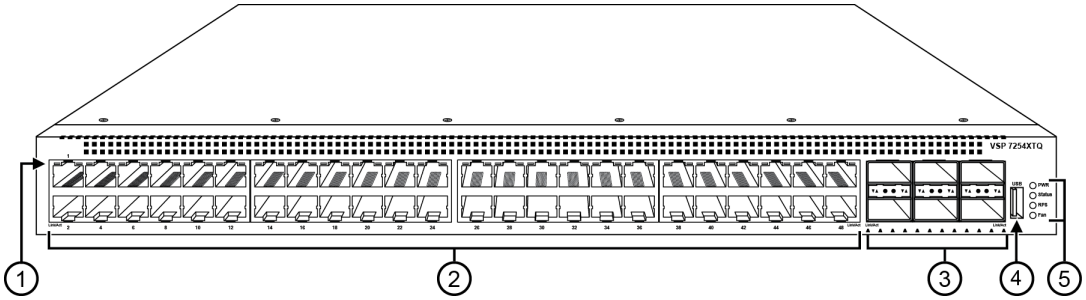


Figure 1: VSP 7200 Series — Front view

1. LEDs indicating port activity are above the RJ-45 and SFP+ port. The up arrow on the left indicates the top port; the down arrow on the right indicates the bottom port. For a description of what the LEDs mean, see 100 Mbps/1 Gbps/10 Gbps RJ-45 port LED state indicators on page 38 or SFP and SFP+ port LED state indicators on page 38.
2. 48 ports — The VSP 7254XSQ has 48 SFP/SFP+ fiber ports. The VSP 7254XTQ has 48 RJ-45 copper ports.
3. Six QSFP+ ports — The LEDs are below each port. There are four LEDs per port to support channelization. The up arrows refer to the port above. For a description of what the LEDs mean, see QSFP+ port LED state indicators on page 39.
4. USB port
5. LEDs for system power (PWR), switch status (Status), redundant power supply (RPS), and fan modules (Fan). For more information, see Switch LEDs on page 37.

The following figure shows the rear of the chassis with three fan modules and one power supply installed. The fan modules are numbered 1–3 from left to right, and the power supplies are numbered PSU 1 on the left and PSU 2 on the right.

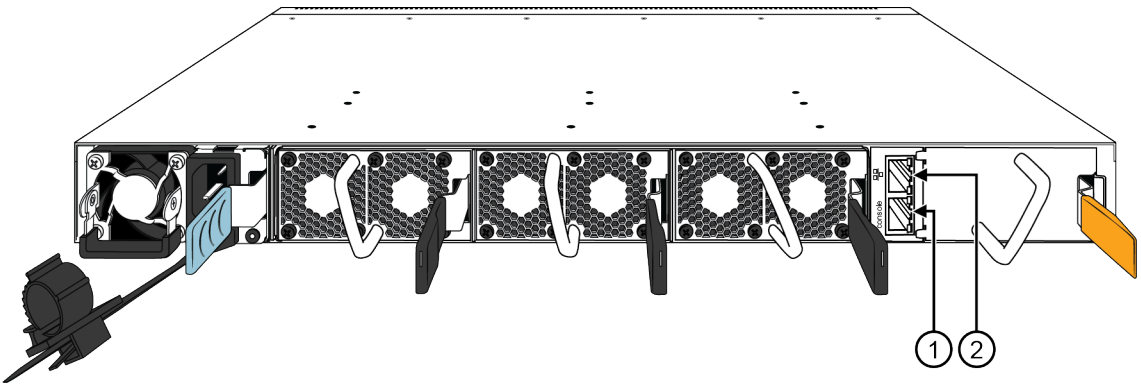


Figure 2: VSP 7200 Series — Rear view

1. Console port
2. Management port — The LEDs are on the bottom of the port. For more information, see Management port LED state indicators on page 39.

Electrostatic discharge

This section provides information and procedures to prevent electrostatic discharge during installation.

Preventing electrostatic discharge damage

Electrostatic discharge (ESD) is a discharge of stored static electricity that can damage equipment and impair electrical circuitry. Electrostatic voltages can result from friction including, pulling cabling through conduits, walking across carpeted areas, and building static charge in clothing. When you improperly handle electronic components, ESD damage occurs and can result in complete or intermittent failures. While networking equipment is commonly designed and tested to withstand common mode ESD events, voltage can sometimes discharge to some connector pins, which can potentially damage the networking equipment.

⚠ Caution:

To protect the switch against ESD damage, take the following measures before you connect data cables to the device:

- Always use antistatic wrist straps. Make sure you adjust the strap to provide good skin contact.
- Ensure that you properly ground work surfaces and equipment racks for protection against electrostatic discharge. You must connect the common point to the building ground wire. In a properly wired building, the nearest reliable ground is typically at the electrical outlet.

- Avoid contact between equipment and clothing. The wrist or ankle strap protects only the equipment from ESD voltages on the body; ESD voltages on clothing can still cause damage.
- Avoid touching any connector pins.
- Do not remove the wrist or ankle strap until the installation is complete.

Preventing electrostatic damage in new cable installations

With new cable installations, we recommend that you use an ESD discharge cable to reduce the potential for damage from static, that can build up in cables. The following figure illustrates an ESD cable.

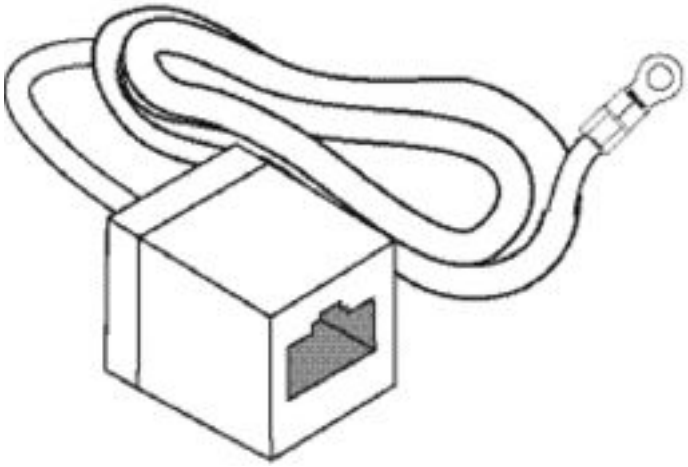


Figure 3: Job aid

To install the ESD discharge cable, perform this procedure.

1. Connect the ground lug on the ESD discharge cable to a safe and suitable earth ground.
2. Connect all RJ-45 cable connectors to the female RJ-45 connector of the ESD discharge cable for at least 5 seconds, and then connect each RJ-45 cable connector to the switch.
3. Leave cables connected to the networking equipment. After you connect cables to networking equipment, the cables do not build up charge.

Technical specifications

The following table provides the technical specifications for the individual switches in this series. Ensure that the area where you install the switch and where it operates meets these requirements.

Warning:

To avoid bodily injury from hazardous electrical shock and current, never remove the top of the device. No user-serviceable components are inside.

Table 6: Physical Specifications

Height	1.75 in. (4.4 cm) - 1U
Width	17.5 in. (444.5 mm) - 19” rack mountable
Depth	17.2 in. (43.6 cm)
Weight of VSP 7254XSQ	16 lb (7.25 kg)
Weight of VSP 7254XTQ	18.85 lb (8.55 kg)
Weight of 460W AC power supply unit (EC7205x1B-E6 or EC7205x1F-E6)	1.95 lb (.88 kg)
Weight of 800W AC power supply unit (EC8005x01-E6)	1.9 lb (0.862 kg)
Weight of 800W DC power supply unit (EC8005001-E6)	1.76 lb (0.8 kg)
Weight of Fan Module Kit (includes 3 fan modules) (EC7200BTF-E6 or EC7200FTB-E6)	1.05 lb (0.47 kg)
MTBF rating for the VSP 7254XSQ	296,402 hours (33.8 years)
MTBF rating for the VSP 7254XTQ	267,126 hours (30.5 years)

Table 7: Environmental specifications

Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	–40°C to 85°C (-40°F to 185°F)
Operating Humidity	0 to 95 percent noncondensing
Storage Humidity	0 to 95 percent noncondensing
Maximum Operating Altitude	3,048m (10 000 feet) above sea level
Storage Altitude	0 to 12,192m (0 to 40,000ft) above sea level
Acoustic Noise	• VSP 7254XSQ F2B is 49.6 db min, 65.4 db max • VSP 7254XSQ B2F is 50.7 db min, 63.7 db max • VSP 7254XTQ F2B is 53.7 db min, 67.1 db max • VSP 7254XTQ B2F is 50.7 db min, 65.9 db max
Miscellaneous Operating Considerations	• No heat sources such as hot air vents or direct sunlight near the switch. • No sources of severe electromagnetic interference near the switch. • No excessive dust in the environment.

Table continues…

	• An adequate power source is within 6 feet (1.83 meters) of the switch. One 15-amp circuit is required for each power supply. • At least 2 inches (5.08 centimeters) of clearance on the front and back of the switch for ventilation. • Cables should be dressed to prevent blocking air flow.

Package contents

The following describes the components that are provided with each switch. If any components are missing, contact the switch vendor.

1. VSP 7200 Series (either a VSP 7254XSQ or VSP 7254XTQ).
2. Rack-mounting hardware that includes:
   - Rack-mount brackets
   - Screws to attach brackets to the switch
   - Screws to secure the switch to the equipment rack
3. The VSP 7200 Series supports two field-replaceable power supplies (either front-to-back or back-to-front). One power supply ships with the unit.
4. Three field-replaceable fan modules (either front-to-back or back-to-front)
5. Documentation

Note:

A 300mm-900mm slide rack mounting kit is available as an option.

Power cords must be ordered separately. Ensure you order the correct power cord for your region. For more information, see Power cord types and order codes on page 14.

Installing a power supply

The VSP 7200 Series ship with a power supply, but it is not installed in the chassis. Refer to the following procedures to install either an AC or a DC power supply.

There are two power supply slots (PSU1 on the left side and PSU2 on the right).

- If you only have one power supply, you can install it in either PSU1 or PSU2.
- If you install a second power supply, neither one acts as a primary power supply. The two power supplies load share equally.

Important:

Installing a combination of AC-input and DC-input power supplies in the same chassis is not supported.

To install an AC power supply, see Installing an AC power supply on page 24.

To install a DC power supply, see Installing a DC power supply on page 29.

Installing an AC power supply

The VSP 7200 Series supports two field-replaceable power supplies. One comes with the switch and you can install a second power supply to provide redundancy and load sharing.

Important:

Refer to the following part numbers to ensure that you install the correct power supplies in the VSP 7254XSQ (fiber switch):

- EC7205A1B-E6 — 460W AC POWER SUPPLY BACK2FRONT COOLING (NO PC)
- EC7205A1F-E6 — 460W AC POWER SUPPLY FRONT2BACK COOLING (NO PC)

Refer to the following part numbers to ensure that you install the correct power supplies in the VSP 7254XTQ (copper switch):

- EC7205A0B-E6 — 800W AC POWER SUPPLY BACK2FRONT COOLING (NO PC)
- EC7205A0F-E6 — 800W AC POWER SUPPLY FRONT2BACK COOLING (NO PC)

Note:

Power cords must be ordered separately. Ensure you order the correct power cord for your region. For more information, see Power cord types and order codes on page 14.

Before you begin

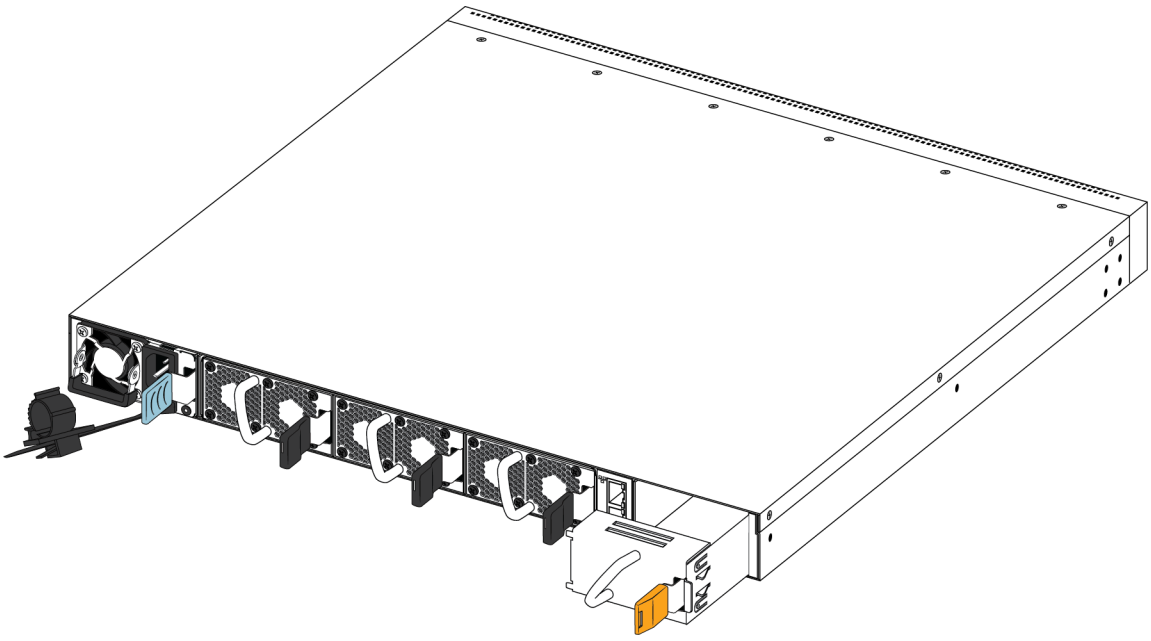
Remove the power cord before installing or removing the power supply.

Note:

The design of the latch mechanism that secures the power supply enforces this safety practice.

Procedure

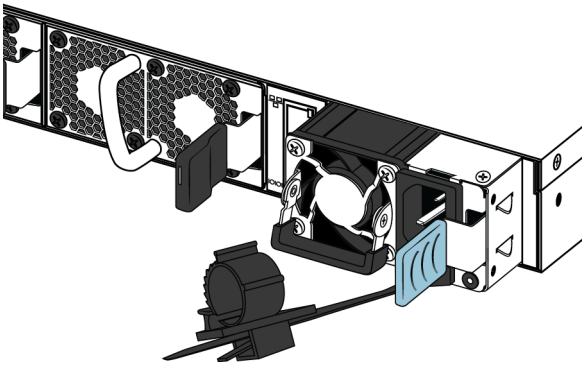
1. If there is a power supply cover, remove it and save for possible future use. To remove the cover, push the tab on the spring latch to the left and pull on the extraction handle.



Important:

If you only have one power supply installed, the other slot must be covered to ensure proper ventilation. If a power supply fails, replace it as soon as you can but leave it in place until you do. Leaving a power supply slot unpopulated impairs the ability of the fans to cool the chassis.

2. Slide the power supply into the slot.



3. Verify that the power supply is fully seated in the slot. The spring latch should engage and return to its original position.

Note:

The chassis design prevents an incorrect installation of a power supply. If you insert a power supply upside down, it will not fully insert.

4. Once you install a power supply, you can connect the AC power cord to the power supply on the back of the switch, and then connect the cord to an AC power outlet.

Note:

The VSP 7200 Series does not have an AC power switch. When you connect the power cord to a power supply and connect the cord to an AC power outlet, the switch powers up immediately.

Caution:

Disconnecting the AC power cord is the only way to turn off AC power to the VSP 7200 Series. Allow at least 30 seconds for the VSP 7200 Series to fully power down before restoring power. Otherwise, the VSP 7200 Series might produce a core file during the reset leading to an extra delay during boot time. Always connect the AC power cord in a location that is quickly and safely accessible in case of an emergency.

5. Check the LED on the bottom right side of the power supply. Solid green indicates that power is operating normally. If it's off, check the connections.

Note:

You can hot swap power supplies while the switch is operational. One power supply is required for continued switch operation.

AC power supply specifications

The VSP 7254XSQ comes with an 460 W AC power supply and you can install a secondary power supply for redundancy.

The VSP 7254XTQ comes with an 800 W AC power supply and you can install a secondary power supply for redundancy.

Important:

You must have either a power supply or a power supply cover in each bay to ensure proper ventilation. Leaving a power supply bay unpopulated or uncovered impairs the ability of the fans to cool the chassis.

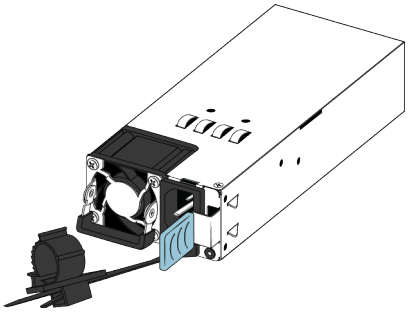


Figure 4: AC power supply

The 800 W AC power supply uses an IEC 60320 C14 AC power cord receptacle. The corresponding AC power cord uses an IEC 60320 C13 connector.

The following table describes the regulatory AC power specifications for the VSP 7200 Series switches. Note that regulatory power specifications are based on the maximum rated capacity of the power supplies and are not based on typical power consumption, which is typically lower.

Table 8: 460 W AC power specifications

	VSP 7254XSQ
Input Current:	460 W/90 or 460/180 @88%, 5.8 A maximum at low input voltage 2.9 A maximum at high input voltage
Input Voltage (rms):	100–127 V or 200–240 V, 47–63 Hz (50–60 Hz nominal)
Power Consumption:	460 W maximum
Thermal Rating:	1570 BTU/Hr maximum
Inrush Current:	55 A maximum
Turn on Condition:	5–400 ms delay after application of AC power
Important: The output rise time, from 10 to 90 percent, is 70 ms maximum and monotonic under all defined input and output conditions.	
Efficiency:	85 percent minimum

Table 9: 800 W AC power specifications

	VSP 7254XTQ
Input Current:	9.9–4.79 A
Input Voltage (rms):	100–240 V, 47–63 Hz
Power Consumption:	800 W maximum
Thermal Rating:	2730 BTU/Hr maximum

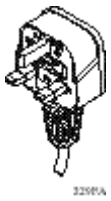
Table continues…

	VSP 7254XTQ
Inrush Current:	40 A maximum
Turn on Condition:	1 second maximum after application of AC power
Important: The output rise time, from 10 to 90 percent, is 50 ms maximum and monotonic under all defined input and output conditions.	
Efficiency:	70 percent minimum

AC power cord specifications

To connect AC power to the switch, you need an appropriate AC power cord as described in the following table, also see the following table for plug specifications.

Table 10: International power cord specifications

Country and Plug Specification	Specifications	Typical Plug
Continental Europe: • CEE7 standard VII male plug • Harmonized cord (HAR marking on the outside of the cord jacket to comply with the CENELEC Harmonized Document HD-21)	• 220 or 230VAC • 50 Hz • Single phase	
United States of America, Canada, and Japan: • NEMA5-15P male plug • UL-recognized (UL stamped on cord jacket) • CSA-certified (CSA label secured to the cord)	• 100 or 120VAC • 50–60 Hz • Single phase	
United Kingdom: • BS1363 male plug with fuse • Harmonized cord	• 240VAC • 50 Hz • Single phase	
Australia: • AS3112-1981 male plug	• 240VAC • 50 Hz • Single phase	

Danger:

Using power cords with a proper grounding path

Use only power cords that have a grounding path. Without a proper ground, a person who touches the switch is in danger of receiving an electrical shock. Lack of a grounding path to the switch can result in excessive emissions.

Installing a DC power supply

Important:

Installing a combination of AC-input and DC-input power supplies in the same chassis is not supported.

The VSP 7200 Series Series supports two field-replaceable 800 W DC power supplies. One comes with the switch and you can install a second power supply to provide redundancy and load sharing. Both the VSP 7254XSQ (fiber switch) and the VSP 7254XTQ (copper switch) use the same DC power supply model: EC8005001-E6 (front-to-back cooling).

There are two power supply slots (PSU1 on the left side and PSU2 on the right).

- If you only have one power supply, you can install it in either PSU1 or PSU2.
- If you install a second power supply, neither one acts as a primary power supply. The two power supplies load share equally.

