riverbed

Rack Installation Guide

SteelHead™ (CX, DX, EX)
SteelHead Interceptor
SteelCentral™ Controller for SteelHead Mobile
SteelCentral Controller for SteelHead
SteelCentral NetProfiler
SteelCentral NetShark
SteelFusion™ Core

April 2017

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Riverbed Technology
680 Folsom Street
San Francisco, CA 94107
www.riverbed.com

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Welcome

About this guide

This guide describes the requirements and procedures for rack installation for your Riverbed appliance. Each chapter includes instructions for product families.

Note: For rack installation instructions describing EX560 and EX760 appliances, see the documentation enclosed with the product.

Note: All 2U and 3U appliances must be mounted to a four-post rack; they cannot be mounted to a two-post rack.

Audience

This guide is written for administrators responsible for installing Riverbed appliances and includes information relevant to the following products:

- SteelHead CX, DX, and EX
- SteelHead Interceptor
- SteelCentral Controller for SteelHead Mobile
- SteelCentral Controller for SteelHead
- SteelCentral NetProfiler
- SteelCentral NetShark
- SteelCentral AppResponse
- SteelFusion Core

Documentation and release notes

The most current version of all Riverbed documentation can be found on the Riverbed Support site at https://support.riverbed.com.

See the Riverbed Knowledge Base for any known issues, how-to documents, system requirements, and common error messages. You can browse titles or search for keywords and strings. To access the Riverbed Knowledge Base, log in to the Riverbed Support site at https://support.riverbed.com.

Each software release includes release notes. The release notes list new features, known issues, and fixed problems. To obtain the most current version of the release notes, go to the Software and Documentation section of the Riverbed Support site at http://www.riverbed.com/services/index.html.

Examine the release notes before you begin the installation and configuration process.

Contacting Riverbed

This section describes how to contact departments within Riverbed.

- **Technical support** - Problems installing, using, or replacing Riverbed products? Contact Riverbed Support or your channel partner who provides support. To contact Riverbed Support, open a trouble ticket by calling 1-888-RVBD-TAC (1-888-782-3822) in the United States and Canada or +1 415-247-7381 outside the United States. You can also go to https://support.riverbed.com.
- **Professional services** - Need help with planning a migration or implementing a custom design solution? Contact Riverbed Professional Services. Email proserve@riverbed.com or go to http://www.riverbed.com/services/index.html.
- **Documentation** - Have suggestions about Riverbed's online documentation or printed materials? Send comments to techpubs@riverbed.com.

1

Rack Installation Overview

This chapter describes the prerequisite requirements for installing Riverbed appliances in a rack and includes the following sections:

- "Rack installation safety guidelines" on page 7
- "Required tools and equipment" on page 8
- "Square post-hole adapters" on page 9

Rack installation safety guidelines

When installing the appliance in a rack, follow these guidelines:

- Do not block or cover the openings to the appliance.
- Never push objects of any kind through openings in the appliance. Dangerous voltages might be present.
- Do not use conductive foreign objects; they can produce a short circuit and cause fire, electric shock, or damage to your appliance.
- Lift appliances using both hands and with your knees bent.
- Observe local occupational health and safety requirements and guidelines for manual materials handling.
- Do not attempt to move a rack by yourself; a minimum of two people is needed to move a rack.
- Do not attempt to move a rack on an incline that is greater than 10 degrees from the horizontal.
- Installing components in a rack without the front and side stabilizers can cause the rack to tip over. Always install rack stabilizers before you install components in a rack.
- Make sure the rack is properly secured to the floor or ceiling.
- Always load the rack from the bottom. Load the heaviest component in the rack first.
- Make sure racks are coupled together if it is a multiple-rack installation.
- Make sure the rack is level and stable before installing an appliance in the rack.
- Make sure the leveling jacks are extended to the floor.
- Make sure the full weight of the rack rests on the leveling jacks.
- Make sure the rack is level and stable before pulling a component out of the rack.