Before you begin

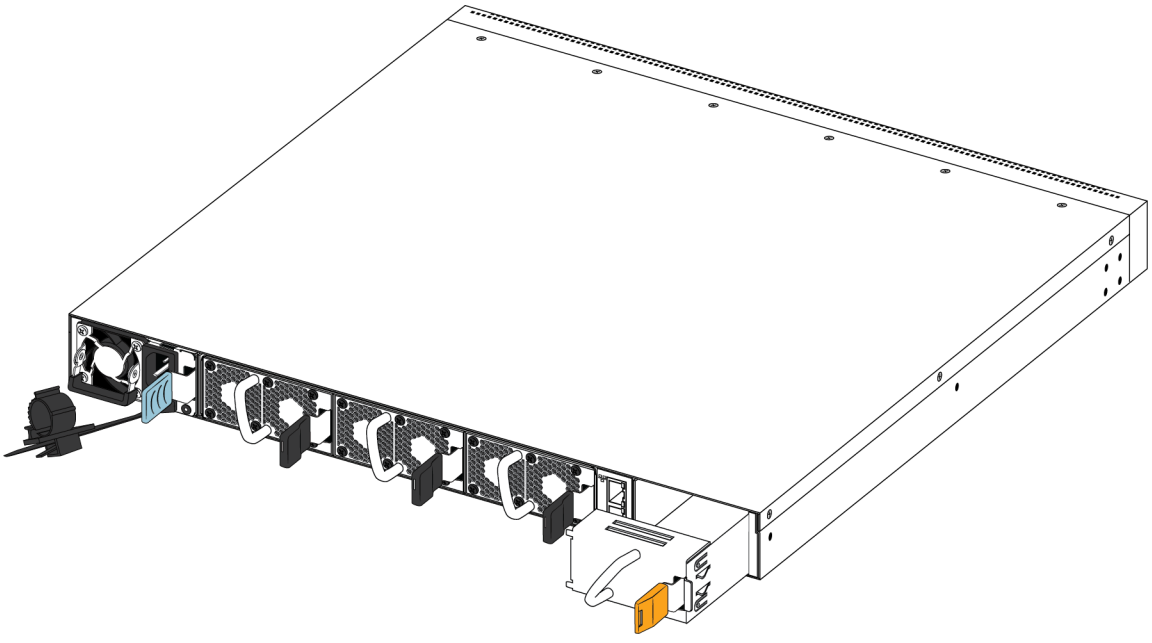
Remove the power cord before installing or removing the power supply.

Note:

The design of the latch mechanism that secures the power supply enforces this safety practice.

Procedure

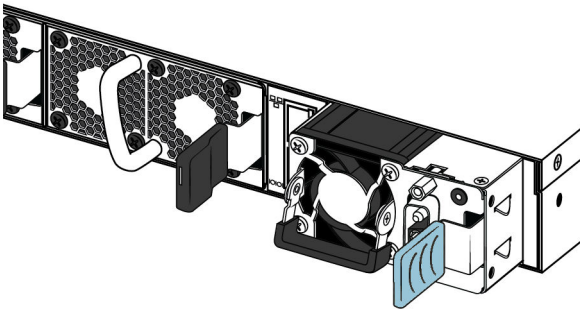
1. If there is a power supply cover, remove it and save for possible future use. To remove the cover, push the tab on the spring latch to the left and pull on the extraction handle.



Important:

If you only have one power supply installed, the other slot must be covered to ensure proper ventilation. If a power supply fails, replace it as soon as you can but leave it in place until you do. Leaving a power supply slot unpopulated impairs the ability of the fans to cool the chassis.

2. Slide the power supply into the slot.



3. Verify that the power supply is fully seated in the slot. The spring latch should engage and return to its original position.

Note:

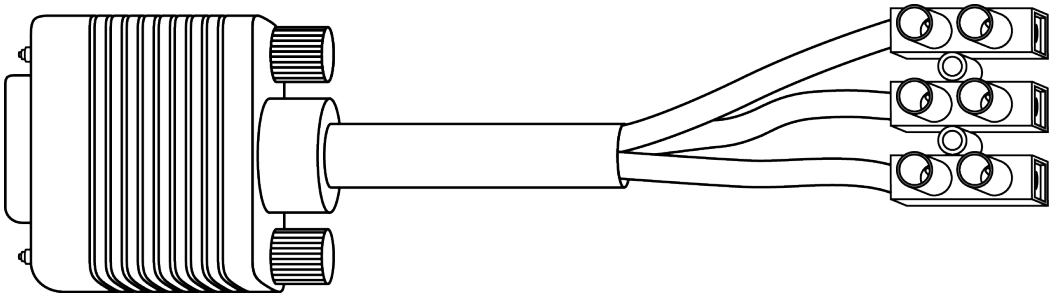
The chassis design prevents an incorrect installation of a power supply. If you insert a power supply upside down, it will not fully insert.

The VSP 7200 Series does not have a power switch. When you connect the DC power source to the DC power supply wiring assembly and then plug the DC power supply wiring assembly into the DC power supply, the switch powers up immediately.

Warning:

Disconnecting the DC power supply wiring assembly from the power supply is the only way to turn off DC power to the VSP 7200 Series. Allow at least 30 seconds for the VSP 7200 Series to fully power down before restoring power. Otherwise, the VSP 7200 Series might produce a core file during the reset leading to an extra delay during boot time.

4. Once you install a power supply, use the following steps to connect the DC power supply wiring assembly:
   a. Extreme Networks supplies a DC power supply wiring assembly to connect the DC power supply to the DC input power source.

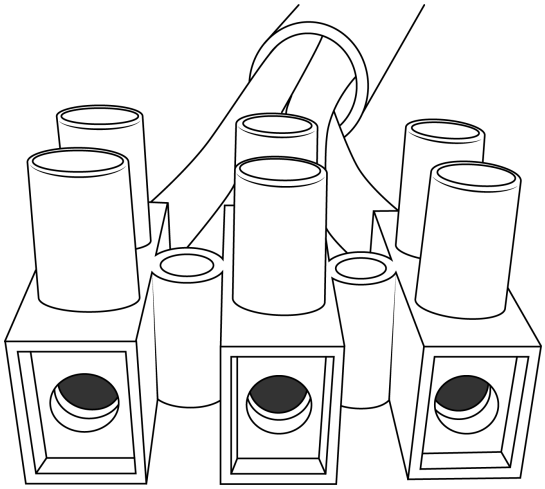


   b. Refer to the tag attached to the DC power supply wiring assembly to insert the cables into their appropriate connectors.

Warning:

Ensure that the positive and negative power inputs are connected to the correct connectors and that the switch is properly grounded before connecting it to a power source.

   c. Use a screwdriver to terminate the cables to the DC power supply wiring assembly.



   d. Connect the DC power supply wiring assembly to the DC power supply and screw it in to secure the connection.

5. Check the LED on the top right side of the power supply. If it is off, the power supply is not operating. If it is green, the power supply is operating normally. The following table describes all the LED states.

Table 11: DC power supply LED states

Color and Status	Description
Off	There is no DC power to either power supply.
Green (steady)	There is output and the power supply is operating normally.
Green (blinking)	The power supply is present, but its output is standby voltage (12VSB).
Amber (steady)	SHUTDOWN: The power supply is not supplying power to the switch because the power cord is unplugged or the power supply shutdown for faults such as a fan failure or exceeding limits for Over Current Protection (OCP) or Over Voltage Protection (OVP).
Amber (blinking)	WARNING: The power supply continues to operate, but there are one or more warning events such as high temp, high power, high current, or a slow fan.

Note:

You can hot swap power supplies while the switch is operational. One power supply is required for continued switch operation.

DC power supply specifications

The VSP 7200 Series comes with one 800 W DC power supply and you can install a secondary power supply for redundancy.

Important:

You must have either a power supply or a power supply cover in each bay to ensure proper ventilation. Leaving a power supply bay unpopulated or uncovered impairs the ability of the fans to cool the chassis.

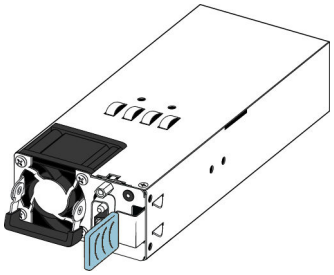


Figure 5: DC power supply

The 800 W DC power supply uses a DC power supply wiring assembly to connect the power supply to the DC power source.

The following table describes the regulatory DC power specifications for the VSP 7200 Series switch. Note that regulatory power specifications are based on the maximum rated capacity of the power supplies and are not based on typical power consumption, which is typically lower.

Table 12: DC power specifications

	VSP 7254XSQ or VSP 7254XTQ
Input Current:	24–16 A
Input Voltage (rms):	40.5 to 60 VDC
Power Consumption:	800 W maximum
Temperature:	Operating range: 0 to 50 ºC Non-operating range: -40 to 70 ºC
Inrush Current:	50 A maximum
Turn on Condition:	500 ms maximum after application of DC power
Important: 12 V output rise time, from 10 to 90 percent, must be the maximum of 70 ms and monotonic under all defined input and output conditions.	
Efficiency:	• 88% minimum at 100% load level • 92% minimum at 50% load level • 88% minimum at 20% load level • 80% minimum at 10% load level

Removing a power supply

You can hot swap power supplies while the switch is operational.

Procedure

1. Disconnect the power cord from the power supply.
2. Lift up the power supply handle so you can grasp it.
3. Push the spring latch to the left and use the power supply handle to pull the power supply out of the chassis.
4. If you are replacing the power supply, see Installing an AC power supply on page 24 or Installing a DC power supply on page 29. If not, re-install the filler panel.

Install a Fan Module

The VSP 7200 Series comes with three 12–V fan modules for either front-to-back or back-to-front air flow switch cooling.

Important:

Make sure the air flow direction of your power supplies matches the same direction for your fan modules.

Refer to the following part numbers to ensure that you install the correct fan modules in your switch. Both the VSP 7254XSQ (fiber switch) and the VSP 7254XTQ (copper switch) use the same fan module models:

- EC7200BTF-E6 — 12 V BACK2FRONT SPARE FAN MODULES (INC 3 FAN MODULE KITS)
- EC7200FTB-E6 — 12 V FRONT2BACK SPARE FAN MODULES (INC 3 FAN MODULE KITS)

There are sensors inside the chassis that monitor the temperature. These sensors send information to a controller that automatically regulates the fan speed to maintain the proper temperature.

- If any sensor exceeds its threshold, an alarm is triggered and the log is generated in the format:

```
Temperature Sensor [CPU | MAC1 | MAC2] is ([value] C) has exceeded the alarm
threshold temperature ([value] C)
```

Important:

The system does not shutdown when it exceeds the threshold temperature.

- When the temperature cools by 2° below the threshold, the alarm clears and the log is generated in the format:

```
Temperature Sensor [CPU | MAC1 | MAC2] overheat temperature alarm cleared
```

There are three sensors in VSP 7254XSQ. The following table shows the types of sensors and the corresponding threshold values:

Table 13: VSP 7254XSQ Sensor threshold values

Sensor name	Warning threshold	Critical threshold
CPU	45	55
MAC	75	85
MAC2	75	85

There are four sensors in VSP 7254XTQ. The following table shows the types of sensors and the corresponding threshold values:

Table 14: VSP 7254XTQ Sensor threshold values

Sensor name	Warning threshold	Critical threshold
CPU	45	55
MAC	75	85
PHY1	75	85
PHY2	50	60

Use this procedure if a fan fails and you have to replace it.

Important:

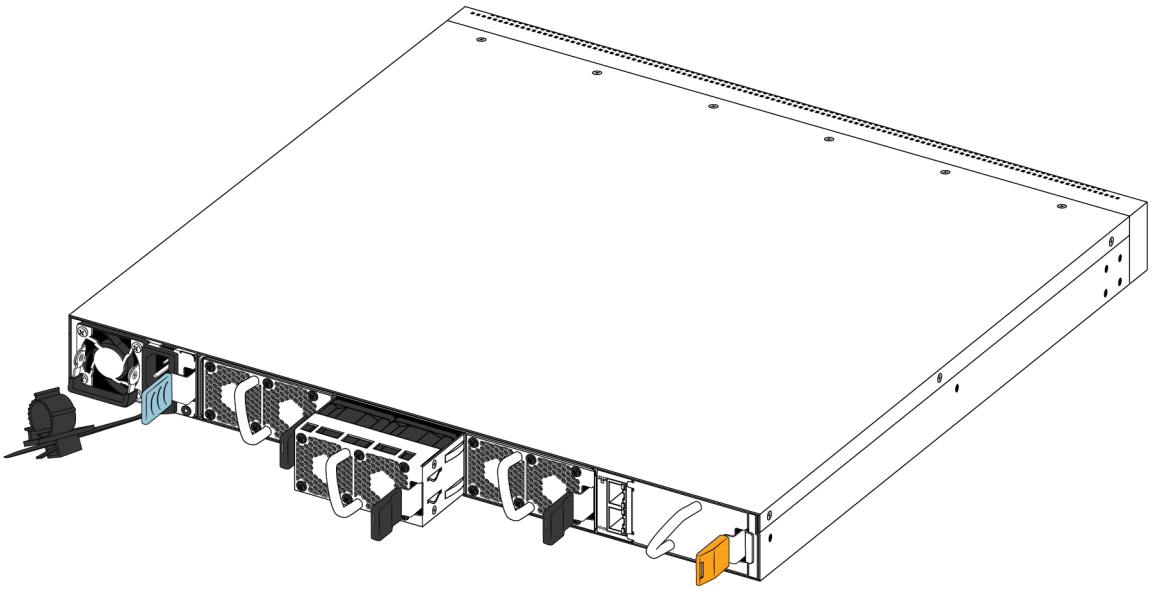
All three fan modules must be installed at all times to ensure proper ventilation. If a fan fails, replace it as soon as you can but leave it in place until you do. Leaving a fan bay unpopulated impairs the ability of the remaining fans to cool the chassis.

Procedure

1. Check the Fan LED on the front of the chassis. Solid green indicates that all fan modules are operating normally. Blinking amber indicates that a fan module failed.
2. Enter the following command to determine which fan module failed.

   ```
   show sys-info fan
   ```

   This command shows the status of each fan module: `up`, `down`, or `Not Present` when a fan is removed.
3. Remove the fan module that failed by pushing the tab on the spring latch to the left and pulling on the fan's extraction handle.



4. Insert the new fan module into the chassis.

Note:

You can hot swap fan modules while the switch is operational.

5. Verify that the fan module is fully seated in the chassis. The spring latch should engage and return to its original position.
6. Enter the following command to check the temperature sensors inside the switch.

   ```
   show sys-info temperature
   ```

Example

Check the status of the fan modules.

Note:

There are three fan modules in the VSP 7200 Series and each fan module has two fans for a total of six fans. Each fan has its own ID and the **`show sys-info fan`** command reports its status.

The Fan IDs are assigned from left to right as you face the back of the chassis. For the first fan module on the far left, the Fan IDs are 1 and 2, the next fan module has Fan IDs 3 and 4, and the fan module on the far right has Fan IDs 5 and 6.

```
VSP-7254XSQ:1>show sys-info fan
Fan Info :

Description   OperStatus       OperSpeed   AirflowDir
-------------------------------------------------------
Tray 1 Fan 1           up     mediumSpeed   front-back
Tray 1 Fan 2           up     mediumSpeed   front-back
Tray 2 Fan 1           up     mediumSpeed   front-back
Tray 2 Fan 2           up     mediumSpeed   front-back
Tray 3 Fan 1           up     mediumSpeed   front-back
Tray 3 Fan 2           up     mediumSpeed   front-back
```

Check the internal temperature of the switch.

Note:

The output of this command is different between the VSP 7254XSQ and the VSP 7254XTQ. An example of both is shown below.

```
VSP-7254XSQ:1>show sys-info temperature
Temperature Info :
    CPU Temperature    MAC Temperature   MAC2 Temperature
         25                 34                 29
```

```
VSP-7254XTQ:1>show sys-info temperature
Temperature Info :
    CPU Temperature    MAC Temperature   PHY1 Temperature   PHY2 Temperature
                30                 38                 32                 29
```

LED state definitions

The figures and tables in the following sections describe the LEDs on the VSP 7200 Series switch. The tables describe LED operation for a switch that finishes the power-on self-test.

Warning:

Fiber optic equipment can emit laser or infrared light that can injure your eyes. Never look into an optical fiber or connector port. Always assume that fiber-optic cables are connected to a light source.

Switch LEDs

The following table describes the main switch LED state indications provided by LED color and fluctuation cues.

Important:

In addition to the fan modules, each power supply also has a fan. The power supply stops working if a power supply fan fails, but there is no LED or software warning that indicates this failure. Try to recover the power supply fan by resetting the switch. If the fan does not recover, then replace the faulty power supply.

Table 15: Switch LED state indicators

Label	Color and Status	Description
PWR	Off	The switch is not receiving power and not operating.
	Green (steady)	The switch is receiving power from either one of the power supplies (if two power supplies are installed).
	Green (blinking)	The switch is resetting.
Status	Off	The switch is non-operational.
	Amber (steady)	The switch encountered an error when running the diagnostic software.
	Amber (blinking)	The switch is booting and running diagnostic software. This is normal activity during the boot process.
	Green (steady)	The switch loaded the agent software code and is operating normally.
	Green (blinking)	The switch is loading the agent software code.
RPS	Off	A second power supply is not present in either PSU1 or PSU2.
	Amber (steady)	The second power supply, which was operating in either PSU1 or PSU2, was removed from the chassis.
	Amber (blinking)	The second power supply in either PSU1 or PSU2 is present, but not supplying power to the switch.

Table continues…

Label	Color and Status	Description
	Green (steady)	The second power supply (in either PSU1 or PSU2) is present and operating normally as a redundant power supply (RPS).
Fan	Amber (steady)	A fan module has been removed.
	Amber (blinking)	A fan module has failed.
	Green (steady)	All fan modules are operating normally.

100 Mbps/1 Gbps/10 Gbps RJ-45 port LED state indicators

This section describes the RJ-45 copper port LED state indicators by color and fluctuation cues. The up arrow on the left indicates the top port; the down arrow on the right indicates the bottom port.

Table 16: 100 Mbps/1 Gbps/10 Gbps port LED state indicators

Label	Color and Status	Description
Link/Act	Off	There is no transceiver present and the port is administratively enabled.
	Amber (steady)	The port has a link in 100 Mbps mode.
	Amber (blinking)	The port has a link and data activity in 100 Mbps mode.
	Green (steady)	The port has a link in 1 Gbps mode.
	Green (blinking)	The port has a link and data activity in 1 Gbps mode.
	Green (slow blinking)	The port is administratively disabled.
	Blue (steady)	The port has a link in 10 Gbps mode.
	Blue (blinking)	The port has a link and data activity in 10 Gbps mode.

SFP and SFP+ port LED state indicators

This section describes the transceiver port LED state indicators by color and fluctuation cues. These ports use the LED on the left side of the port (**Link/Act**) to indicate whether or not the link is established and if a transceiver is present and active.

The LED on the right side of the port (**In Use**) indicates the operating speed of the transceiver.

Table 17: SFP/SFP+ port LED state indicators

Label	Color and Status	Description
Link/Act	Off	There is no transceiver present and the port is administratively enabled.
	Amber (steady)	The port is actively transmitting, but there is no link. This indicates a local fault.

Table continues…

Label	Color and Status	Description
	Amber (blinking)	The port received a remote fault indicator (RFI).
	Green (steady)	The port has established a link.
	Green (blinking)	The port has established a link and there is data activity.
	Green (slow blinking)	The port is administratively disabled.
In Use	Off	Operating at low speed (10 Mbps if SFP, 100 Mbps if SFP+)
	Green (steady)	Operating at mid speed (100 Mbps if SFP, 1 Gbps if SFP+)
	Green (blinking)	Operating at high speed (1 Gbps if SFP, 10 Gbps if SFP+)

QSFP+ port LED state indicators

This section describes the transceiver port LED state indicators by color and fluctuation cues. The **Link/Act**) indicates whether or not the link is established and if a transceiver is present and active.

Each 40 Gb QSFP+ port can be channelized into 4 x 10 Gb ports. To support channelization, each QSFP+ port has four status LEDs under the port. When the QSFP+ port is not channelized, only the LED on the left side of the port is used.

Table 18: SFP/SFP+ port LED state indicators

Label	Color and Status	Description
Link/Act	Off	There is no transceiver present and the port is administratively enabled.
	Amber (steady)	The port is actively transmitting, but there is no link. This indicates a local fault.
	Amber (blinking)	The port received a remote fault indicator (RFI).
	Green (steady)	The port has established a link.
	Green (blinking)	The port has established a link and there is data activity.
	Green (slow blinking)	The port is administratively disabled.

Management port LED state indicators

The management port is on the rear of the chassis between the fans and the right-hand power supply (PSU2). The management port is the RJ–45 jack above the console port.

The management port provides 10/100/1000 BaseT Ethernet connectivity and uses two bi-colored LEDs to indicate the activity and speed of the link.

- The LED on the top of the port (**Speed**) indicates the current speed of the port.
- The LED on the bottom of the port (**Link/Act**) indicates the status of the link and whether or not it’s active.

Table 19: Management port LED state indicators

Label	Color and Status	Description
Speed	Off	The port is operating at the low speed.
	Amber (steady)	The port is operating at mid speed.
	Green (steady)	The port is operating at high speed.
Link/Act	Off	The port has no data activity.
	Amber (steady)	The port has a fault.
	Amber (blinking)	The port is enabled, but it has not established a link.
	Green (steady)	The port has established a link, but there is no data activity.
	Green (blinking)	The port has established a link and there is data activity.
	Green (slow blinking)	The port is administratively disabled.

Enterprise Device Manager (EDM) representation of physical LED status

EDM displays the same LEDs that you see on the physical device.

Note:

LED blinking in EDM is representative of, but not identical to, the actual LED blinking rates on the switch.

For more information about the LEDs and a description of the blinking rates, see the preceding LED sections.

Installing the switch in an equipment rack

There are two ways to install the switch in an equipment rack. Refer to one of the following sections:

- Slide Rack Mount Kit-This is a separately ordered option that you can use to install your switch in an equipment racks that range from 300mm to 900mm deep. For installation instructions, see Using the optional slide rack mount kit on page 41.
- Brackets-The switch comes with brackets that you can install on the chassis.

For installation instructions, see Using the supplied bracket on page 71.

Before you begin

- Ensure that you have a space of 1.75 inches (4.45 centimeters) in height for each switch in an EIA or IEC-standard 19-inch (48.2-centimeter) equipment rack.
- The rack is bolted to the floor and braced if necessary.

- The rack is grounded to the same grounding electrode used by the power service in the area. The ground path must be permanent and must not exceed 1 Ohm of resistance from the rack to the grounding electrode.

About this task

Caution:

When you mount the device in a rack, do not stack units directly on top of one another. You must secure each unit to the rack with the appropriate mounting brackets. Mounting brackets cannot support multiple units. For a translation of this statement, see Translations of safety messages on page 78.

Using the optional slide rack mount kit

The Universal Slide Rack Mount Kit is adjustable so that you can install your switch in equipment racks of different sizes. Use the following procedures to install your switch in equipment racks with a depth from 300mm to 900mm.

This kit is a separately ordered item (Part # EC8011002).

Note:

The illustrations show the VSP 7200 Series as an example, but the instructions apply to any switch in the VSP 7200 Series and VSP 8000 Series.

For instructions see:

- Inventory of slide components on page 41
- Installing slides in a 300mm-600mm equipment rack on page 49
- Installing slides in a 600mm-900mm equipment rack on page 57
- Important notice about rack safety on page 70
- Removing the switch from an equipment rack on page 70

Warning:

If you pull the switch all the way out on the slide rails, there is a danger of the rack tipping over. For more information and guidelines, see Important notice about rack safety on page 70.

Inventory of slide components

This section describes the slide components and their features.

The shipping carton contains the following components:

- Two 300mm-600mm slides (default configuration)
- Two extension brackets for the 600mm-900mm configuration
- Two long rear brackets for the 600mm-900mm configuration
- Bag of screws

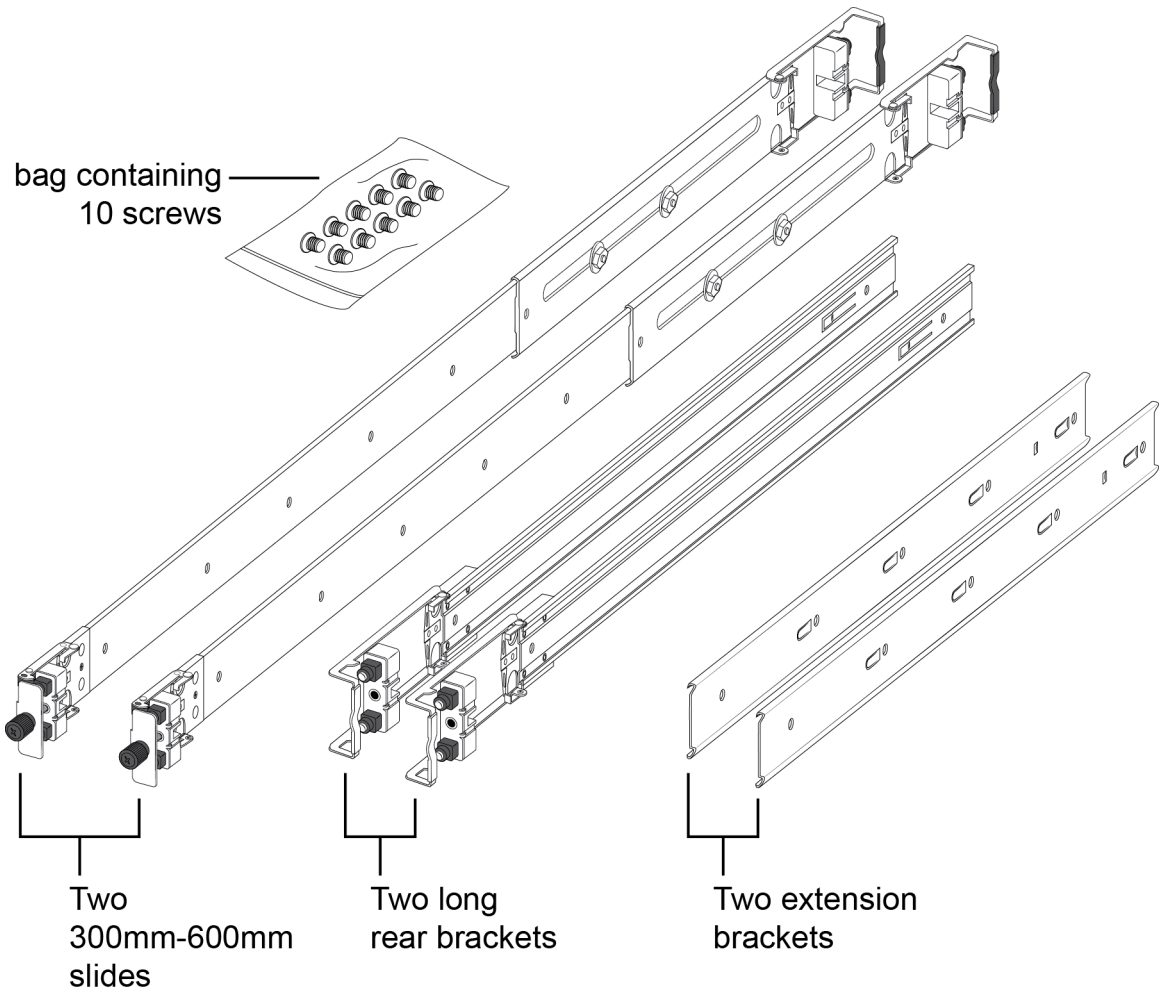


Figure 6: Shipping components

Rails

The following figure shows a slide rail in the default configuration for a 300mm-600mm equipment rack. This configuration comes with the short rear bracket installed. The slide rail actually consists of two separate rails that slide into each other:

- Rack rail—This rail is the main component that connects to the equipment rack.
- Chassis rail—This rail is embedded in the rack rail. Later, the installation instructions explain how to detach these two rails and install the chassis rail onto your switch.

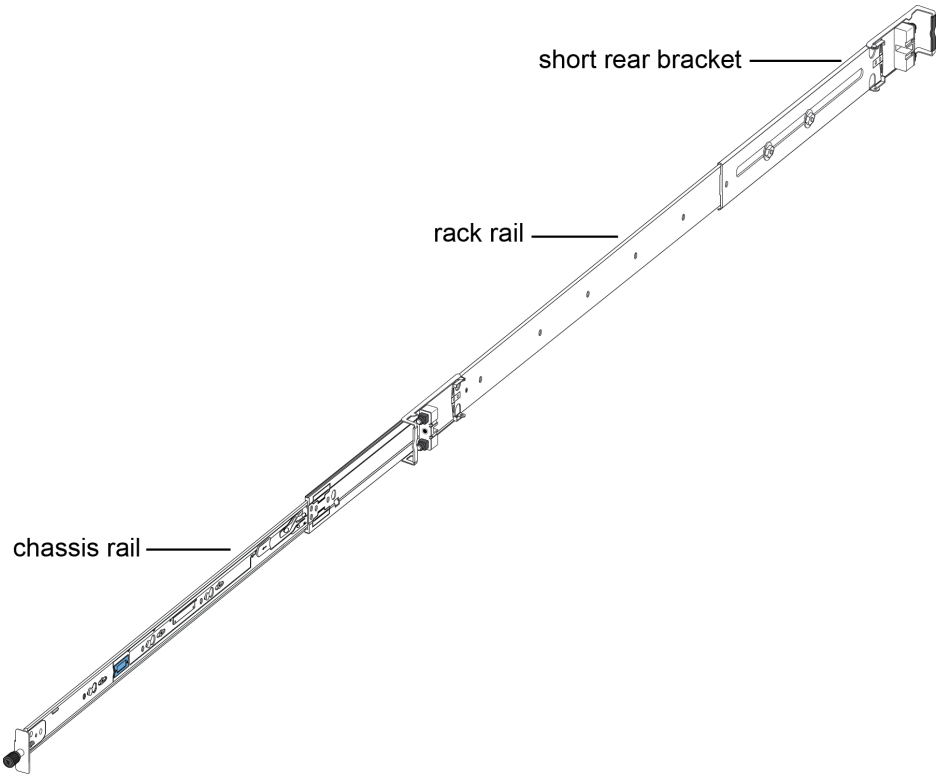


Figure 7: Rails

Brackets

There are three different brackets:

- Short rear bracket—The slide rail kit comes with this bracket installed for the 300mm-600mm default configuration.

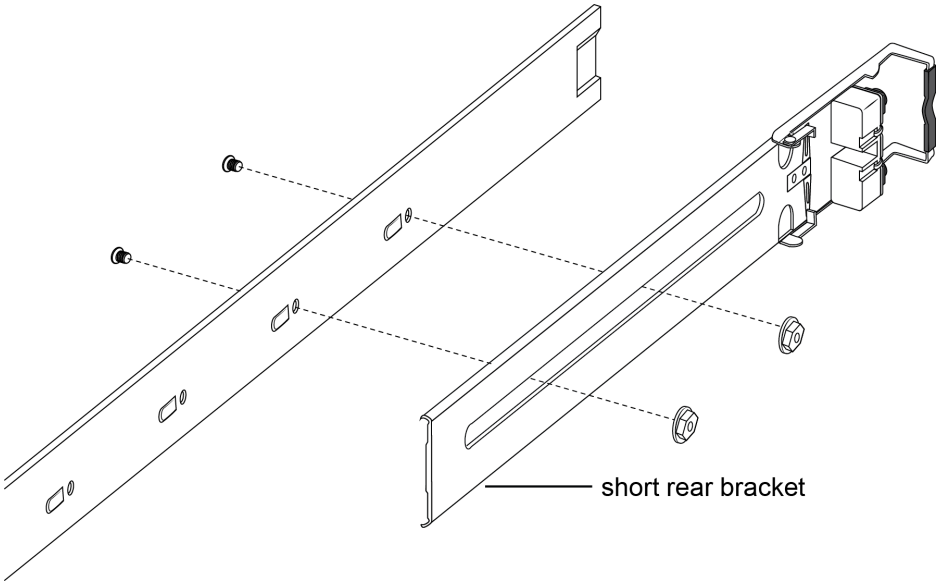


Figure 8: Short rear bracket

- Extension bracket—This bracket connects to the rack rail to lengthen it for a 600mm-900mm configuration.
- Long rear bracket—This bracket replaces the short rear bracket to modify the slide rail for a 600mm-900mm configuration.

The following figure shows the extension bracket and the long rear bracket. Both are used for a 600mm–900mm configuration.

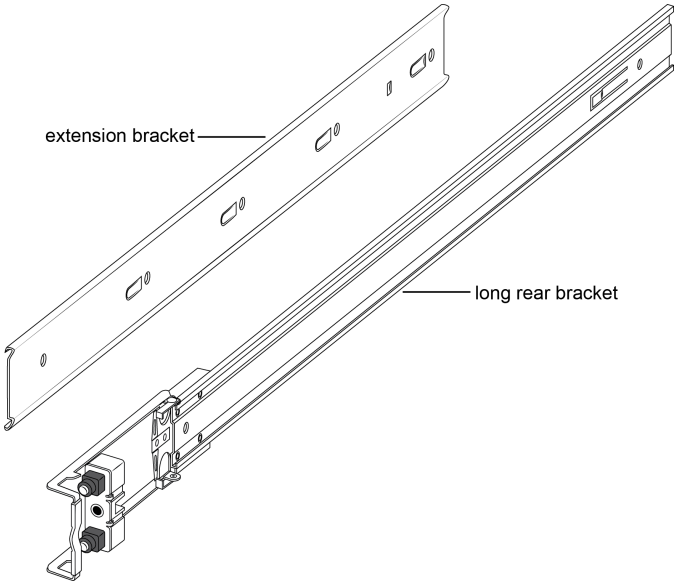


Figure 9: Extension and long rear brackets

Locks and latches

This section describes the locks and latches on the rails and where they are located.

The thumbscrew lock and the two release latches are on the chassis rail as shown in the following figure

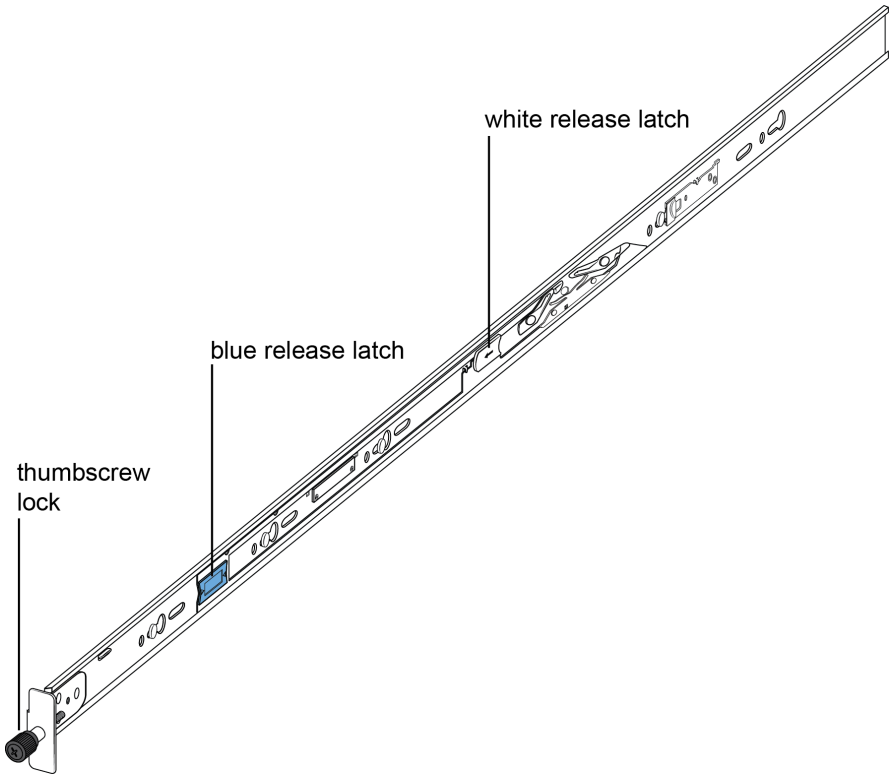


Figure 10: Thumbscrew lock and release latches

- Thumbscrew lock—This feature is on the front end of the chassis rails, and is used to lock the switch in the home position of the equipment rack.

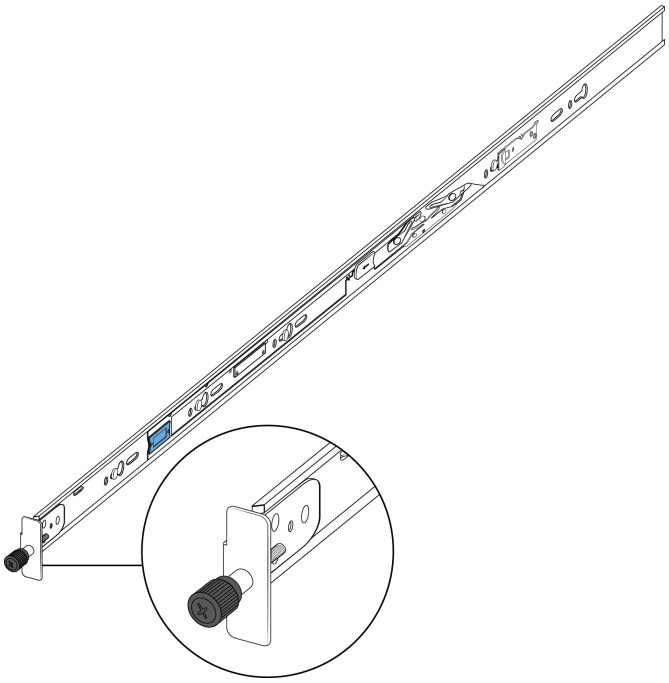


Figure 11: Thumbscrew lock

- White release latch—This latch is the white, plastic tab on the chassis rails.
  - When you first install the slide rails, use these latches to disconnect the chassis rail from the rack rail so you can install the chassis rail on the switch.
  - After you install the switch in a rack, you can use the white release latches to remove a switch from an equipment rack, if necessary.

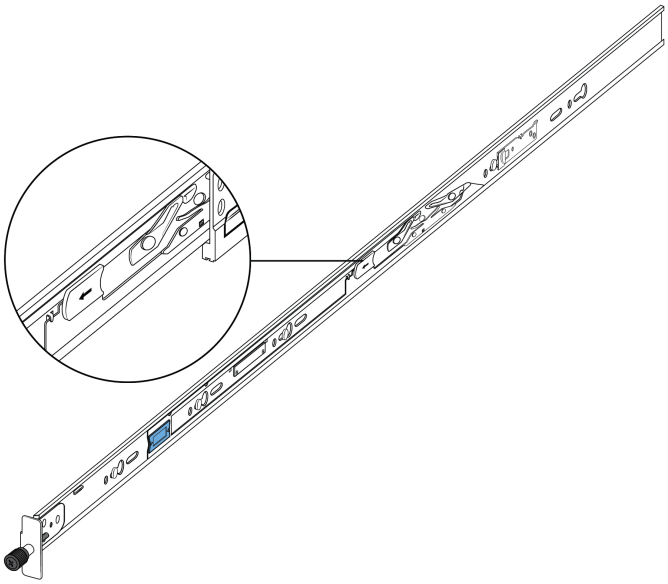


Figure 12: White release latch

- Blue release latch—This latch is a blue, plastic tab that is also on the chassis rail. Use these latches to slide the switch into the equipment rack.

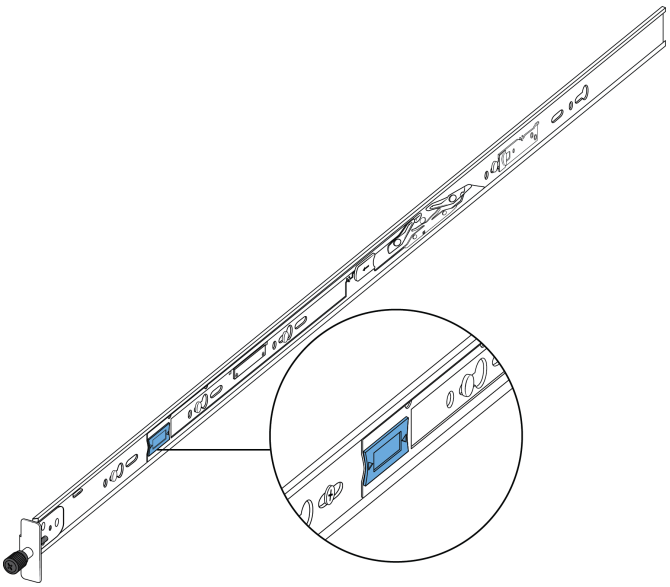


Figure 13: Blue release latch

- Blue locking mechanism—This locking mechanism is on the rack rails. They have a blue label with an arrow.