- Make sure only one component is extended at a time. A rack might become unstable if more than one component is extended.
- Ensure that there is adequate airflow in the rack. Improper installation or restricted airflow can damage the appliance.
- The rack cannot have solid or restricted airflow doors. You must use a mesh door on the front and back of the rack or remove the doors to ensure adequate airflow to the appliance.
- The rack width and depth must allow for proper serviceability and cable management.
- Ensure that there is adequate airflow in the rack. Improper installation or restricted airflow can damage the appliance.
- Models 150, 250, 550, CX255, CX555, CX570, CX755, CX770, SMC9000, and SCC1000 are designed for the desktop. If you install them in a rack, do not place equipment on top of the appliance as it restricts airflow and might cause damage to the appliance.
- Make sure the product is properly mated with the rails. Products that are improperly mated with the rails might be unstable.
- Verify that the AC power supply branch circuit that provides power to the rack is not overloaded. Overload power increases the risk of personal injury, fire, or damage to the appliance. The total rack load should not exceed 80 percent of the branch circuit rating. Consult the electrical authority having jurisdiction over your facility wiring and installation requirements.
- The 1U, 2U, and 3U appliances produce front-to-back cooling airflow that requires an unobstructed airflow to the fan housing. Do not mount the appliance near other electronic devices that produce back-to-front airflow.
- The SteelHead desktop x50 appliances require sideways airflow. Do not block the sides.
- The SteelHead x50 require air-convection cooling. If these models are installed in a rack, use the Riverbed provided rack-mount kit.
- The appliance is for use only in a machine room or IT room.
- Make sure that the area in which you install the appliance is properly ventilated and climate controlled.
- Ensure the voltage and frequency of your power source match the voltage and frequency inscribed on the electrical rating label of the appliance.
- Do not install the appliance in or near a plenum, air duct, radiator, or heat register.
- Never use the appliance in a wet location.

For detailed safety information, see the *Safety and Compliance Guide*.

Required tools and equipment

You need the following tools and equipment to mount the appliance in a rack:

- A standard Telco-type rack
- A standard Phillips-head screwdriver
- The enclosed screw kit

- The enclosed short rack adapters (if needed)
- The enclosed square post-hole adapters (if needed)
- The enclosed brackets for mounting the SteelHead x50 (if needed)

If your appliance is missing any components, contact Riverbed Support for replacement parts at https://support.riverbed.com.

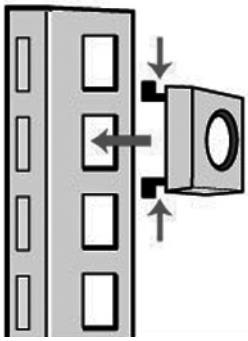
Square post-hole adapters

Rack cabinets can have square or circular holes in the vertical posts. If necessary, to accommodate standard screws you can convert the square post-holes to circular holes using the included square post-hole adapters.

To convert a square post-hole to fit a standard screw

- Press together the top and bottom of the square post-hole adaptor and push it into the square hole on the inside of the rack post.

Figure 1-1. Installing square post-hole adapter



2

Installing xx70, Interceptor 9600, and SteelFusion Core 3500 Appliances

This chapter describes how to install the SteelHead CX xx70, SteelCentral NetProfiler xx70, SteelCentral NetShark xx70, SteelHead Interceptor 9600, and SteelFusion Core 3500 appliances in a rack. It includes the following sections:

- "Appliances included in this chapter" on page 11
- "Before you begin" on page 11
- "Mounting 1U or 2U appliances" on page 12

Appliances included in this chapter

This chapter describes how to install the following appliances in a rack:

- 1U and 2U SteelHead CX xx70 appliances, including models CX3070, CX5070, and CX7070.
- 1U and 2U SteelCentral NetProfiler xx70 appliances, including models 470, 2270, and 4270.
- 1U and 2U SteelCentral NetShark xx70 appliances, including models 2170, 4170, and 6170, the SteelCentral AppResponse 8170, and the SteelCentral NetShark Storage Units.
- 2U SteelFusion Core 3500 appliances.

  For information about SteelFusion Core 2000 and 3000 appliances, see Chapter 4, "Installing xx55, xx60, DX, and SteelFusion Core 2000 and 3000 Appliances."

  For information about SteelFusion Edge appliances, see *SteelFusion Edge Hardware Installation and Maintenance Guide*.
- 2U SteelHead Interceptor 9600 appliances.

Both 1U and 2U appliances in this chapter follow the same installation instructions.

Note: You can mount the xx70 on a two-post rack in the center-mount position using rail kit **AXX2POSTBRCKT.** This kit is a fixed mount bracket kit that will only support specific rack types with 3/8" square and 7.1 mm round holes. This kit is available from Intel suppliers.

Before you begin

Before you begin the installation process:

- Unplug the AC power cords.
- Remove all external devices and connectors.