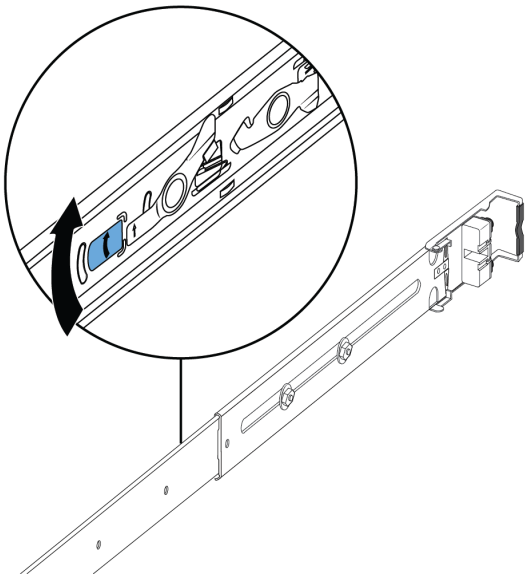


Figure 14: Blue locking mechanism

- When you first install the slide rails and you fully extended the rail, you can lift the locking mechanism to release the rail so it can slide back into the main part of the unit.
- When you install the switch in a rack and then pull the switch out, this mechanism automatically locks the slide rail in a fully extended position.

• Retaining latch—These latches are on the front and back of the slide rails. Use the hooks on these latches to wrap around the frame of the equipment rack and lock the rail into place.

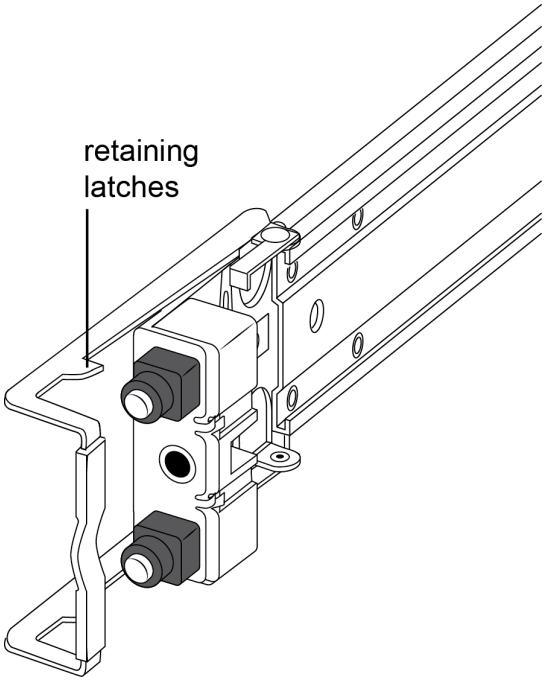
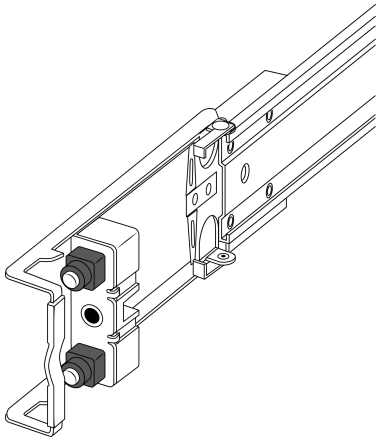
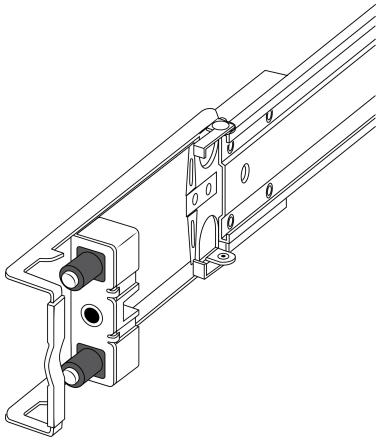


Figure 15: Retaining latches

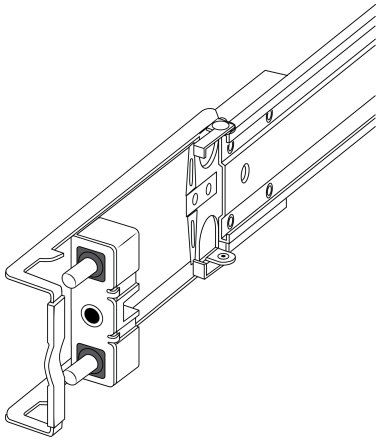
- Pin block—The pin block supports equipment racks with different shaped holes.
  - For racks with square holes, the pin block fits right into the holes in the rack.



  - For racks with large round holes, the pin block retracts halfway when you insert the rail into the rack.



  - For racks with small round holes, the pin block retracts all the way when you insert the rail into the rack.



Installing slides in a 300mm-600mm equipment rack

Use the following procedure to install your switch in an equipment rack with a depth between 300mm and 600mm.

Before you begin

Note:

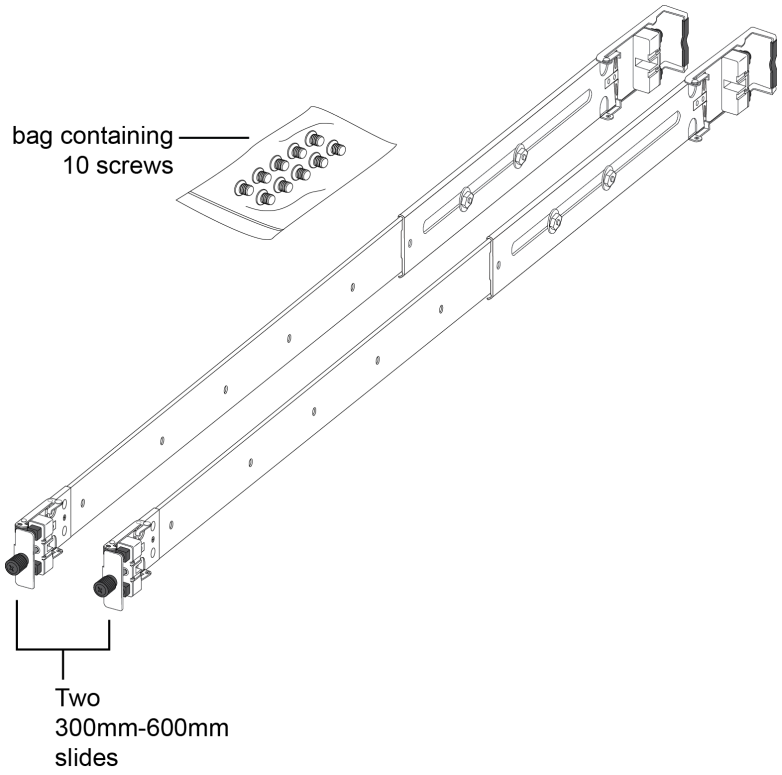
The Slide Rack Mount Kit is fairly complex due to its versatile design. To make your installation easier, read the Inventory of slide components on page 41 section to familiarize yourself with the slide components and features.

Procedure

1. Disconnect the power cord from the switch.
2. Open the shipping carton and remove the bag of screws and the two slides used in 300mm-600mm racks.

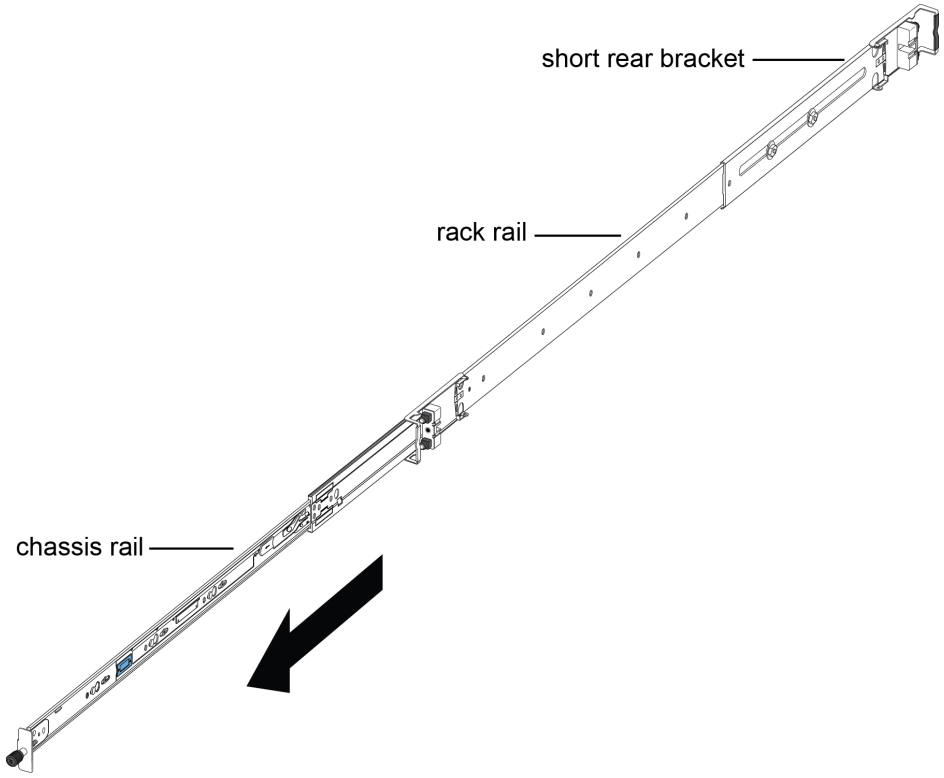
   Note:

   The 300mm-600mm slides are the default configuration. The remaining parts in the carton (including the bag of screws) are for installing the chassis in a 600mm-900mm. Save them for potential future use.

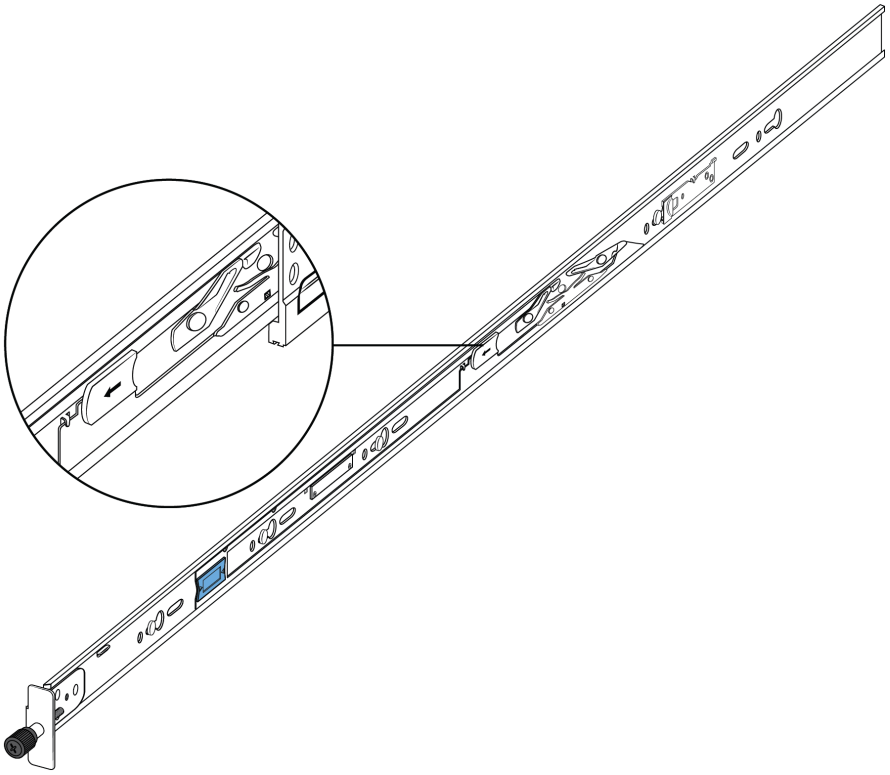


3. Use the following steps to detach the chassis rail from the slide's rack rail:
   a. Loosen the thumbscrew lock on the front of the rail.

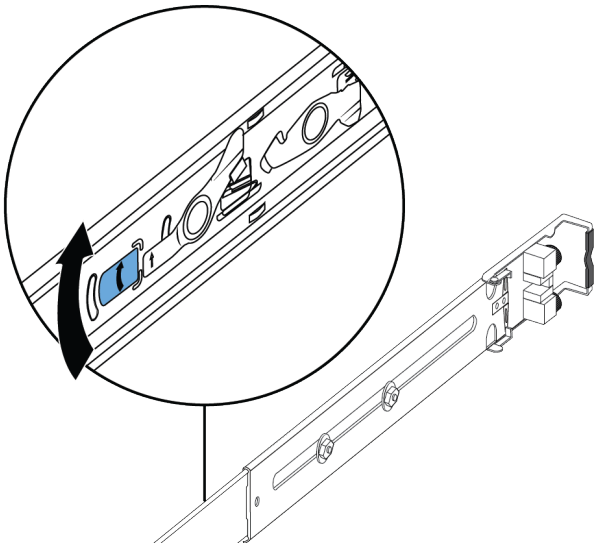
b. Pull the inner chassis rail and slide it out as far as you can.



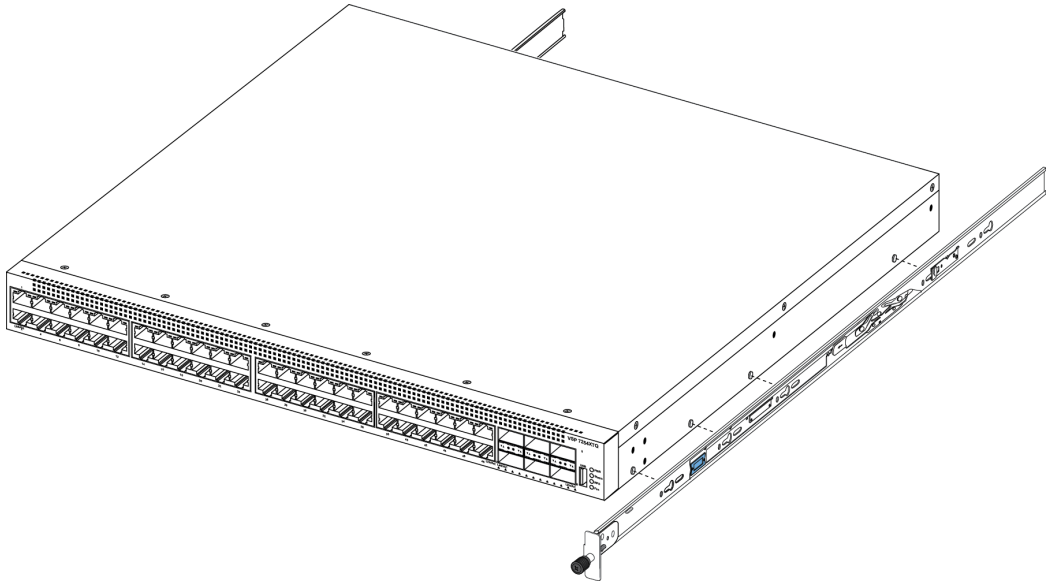
c. Slide the white release latch in the direction of the arrow stamped on the lock and pull the chassis rail out of the rack rail.



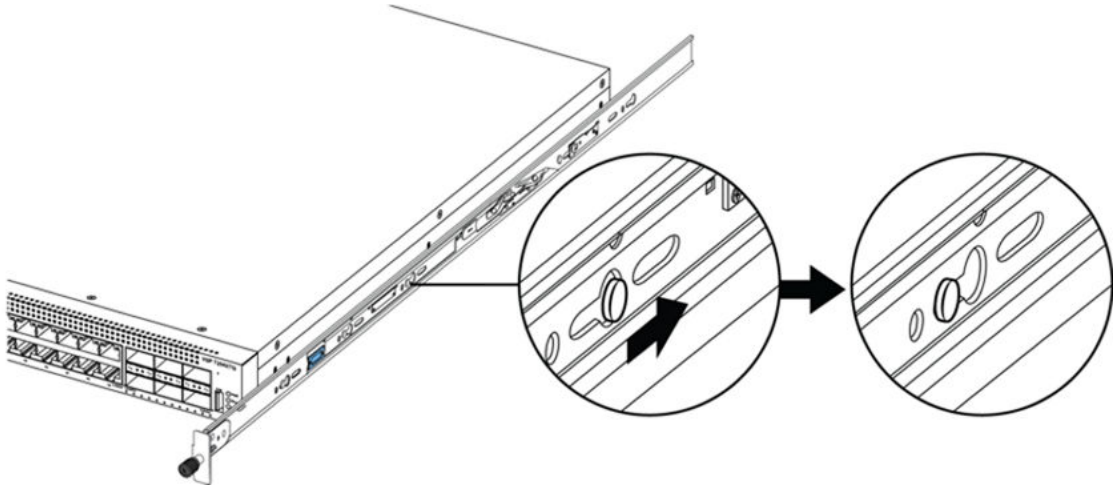
4. Lift the blue locking mechanism on the rack rail to slide the outer section back into the main section.



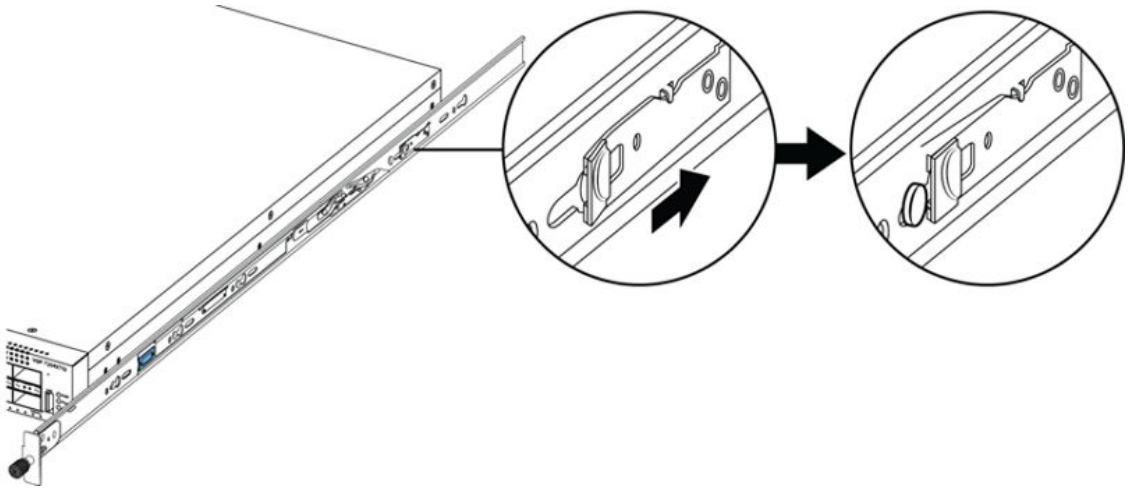
5. Use the following steps to attach the chassis rail to the chassis:
   a. Orient the chassis rail with the thumbscrew lock towards the front and position the rail over the standoffs on the chassis.



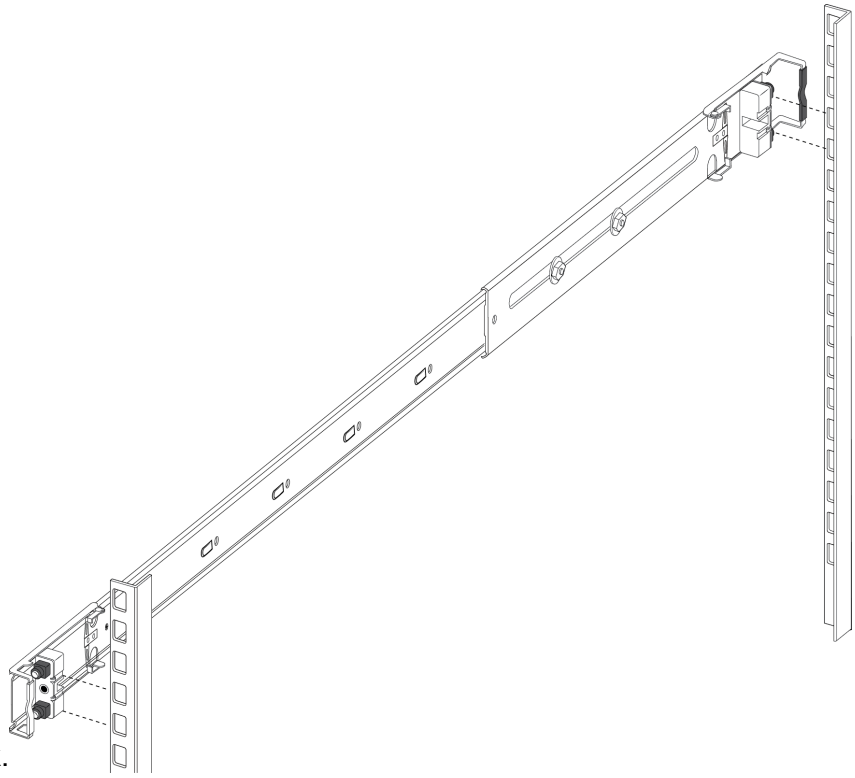
   b. Slide the chassis rail to the rear until the rail locks into the standoffs.



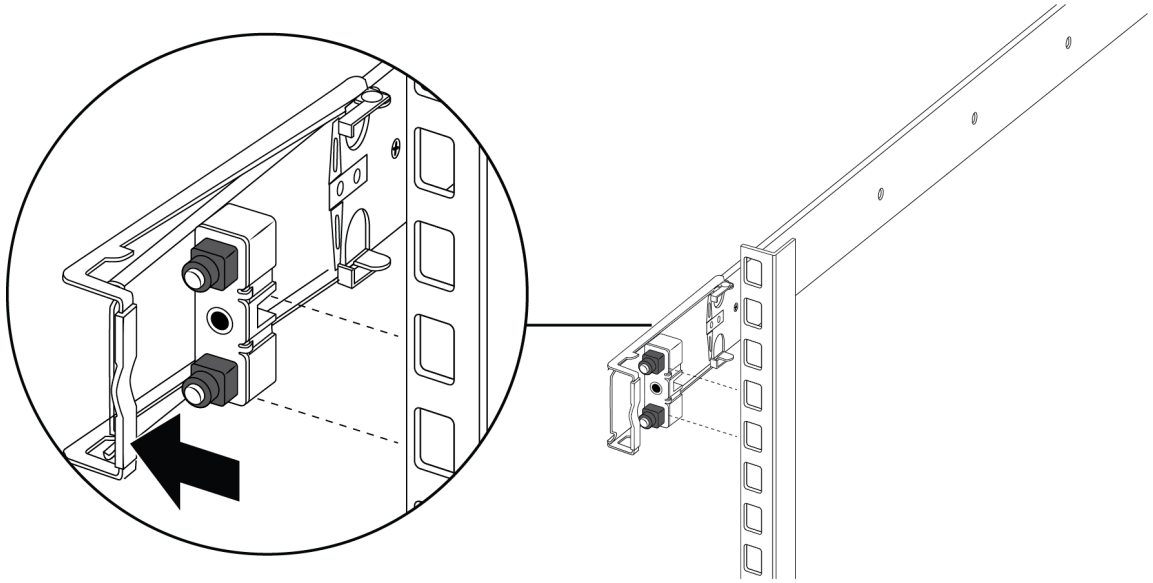
   c. Make sure the safety tab locks into place.



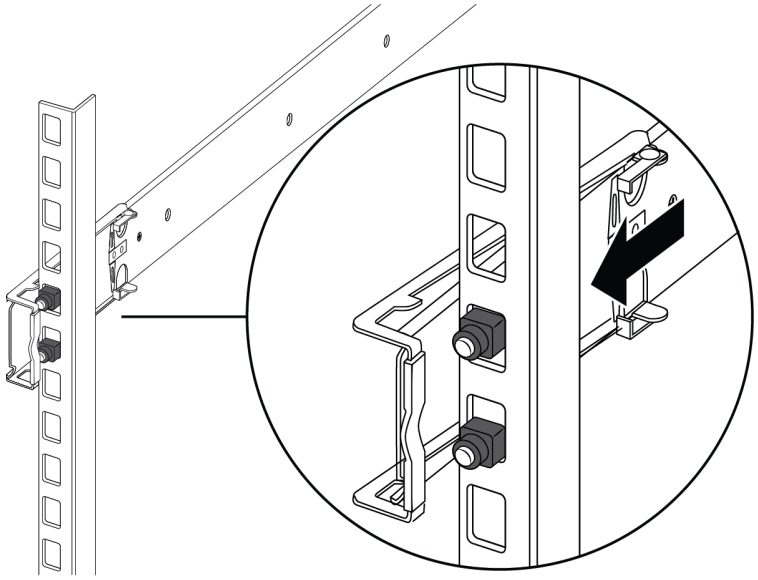
6. Use the following steps to secure the rack rails to the frame:
   a. Orient the rack rail so that the end with the black retaining latch is facing front.
   b. Adjust the length of the rack rail so it fits the rack depth by loosening the two screws on the rack rail and adjusting the length. Make sure the screws are tight before you install the slides in the rack.



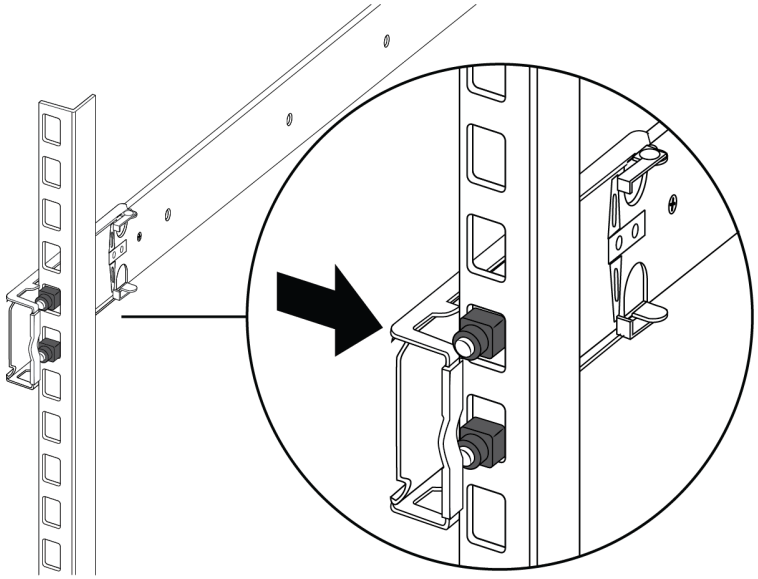
c. Push the end of the retaining latch out so it opens up.



d. Insert the bracket pins into the desired holes in the frame. The pin block accommodates three different rack types. In the default position, the pin block fits into racks with square holes. When retracted halfway, it fits into racks with large round holes. When fully retracted, it fits into racks with small round holes.



e. Close the retaining latch so that it wraps around the frame and locks into place.

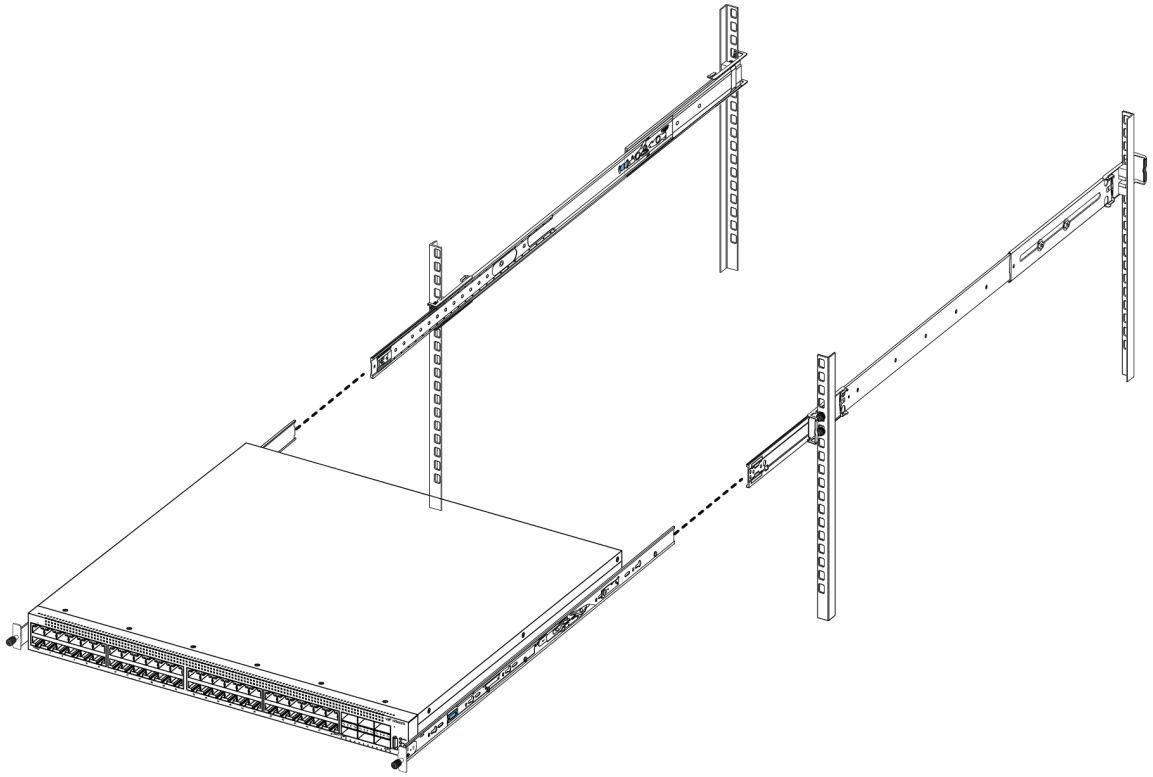


f. Repeat the above steps on the rear bracket.

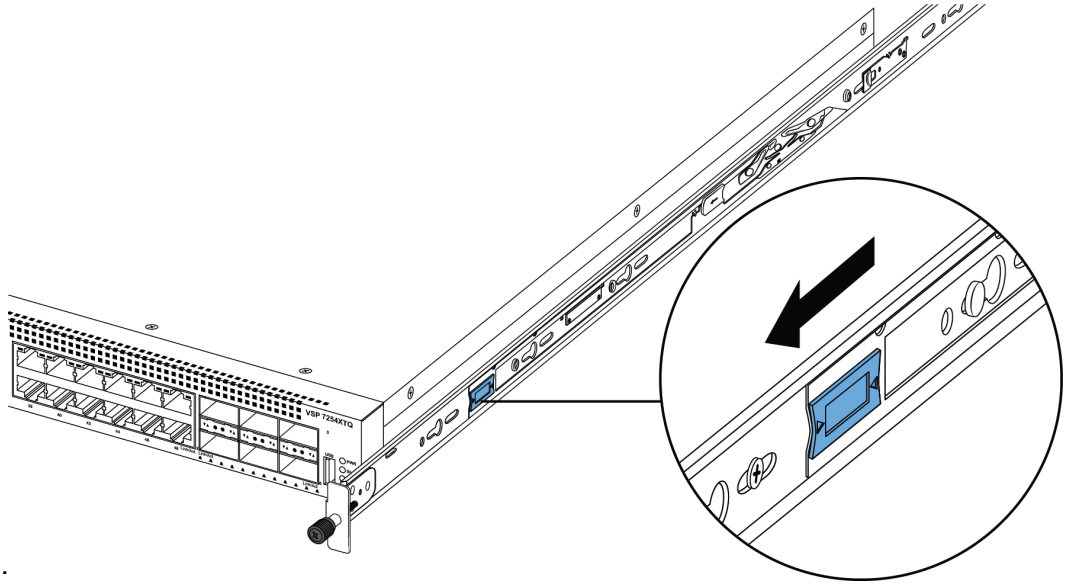
g. Repeat these steps for the rack rail on the other side of the frame.

7. Use the following steps to install the switch in the equipment rack to complete the installation:

   a. Insert the chassis rails on the switch into the rack rails on the frame.



b. Pull the blue latches on the chassis rails towards the front and slide the switch into the

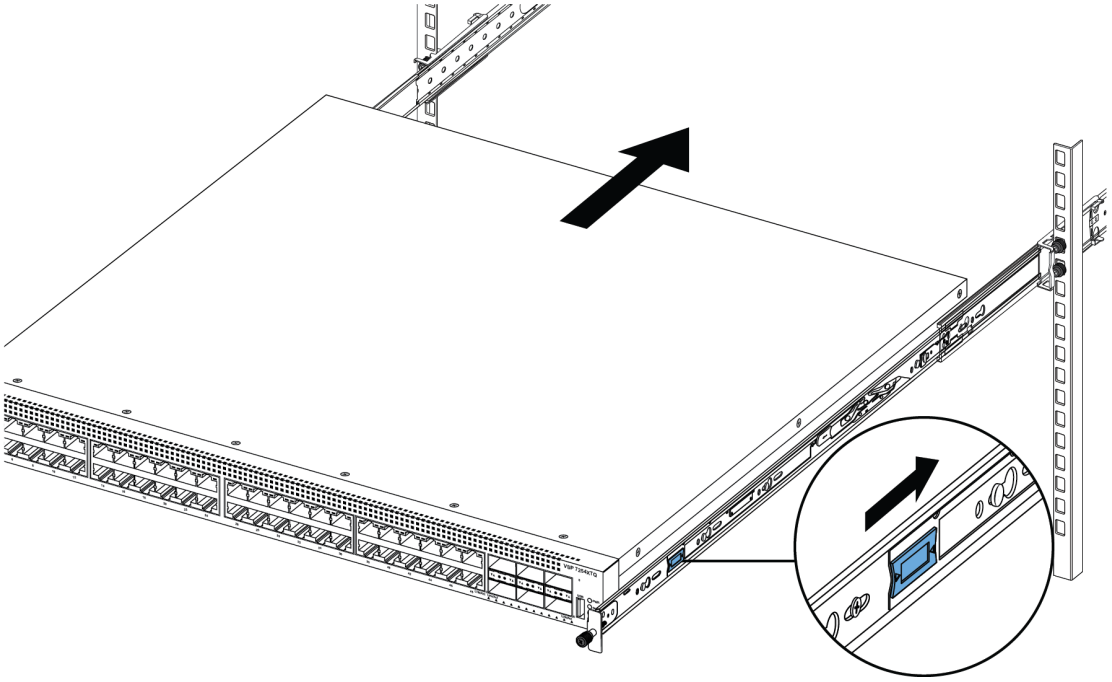


frame.

Note:

After you install the switch in a rack, slide it out until the lock (shown above) engages.

To slide the switch back into the rack, push the blue release latches on the chassis rails towards the back and slide the switch into the frame.



8. Connect power and network connections to the switch.

Installing slides in a 600mm-900mm equipment rack

Use the following procedure to install your switch in an equipment rack with a depth between 600mm and 900mm.

Before you begin

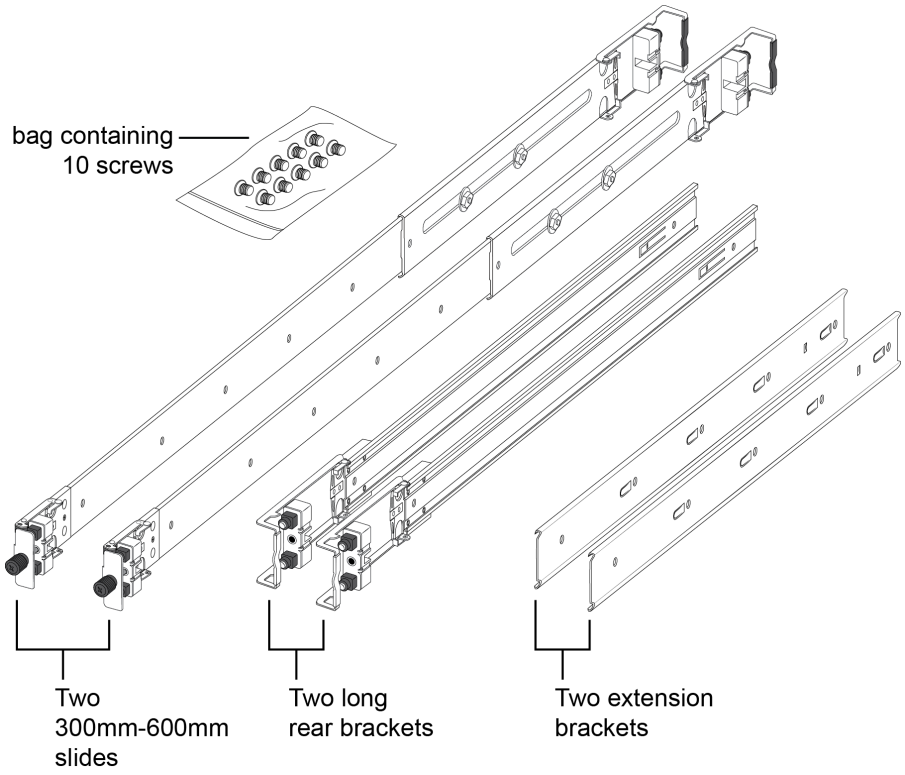
Note:

The Slide Rack Mount Kit is fairly complex due to its versatile design. To make your installation easier, read the Inventory of slide components on page 41 section to familiarize yourself with the slide components and features.

Procedure

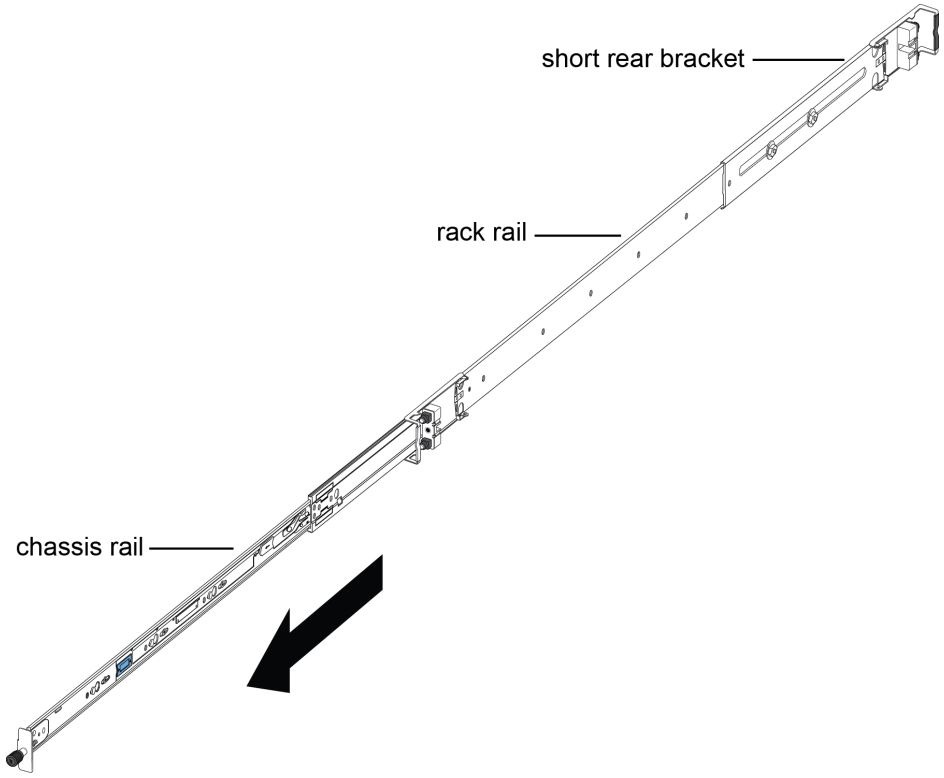
1. Disconnect the power cord from the switch.
2. Open the shipping carton.

   The 300mm-600mm slides are the default configuration. Use the remaining parts in the carton for converting the 300mm-600mm slides to 600mm-900mm slides.