Mounting 1U or 2U appliances

This section describes how to mount the 1U or 2U SteelHead CX xx70, SteelHead Interceptor 9600, SteelCentral NetProfiler xx70, SteelCentral NetShark xx70, SteelCentral AppResponse 8170, and SteelFusion Core 3500 appliances in a four-post rack. You can use either of these rail kits to rack mount 1U and 2U appliances. These kits are very similar and follow the same installation instructions.

The following rail kits are available:

- **RMK-1-VRAIL** - This kit is available as a separate item. You can adjust the rails to accommodate a 24-inch to 30-inch deep rack. When installed, the maximum rail extension is 16.7 inches (424.4 mm). The rails support a maximum device weight of 130 lb (59 kg).

  The RMK-1-VRAIL kit that ships with the 1U includes a ball retainer lock on the outer member. The lock provides better lock functionality when the inner member is extended. This version of the rail kit also has an inner member that is 3.93 inches (100mm) longer for easier appliance insertion.

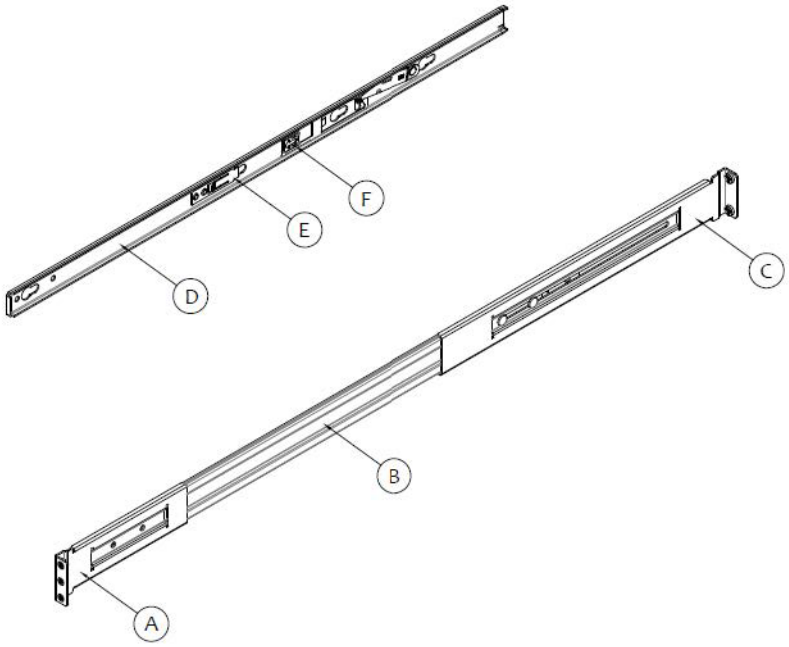
Note: The RMK-1-VRAIL kit may contain extra pieces of hardware not needed for your appliance installation.

- **RMK-1-PRAIL** - This kit is available as a separate item. This kit provides a premium version of the rails and does not require the use of tools.

  You can adjust the rails to accommodate a 24-inch to 30-inch deep rack. The rails are fully extendable to a maximum of 31.5 inches (800 mm). The rails support a maximum device weight of 54 lb (24 kg).

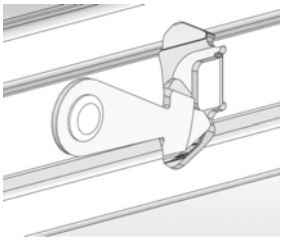
The RMK-1_VRAIL has the components shown in Figure 2-1.

Figure 2-1. Slide rail kit components



A - Front bracket	D - Inner member
B - Outer member	E - Safety locking pin
C - Rear bracket	F - Release button