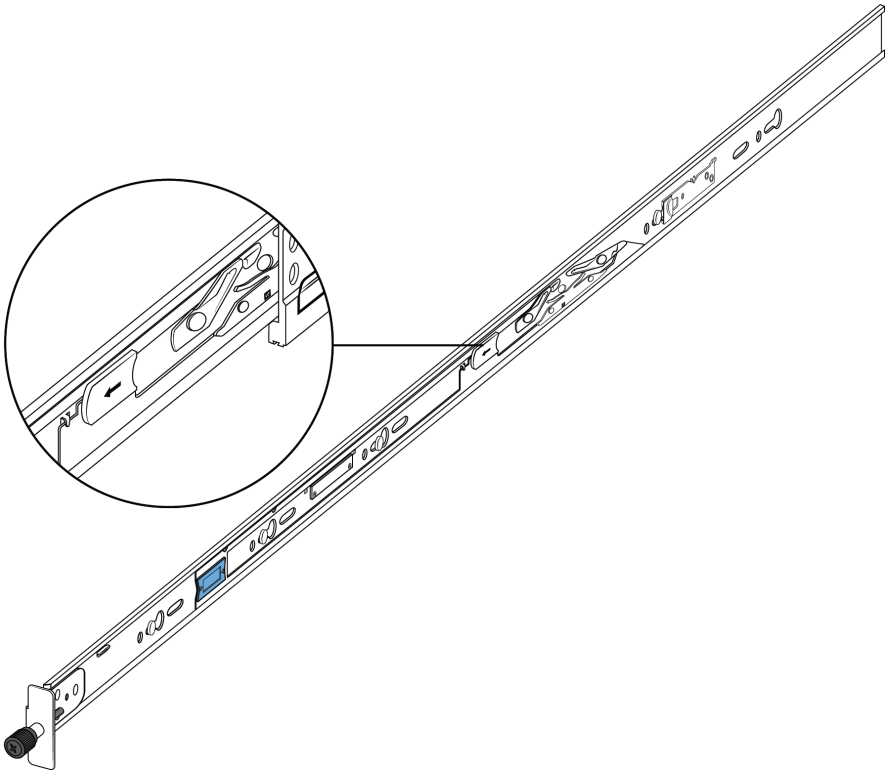


3. Use the following steps to detach the chassis rail from the slide's rack rail:
   a. Loosen the thumbscrew lock on the front of the rail.

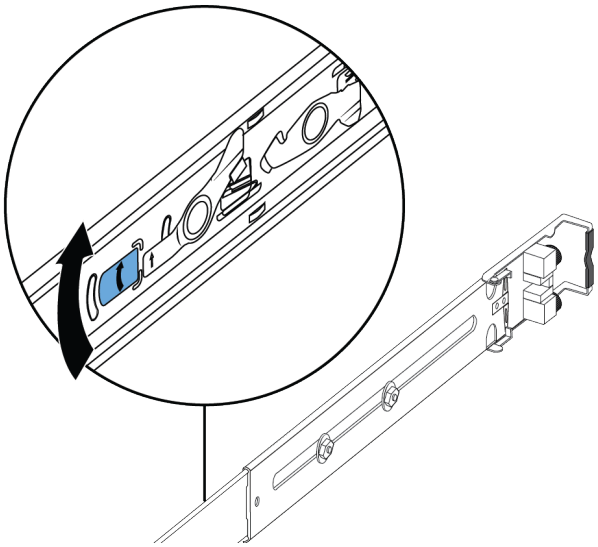
b. Pull the inner chassis rail and slide it out as far as you can.



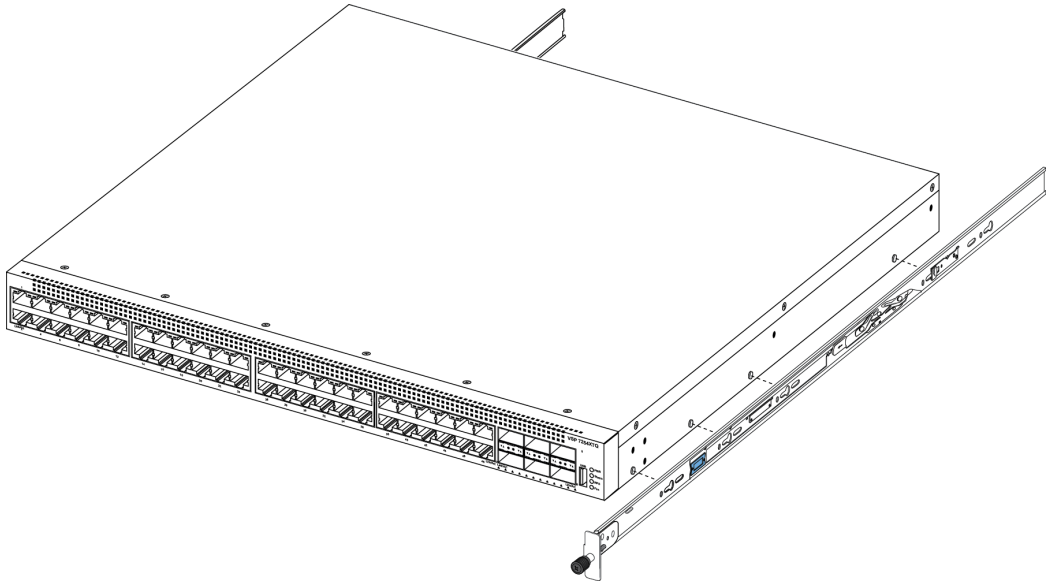
c. Slide the white release latch in the direction of the arrow stamped on the lock and pull the chassis rail out of the rack rail.



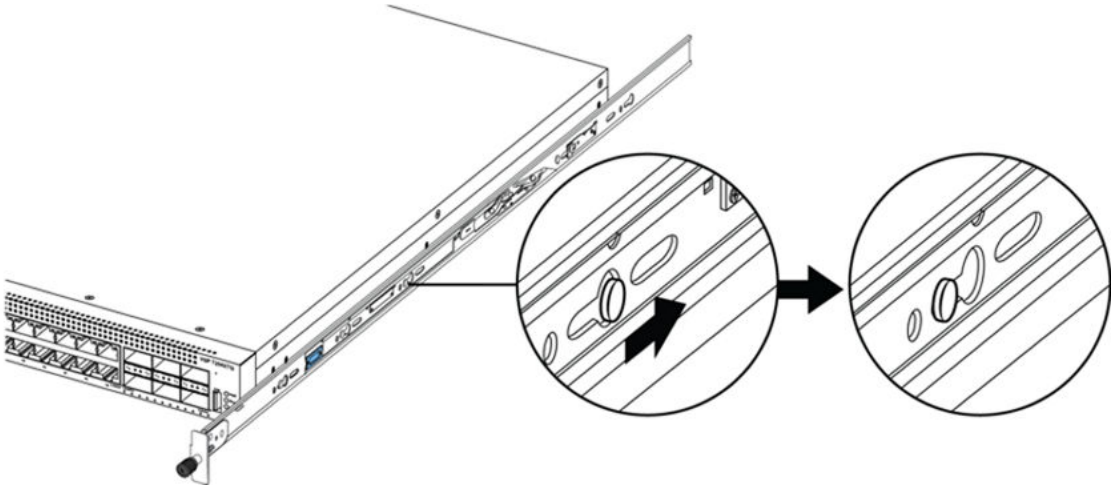
4. Lift the blue locking mechanism on the rack rail to slide the outer section back into the main section.



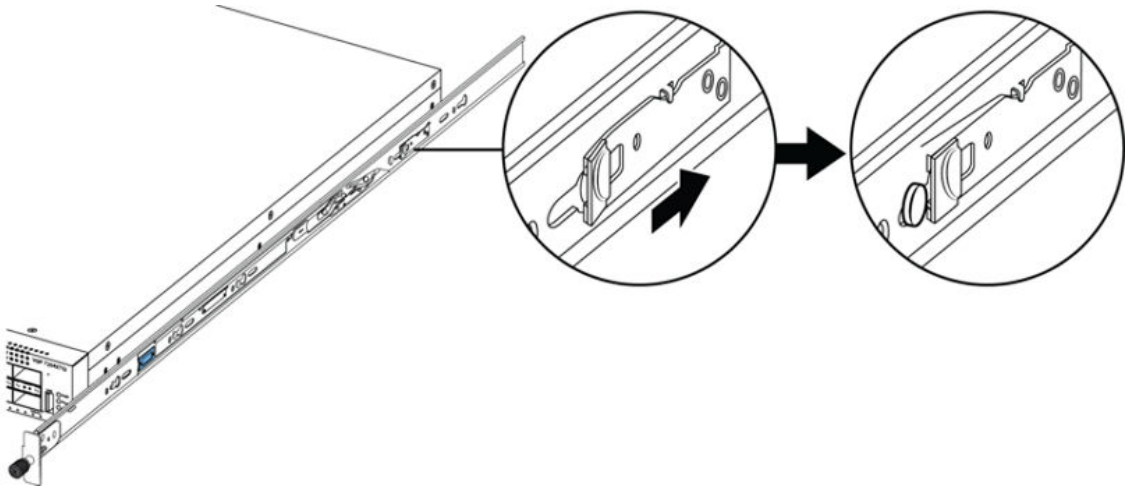
5. Use the following steps to attach the chassis rail to the chassis:
   a. Orient the chassis rail with the thumbscrew lock towards the front and position the rail over the standoffs on the chassis.



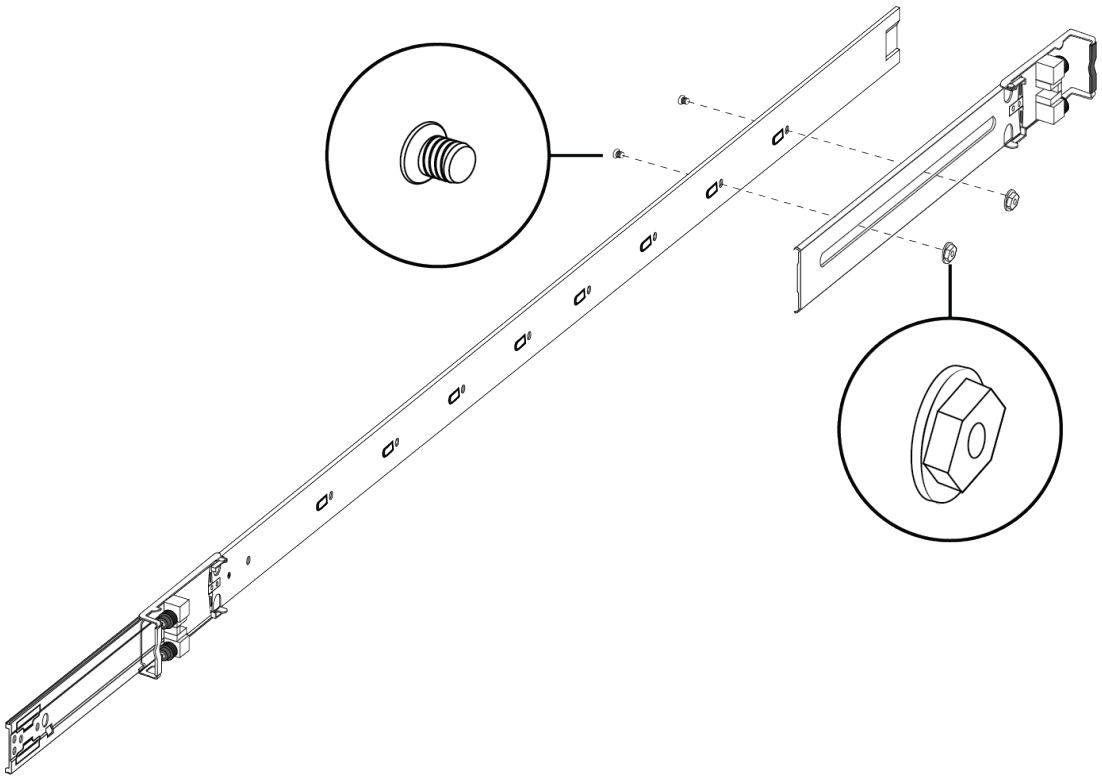
   b. Slide the chassis rail to the rear until the rail locks into the standoffs.



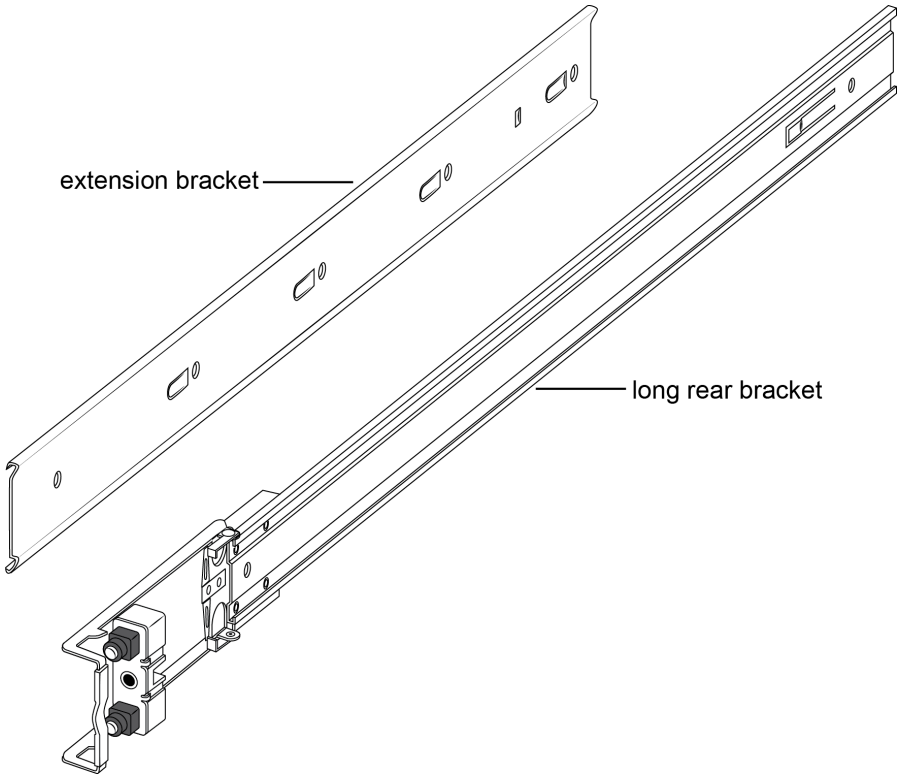
   c. Make sure the safety tab locks into place.



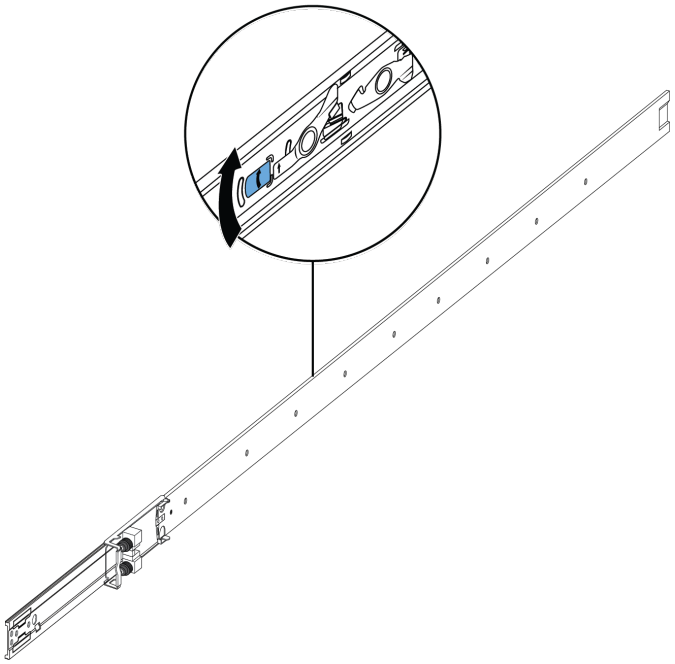
6. Remove the two screws and nuts securing the short rear bracket to the rack rail. This bracket is for 300mm-600mm equipment racks only and is not used in this installation. Save the bracket for possible future use.



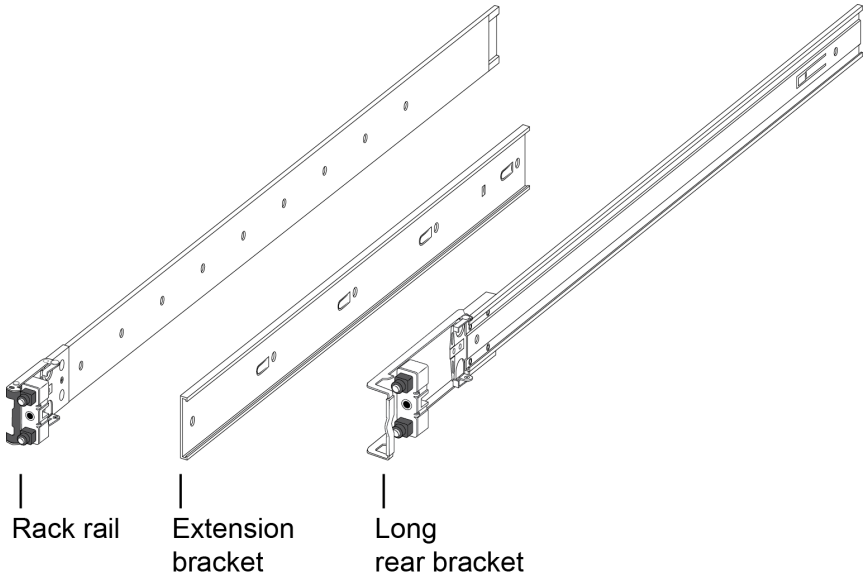
7. Identify the extension bracket and the long rear bracket. Use these brackets to extend the rack rail for 600mm-900mm racks.



8. Use the countersink screws with the following steps to attach the extension bracket to the rack rail:
   a. Push the blue release lock up and slide the middle rail out as far as possible.



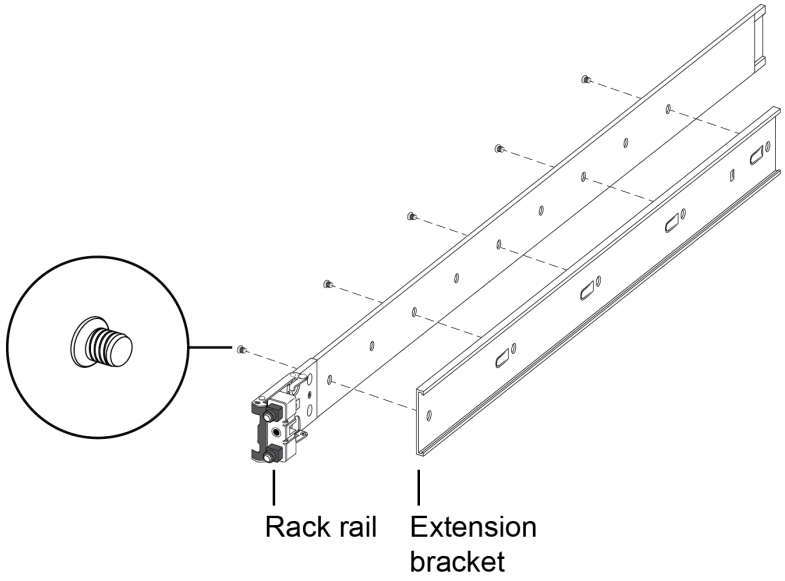
   b. Note the order and position of how the components are installed. The extension bracket (with the flat side down) goes on top of the rack rail and then the long rear bracket slides into the extension bracket.



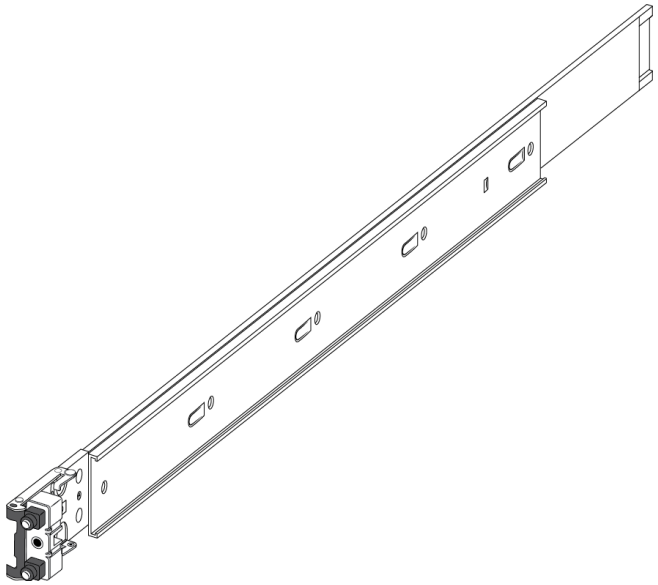
   c. Orient the extension bracket over the holes in the rack rail.

Note:

Using the bag with ten M4 screws, attach the extension bracket to the rack rail by inserting the screws from the rack rail side and then into the extension bracket.



The following figure shows the extension bracket attached to the rack rail.



d. Insert the long rear bracket into the extension bracket assembly.

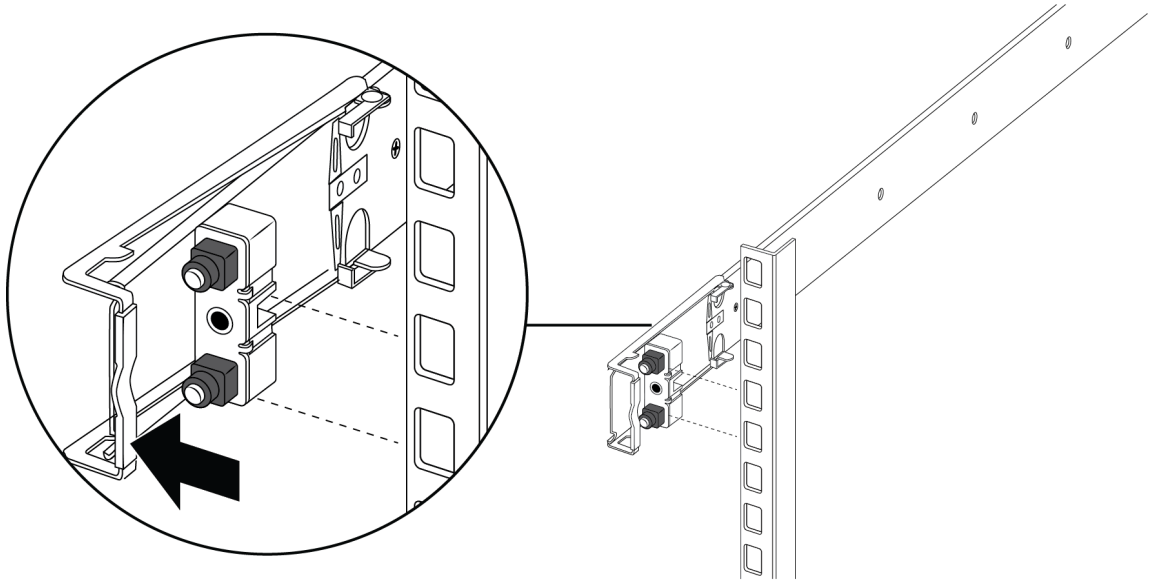
e. Install the first two screws on the end of the long rear bracket.

f. Lift the blue locking mechanism and slowly slide the rail back into the main assembly. This exposes a “window” over the screw holes so you can install the remaining three

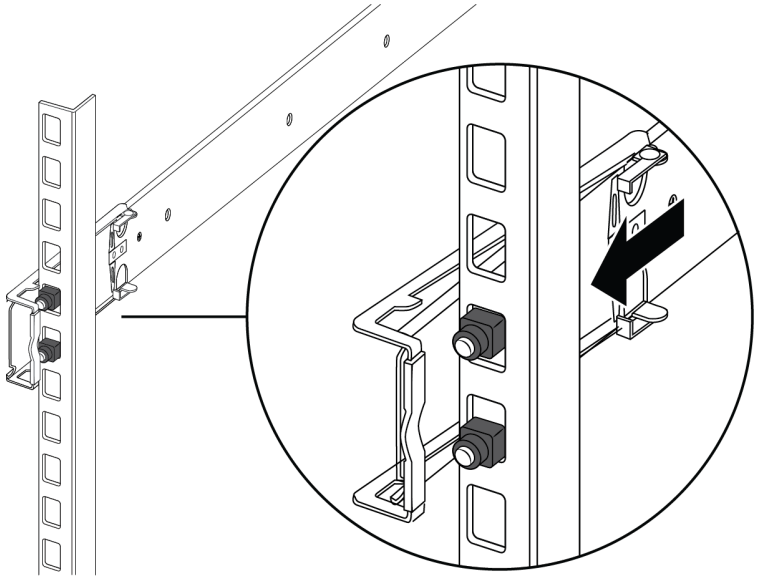
screws one at a time.

9. Use the following steps to secure the rack rails to the frame:
    a. Orient the rack rail so that the end with the black retaining latch is in the front of the rack.
    b. Adjust the length of the rack rail so it fits the rack depth by sliding the long rear bracket into the extension bracket.

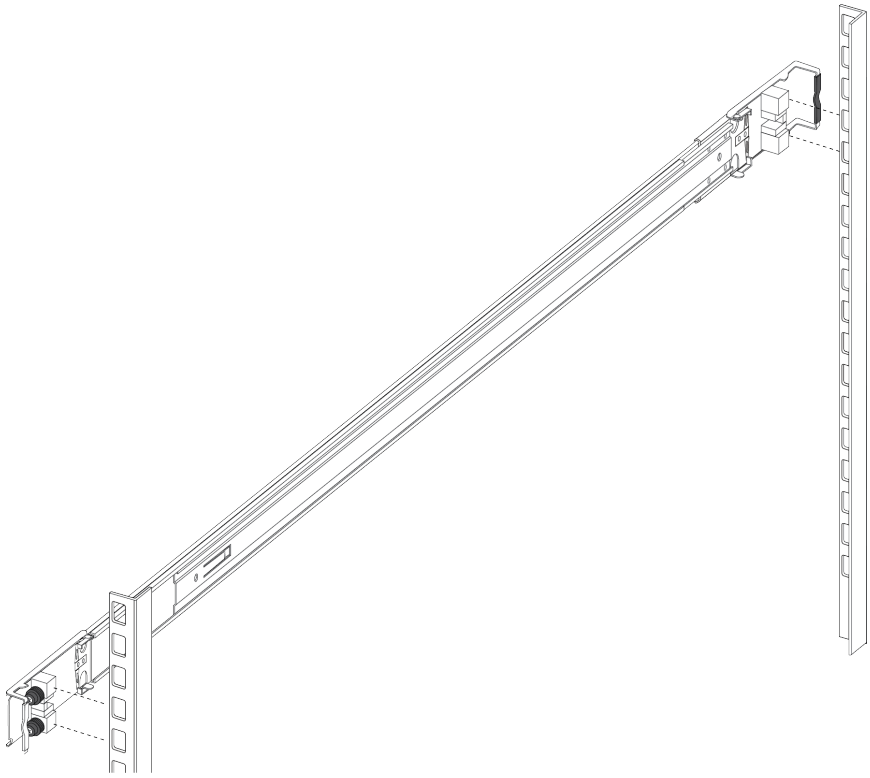
c. Push the end of the retaining latch out so it opens up.



d. Insert the bracket pins into the desired holes in the frame. The pin block accommodates three different rack types. In the default position, the pin block fits into racks with square holes. When retracted halfway, it fits into racks with large round holes. When fully retracted, it fits into racks with small round holes.



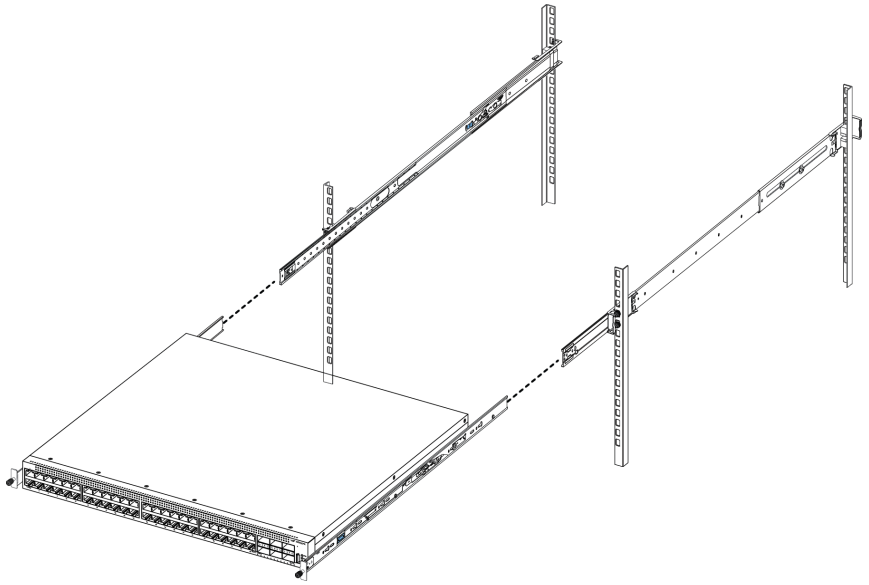
e. Close the retaining latch so that it wraps around the frame and locks into place.



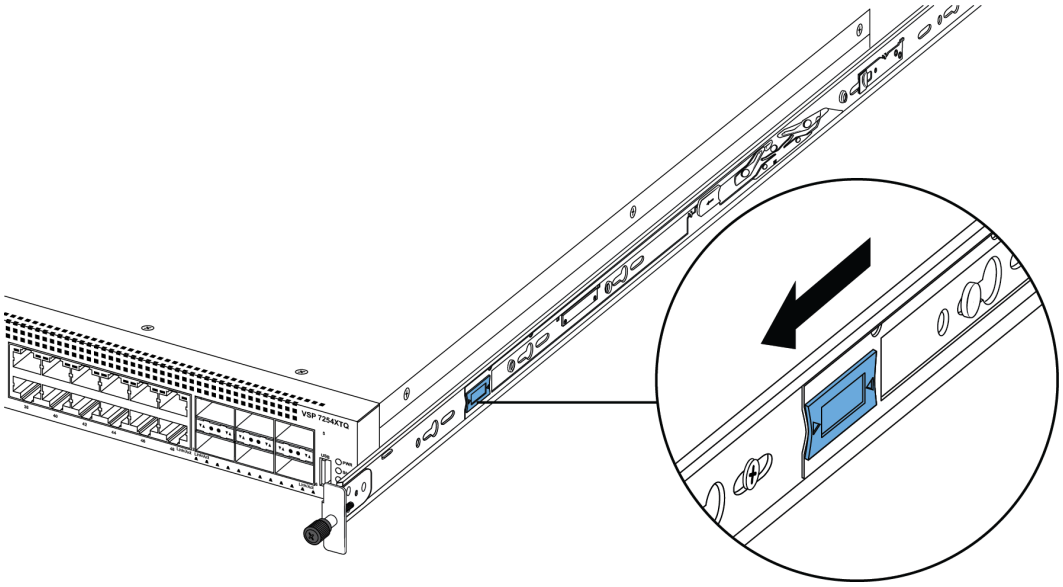
f. Repeat the above steps on the rear bracket.

10. Repeat these steps for the rack rail on the other side of the frame.
11. Use the following steps to install the switch in the equipment rack to complete the installation:

    a. Insert the chassis rails on the switch into the rack rails on the frame.



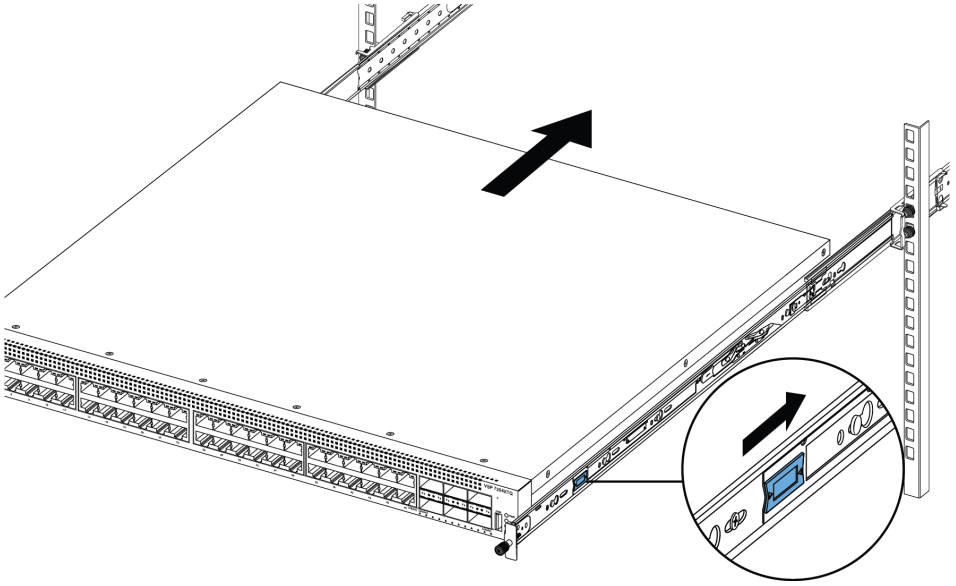
b. Pull the blue release latches on the chassis rails towards the front and slide the switch into the frame.



Note:

After you install the switch in a rack, slide it out until the lock (shown above) engages.

To slide the switch back into the rack, push the blue locks on the chassis rails towards the back and slide the switch into the frame.



12. Connect power and network connections to the switch.

Important notice about rack safety

One prerequisite to installing the switch in an equipment rack is to bolt the equipment rack to the floor.

Warning:

If you pull the chassis all the way out on the slide rails, there is a danger of the rack tipping over if the rack is not bolted to the floor. This can happen even if there are other devices installed in your equipment rack.

Removing the switch from an equipment rack

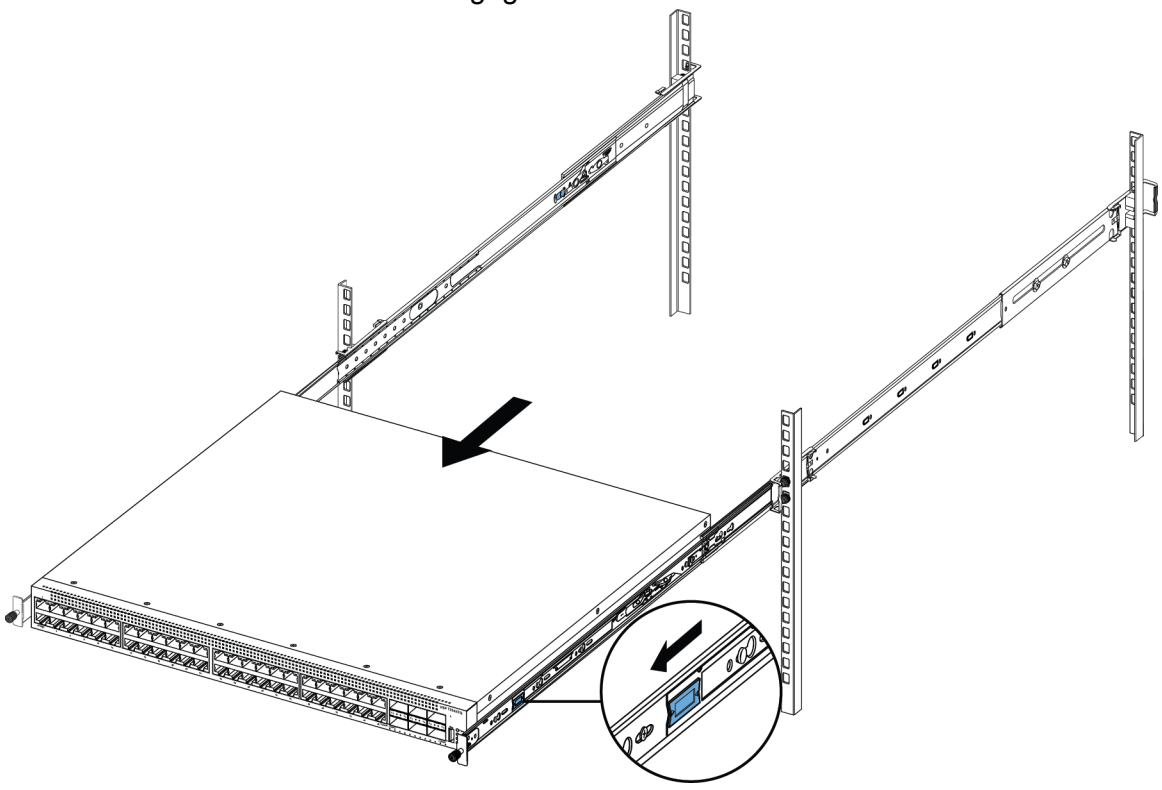
Follow these steps if you have to remove the switch from an equipment rack.

Important:

This procedure requires two people.

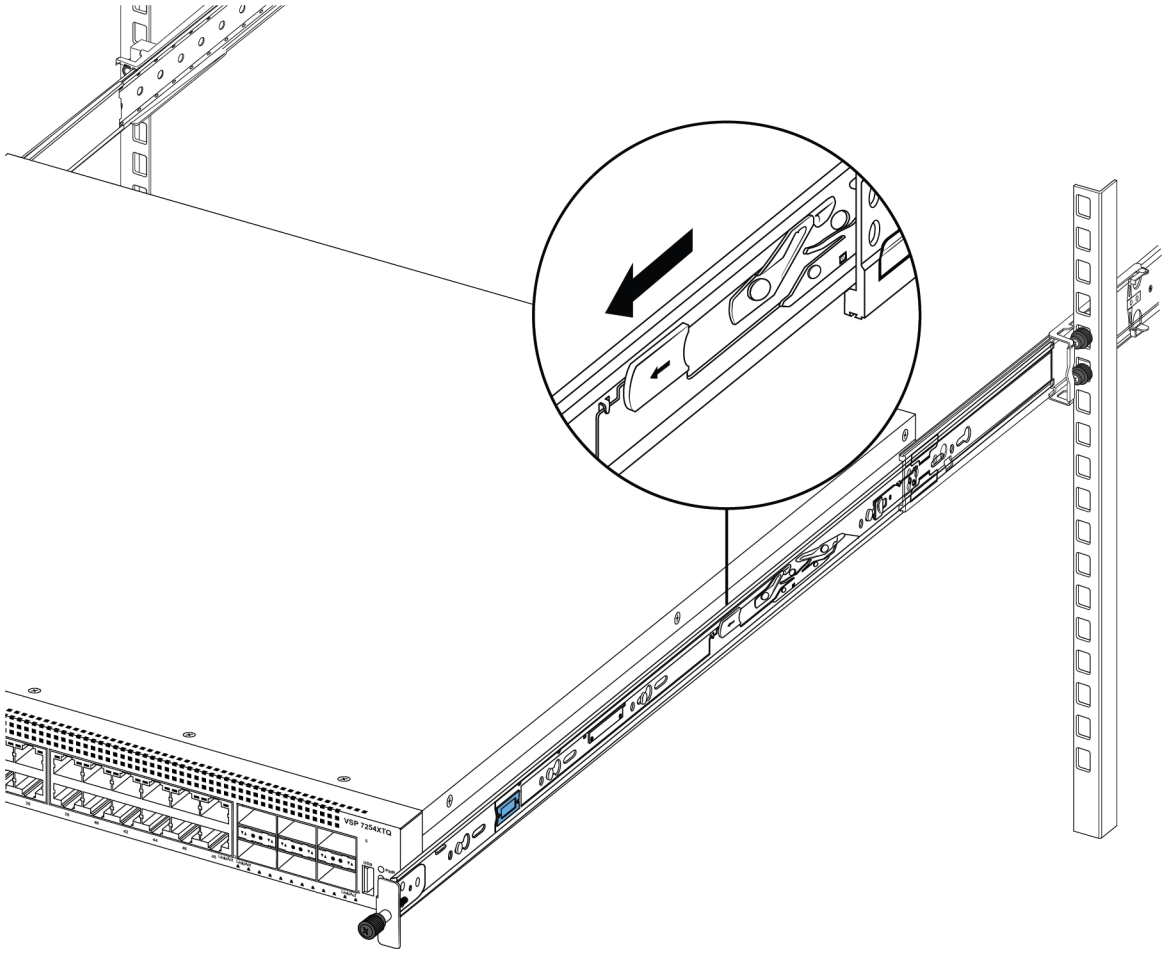
Procedure

1. Disconnect the power cord from the switch.
2. Slide the switch out until the lock engages.



3. While the person standing in back of the chassis slides both of the white release locks (one on each side of the chassis) towards the front, the person standing in front of the chassis

pulls the chassis out of the rack.



Using the supplied brackets

This procedure describes how to install the switch in an equipment rack using the supplied brackets. The brackets that come with the chassis are for mounting the unit in a standard 19–inch rack. We recommend that you mount a tray into the rack and set the chassis upon the tray. The brackets secure the chassis and prevent it from sliding off the tray during vibration or when inserting or extracting transceivers.