Figure 2-2. Ball Retainer Lock for RMK-1-VRAIL

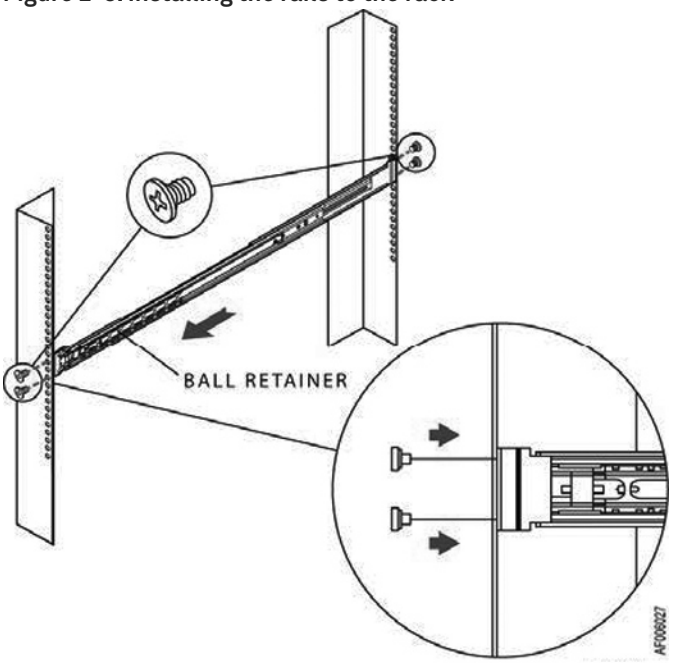


To mount a 1U or 2U appliance in a four-post rack using the RMK-1-VRAIL kit

1. Install the outer rails to the rack posts.

   Align the brackets to the appropriate vertical position on the rack and insert the fasteners. Move the ball retainer to the front of the slide rails. (See Figure 2-3.)

Figure 2-3. Installing the rails to the rack



2. Install the inner members to the appliance.

   Align the inner member key holes to standoffs on the appliance and move the inner member toward the front of the appliance. (See Figure 2-4 and Figure 2-5.)

Figure 2-4. Installing the inner member (1U)

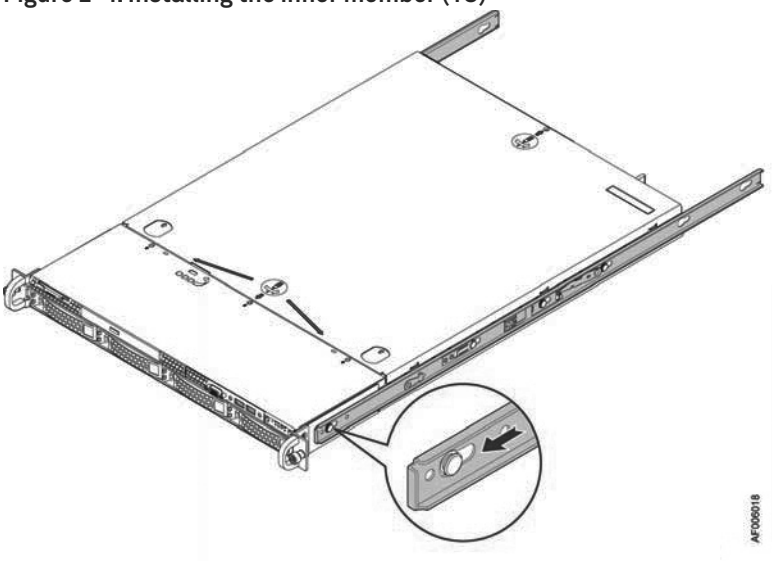
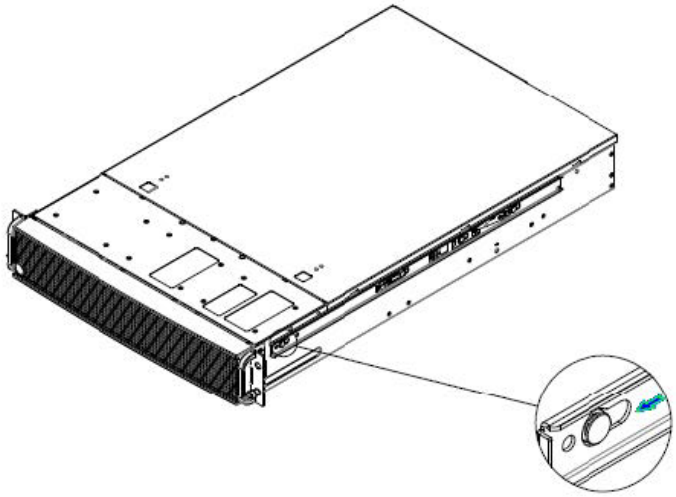
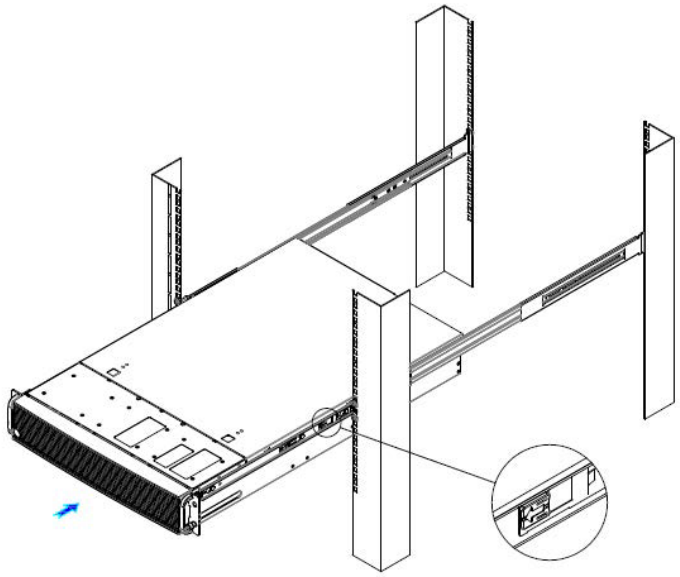