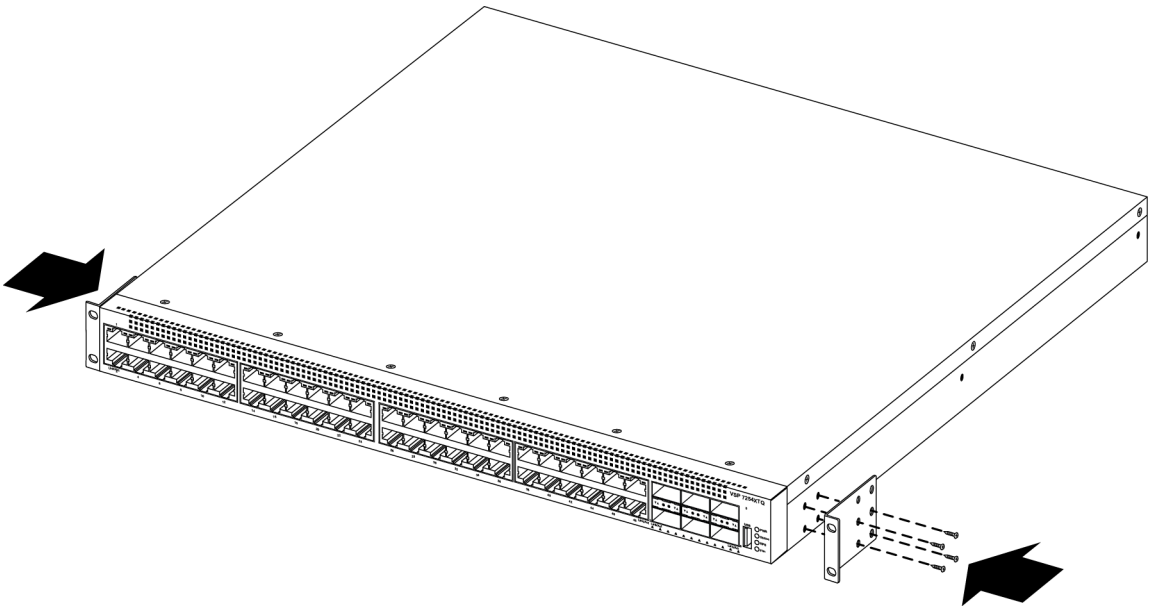
⚠ Caution:

Do not mount the chassis in a rack without using a customer-supplied tray under the chassis. The chassis weight will cause damage to a rack, especially in an environment with vibration or in an earthquake prone area.

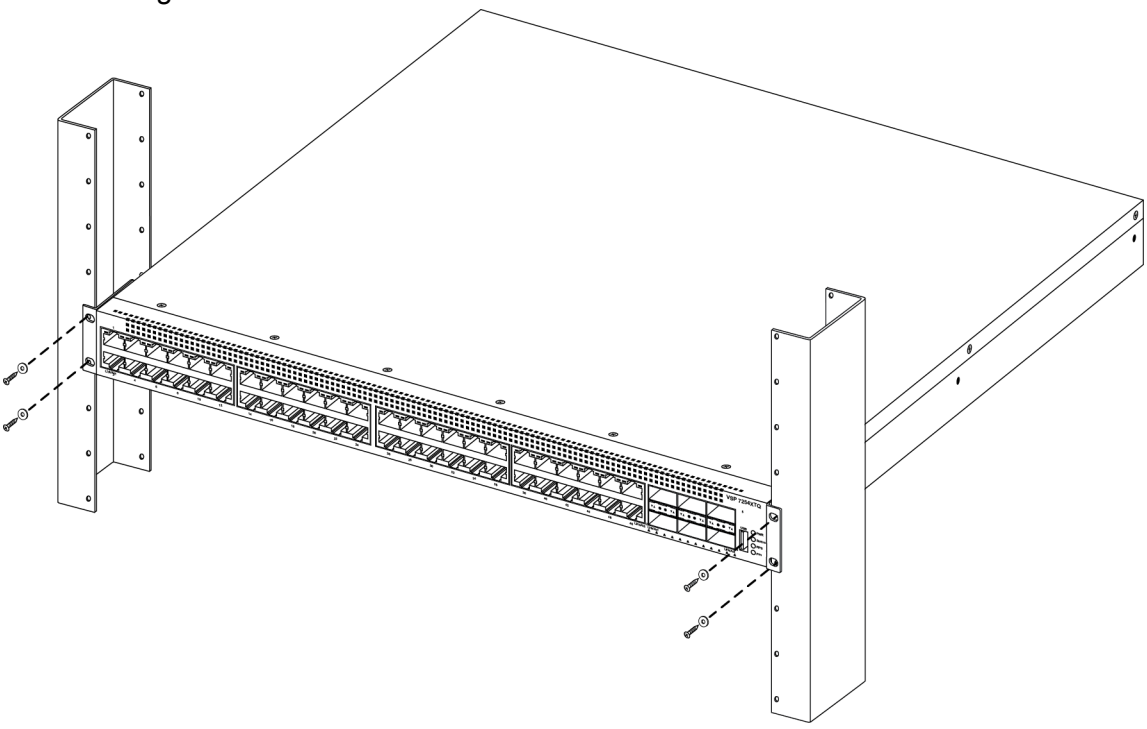
Procedure

1. Disconnect the power cord from the switch.

2. Attach a bracket to each side of the switch using a #2 Phillips screwdriver as illustrated below.



3. Slide the switch onto a shelf or tray in the rack.
4. Insert and tighten the rack-mount screws.



5. Verify that the switch is securely fastened to the rack.
6. Connect power and network connections to the switch.

Cable Requirements for the VSP 7200 Series

The following table describes the cables required for an VSP 7200 Series switch.

Table 20: Switch cable requirements

Required Cable	Description
10/100/1000Base TX Ports	The interconnect cabling must conform to the Cat5e, Cat6, or Cat6e specification of the Commercial Building Telecommunications Cabling Standard, ANSI/TIA/EIA 568-B fitted with an RJ-45 Module jack.
Console Port	Varies depending on the user device. The VSP 7200 Series has an RJ-45 female connector so a serial cable with an RJ-45 connector on one end and an RJ-45 on the other is appropriate. The maximum length for the console port cable is 25 feet (8.3 meters).
SFP+ and QSFP+ Transceiver Ports	Varies with the installed transceiver. See the documentation shipped with the transceiver for specifications.

Installation and removal of transceivers

The following sections describe how to install and remove transceivers in the VSP 7200 Series switch. In this context, the term *transceiver* refers to Small Form Factor Pluggable (SFP), SFP+, and Quad 4-channel SFP (QSFP+).

For more information about transceiver use and designation, see *Extreme Networks Pluggable Transceivers Installation Guide*.

Installing transceivers

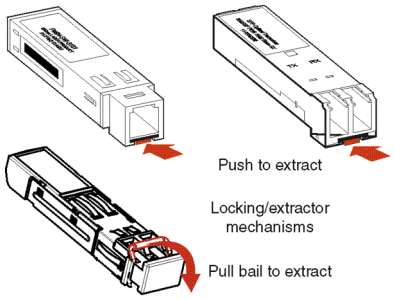
Install transceivers by performing this procedure.

1. Remove the transceiver from the protective packaging.
2. Verify that the transceiver is the correct model for the network configuration.
3. Grasp the transceiver between your thumb and forefinger.
4. Insert the transceiver into the proper slot on the switch. Apply a light pressure to the transceiver until it clicks and locks into position.
5. Remove the dust cover from the transceiver optical bores.

Removing transceivers

Remove transceivers by performing this procedure.

1. Disconnect the network fiber cable from the transceiver.
2. Use the locking mechanism on the transceiver to release it. The locking mechanism varies from model to model as illustrated below.



3. Slide the transceiver from the port.
4. If the transceiver does not slide easily from the port, use a gentle side-to-side rocking motion while firmly pulling the transceiver from the port.
5. Attach a dust cover over the fiber-optic bores and store the transceiver in a safe place until you need it.

Note:

Discard transceivers in accordance with the proper laws and regulations.

Console port pin assignments

The following section describes the console pin assignments for the RJ-45 connectors in the VSP 7200 Series.

Table 21: Console port pin assignments

Connector	Pin Number	Signal
	1	Ready to send (RTS) — optional
	2	Data terminal ready (DTR) — optional, can swap or link with pin 8
	3	Transmit data (TXD) — mandatory
	4	Carrier detect (DCD) — optional
	5	Ground (GND) — mandatory

Table continues…

Connector	Pin Number	Signal
	6	Receive data (RXD) — mandatory
	7	Data set ready (DSR) — optional
	8	Clear to send (CTS) — optional, can swap or link with pin 1

40GBASE-QSFP+ ports

When a port is channelized, only break out cables (copper or active optical DAC) should be used in it. Using other cables in a channelized port will result in mismatched link status between link partners, which may lead to network issues. You should also avoid the use of break out cables in non-channelized ports, as doing so will result in mismatched link status between link partners, which can lead to network issues.

MACsec operational notes

MACsec support varies based on the capabilities of the hardware, as noted below:

- For the VSP 7200 Series, MACsec is supported on the 10G SFP+ ports of the VSP 7254XTQ model only. VSP 7254XSQ does not support MACsec.

Viewing hardware information

About this task

Perform the following procedure to view system status and technical information about the VSP 7200 Series hardware components. You can view information about the switch (such as location), chassis (type, serial number, and base MAC address), temperature, power supplies, fans, cards, system errors, port locks, topology status, and message control information.

Procedure

1. To enter User EXEC mode, log on to the switch.
2. View hardware information:

   ```
   show sys-info [card | fan | led | power | temperature | uboot]
   ```

Example

Viewing hardware information on VSP 7254XTQ switch:

```
VSP-7254XTQ:1>show sys-info
General Info :
```

```
        SysDescr     : VSP-7254XTQ (w.x.y.z)
        SysName      : VSP-7254XTQ
        SysUpTime    : 0 day(s), 00:07:56
        SysContact   : http://www.extremenetworks.com/contact/
        SysLocation  : 9 Northeastern Blvd,Salem,NH. 03079

Chassis Info:

        Chassis            : 7254XTQ
        ModelName          : 7254XTQ
        BrandName          : Extreme Networks.
        Serial#            : SDNI8248TB009
        H/W Revision       : R0B
        H/W Config         :
        Part Number        : EC720002X-E6
        NumSlots           : 2
        NumPorts           : 73
        BaseMacAddr        : a4:25:1b:53:14:00
        MacAddrCapacity    : 1024
        MgmtMacAddr        : a4:25:1b:53:14:81
        System MTU         : 1950

Card Info :

        Slot#      CardType          Serial#            Part#             Oper   Admin  Power
                                                                        Status  Status  State
         1-2       7254XTQ    SDNI8248TB009     EC720002X-E6             up      up     on

Temperature Info :

    CPU Temperature    MAC Temperature   PHY1 Temperature   PHY2 Temperature
                30                 38                 32                 29


Power Supply Info :

        Ps#1 Status       : empty
        Ps#2 Status       : UP
        Ps#2 Type         : AC
        Ps#2 Description  : DPS-800RB Q
        Ps#2 Serial Number: HHTD1450000120
        Ps#2 Version      : S0F
        Ps#2 Part Number  : 700510692

        Total Power Available : 800 watts

Fan Info :

            Description   OperStatus       OperSpeed   AirflowDir
           Tray 1 Fan 1           up     mediumSpeed   front-back
           Tray 1 Fan 2           up     mediumSpeed   front-back
           Tray 2 Fan 1           up     mediumSpeed   front-back
           Tray 2 Fan 2           up     mediumSpeed   front-back
           Tray 3 Fan 1           up     mediumSpeed   front-back
           Tray 3 Fan 2           up     mediumSpeed   front-back

LED Info :

        LED#1 Label  : PWR
        LED#1 Status : GreenSteady

        LED#2 Label  : Status
        LED#2 Status : GreenSteady

        LED#3 Label  : Rps
        LED#3 Status : Off

        LED#4 Label  : Fan
        LED#4 Status : GreenSteady

System Error Info :

        Send Login Success Trap   : false
        Send Authentication Trap  : false
        Error Code                : 0
        Error Severity            : 0
```

```
Port Lock Info :

        Status       : off
        LockedPorts  :

Message Control Info :

        Action                 : suppress-msg
        Control-Interval       : 5
        Max-msg-num            : 5
        Status                 : disable


Configuration Operation Info Since Boot Up:
         Last Change: 0 day(s), 00:02:49
    Last Vlan Change: 0 day(s), 00:02:41
Last Statistic Reset: 0 day(s), 00:00:00

Current Uboot Info :
-------------------------------------------------------------------------------------------------------

 VU-Boot 2012.04-00002-g6fb1c26 (Apr 26 2017 - 13:51:26) bld=17042617
```

Variable definitions

Use the data in the following table to use the **`show sys-info`** command.

Variable	Value
card	Displays information about the device. Includes type, serial number, and assembly date.
fan	Displays information about installed cooling ports.
led	Displays LED information in detail.
power	Displays information about installed power supplies.
temperature	Displays temperature information.
uboot	Displays uboot details.

Chapter 6: Translations of safety messages

Caution:

When you mount this device in a rack, do not stack units directly on top of one another. You must secure each unit to the rack with appropriate mounting brackets. Mounting brackets cannot support multiple units.

Caution:

Achtung:

Wenn diese Einheit in einem Rack montiert wird, muß ein gewisser Abstand zur nächsten Einheit gelassen werden. Jede Einheit muß mit geeignetem Befestigungsmaterial gesichert werden. Das Befestigungsmaterial ist nicht für die gleichzeitige Befestigung mehrerer Einheiten geeignet.

Caution:

Si vous installez le module dans une baie, ne l'empilez pas directement sur un autre. Chaque module doit être fixé à sa propre baie à l'aide des supports de montage appropriés. Ces supports ne sont pas conçus pour résister à plusieurs modules.

Caution:

Precautión:

Cuando monte este dispositivo en un bastidor, no apile las unidades directamente una encima de otra. Cada unidad debe fijarse en el bastidor con las abrazaderas de montaje adecuadas. Las abrazaderas de montaje no están diseñadas para sostener varias unidades.

Caution:

Se il dispositivo viene installato in un rack, non impilare le unità direttamente una sull'altra. Ogni unità deve essere fissata al rack con le staffe di montaggio appropriate. Le staffe di montaggio non sono state progettate per supportare più unità.

Caution:

警告：在机架中安装此设备时，请勿将多个部件叠放在机架中。必须用合适的安装托架将各个部件固定在机架中。安装托架无法支撑多个部件。

注意：この装置をラックに設置する場合は、ラック内のユニットを直接積み重ねないようにしてください。各ユニットは専用の取り付けブラケットでラックに固定する必要があります。取り付けブラケットは複数のユニットを支えるようには設計されていません。

注意：在機箱中掛載此裝置時，請不要直接在機箱中的另一個裝置上直接堆放裝置。每一裝置都必須使用適當的掛載托架以固定在機架中。掛載托架不能用來支撐多個裝置。

Caution:

If you are not installing a module in the slot, be sure to keep the metal cover plate in place over the slot. Removing the cover plate impedes airflow and proper cooling of the unit.

Caution:

Achtung:

Wenn Sie kein Modul im Schacht verwenden, muß die Metallabdeckung über dem Schacht montiert sein. Eine Entfernung der Abdeckung führt zu einer Verschlechterung der Luftzirkulation und damit zu einer nicht ausreichenden Kühlung der Einheit.

Caution:

Si vous n'installez pas le module dans une baie, veillez à laisser la plaque métallique sur la baie. Si vous la retirez, l'aération du module ne peut pas s'effectuer correctement.

Caution:

Precaution:

Si no instala ningún módulo en la ranura, asegúrese de mantener la placa de la cubierta de metal en la misma. Si la retira, impedirá que el aire circule y la unidad se refrigere adecuadamente.

Caution:

Attenzione:

Se nello slot non vengono installati moduli, assicurarsi di mantenere la piastra di copertura metallica in sede sopra lo slot. La rimozione della piastra impedisce la ventilazione e il corretto raffreddamento dell'unità.

Caution:

注意：この装置をラックに設置する場合は、ラック内のユニットを直接積み重ねないようにしてください。各ユニットは専用の取り付けブラケットでラックに固定する必要があります。取り付けブラケットは複数のユニットを支えるようには設計されていません。

注意：スロットにモジュールを取り付けない場合は、スロットにある金属製のカバープレートが外れないように注意してください。カバープレートを動かすと気流が妨げられ、適切なユニット冷却が行われなくなります。

注意：如果您未在插槽中安裝模組，請確定金屬殼板正確地蓋在插槽上。移除殼板會阻礙空氣流通以及裝置的適當冷卻度。

警告：如果您不打算在该插槽中安装任何模块，请务必使金属盖板正确地盖住该插槽。如果取下盖板，将妨碍通风及部件散热。

警告：この装置の電源は、電源コードを抜かない限り切断できません。緊急の場合にすばやく安全に切断できる場所に電源コードを接続してください。

警告：若要關閉此裝置的電源，拔掉插頭是唯一的方法。 爲了因應緊急狀況，請將電源線連接到可以快速插拔的地方。

Warning:

Disconnecting the AC power cord is the only way to turn off AC power to this device. Allow at least 30 seconds for the this device to fully power down before restoring power. Otherwise, this device might produce a core file during the reset leading to an extra delay during boot time. Always connect the AC power cord in a quickly and safely accessible location in case of an emergency.

Warning:

Warnung:

Das Gerät kann nur durch Ziehen des Netzsteckers ausgeschaltet werden. Schließen Sie das Netzkabel an einer Steckdose an, die in Notfällen schnell und sicher zugänglich ist.

Warning:

Avertissement:

Pour mettre le module hors tension, vous devez impérativement déconnecter le cordon d'alimentation. En outre, vous devez dégager un espace minimal dans la zone de câblage pour pouvoir y accéder facilement en cas d'urgence.

Warning:

警告：断开交流电源线是切断本设备的交流电源的唯一方法。交流电源线一定要连接到在紧急时刻可以快速安全地接触到的位置。

Warning:

Advertencia:

Para apagar el dispositivo debe desenchufar el cable. Conecte siempre el cable de alimentación a una toma segura y de fácil acceso por si se produjera alguna situación de emergencia.

Warning:

Avviso:

L'unico modo per disattivare questo dispositivo consiste nello scollegare il cavo di alimentazione. Collegare sempre il cavo di alimentazione ad una presa che sia facilmente e rapidamente accessibile in caso di emergenza.

Danger:

Use only power cords that have a grounding path. Without a proper ground, a person who touches the switch is in danger of receiving an electrical shock. Lack of a grounding path to the switch can result in excessive emissions.

Danger:

Vorsicht:

Verwenden Sie nur Netzkabel mit Schutzerdung. Ohne ordnungsgemäße Schutzerdung besteht für Personen, die den Switch berühren, die Gefahr eines elektrischen Schlages. Eine nichtvorhandene Schutzerdung kann zu sehr starken Abstrahlungen führen.

Danger:

N'utilisez que des cordons d'alimentation équipés de trajet de mise à la terre. Sans mise à la terre adaptée, vous risquez de recevoir une décharge électrique en touchant le commutateur. Par ailleurs, l'absence de trajet de mise à la terre peut générer des émissions excessives.

Danger:

Peligro:

Utilice únicamente cables de alimentación con toma de tierra. De lo contrario, al tocar el interruptor puede recibir una descarga eléctrica. Si no hay un circuito de toma de tierra en el enchufe, puede producirse un exceso de emisiones.

Danger:

Pericolo:

Utilizzare esclusivamente cavi di alimentazione dotati di un percorso per la messa a terra. Senza un'adeguata messa a terra, chiunque tocchi lo switch corre il rischio di ricevere una scossa elettrica. L'assenza di un percorso per la messa a terra verso lo switch può comportare un eccesso di emissioni.

Danger:

危険：接地経路を持つ電源コードを必ず使用するようにしてください。適切な接地がない状態でスイッチに触ると、感電する危険性があります。また、スイッチへの接地経路がないと、過度な放電を引き起こす可能性があります。

危险：请仅使用接地的电源线。如果电源线不接地或接地不当，接触交换机的人员可能会受到电击。如果交换机不接地，则可能导致放电过量。

Warning:

The lithium battery is not field replaceable. It should be removed and replaced by authorized personnel only. Contact Extreme Networks Technical Support for assistance if the battery requires replacement.