Figure 2-5. Installing the inner member (2U)



3. Install the appliance to the fixed slides. Pull the release button in the inner member to release the lock and allow the appliance to close. (See Figure 2-6.)

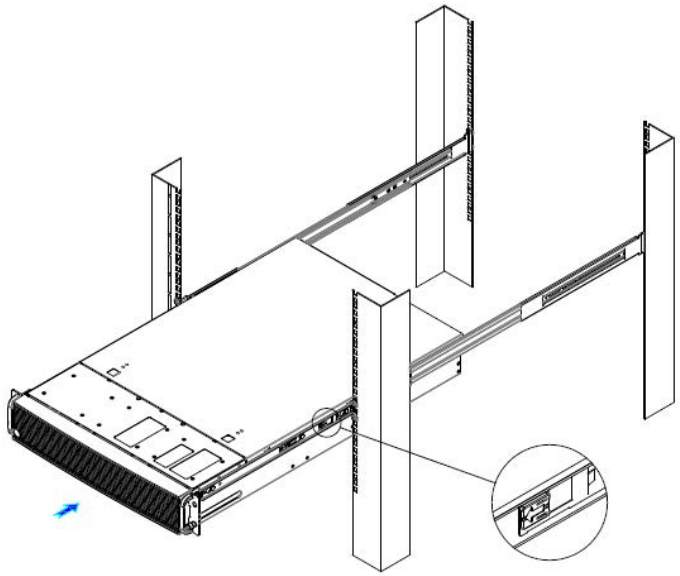
Figure 2-6. Installing appliance to fixed slides



To remove the appliance

1. Fully extend the slides until they are in the locked position.
2. Pull the release button to release the lock and disconnect the inner member from the slides. (Figure 2-7.)

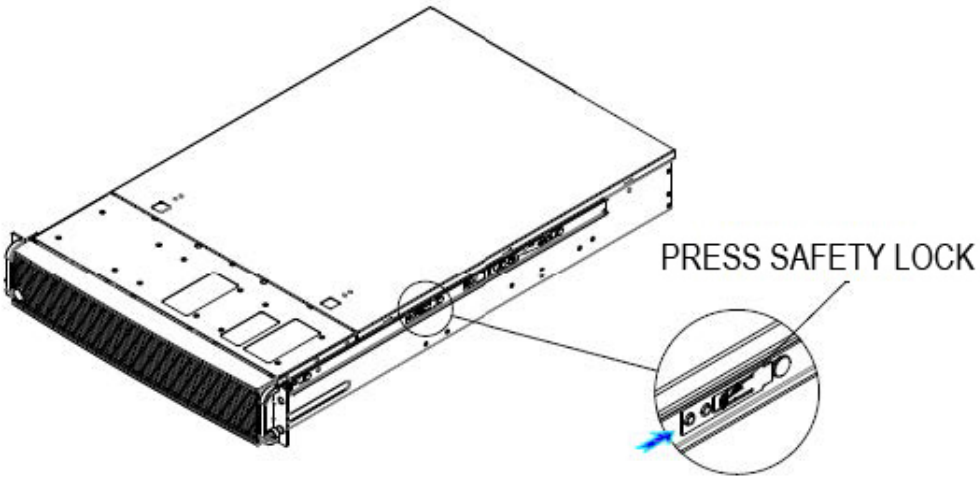
Figure 2-7. Releasing the lock



3. Remove the inner member from the appliance.

   Press the safety lock to release the inner member. (See Figure 2-8.)

Figure 2-8. Removing the rail



To mount a 1U or 2U appliance in a four-post rack using the RMK-1-PRAIL kit

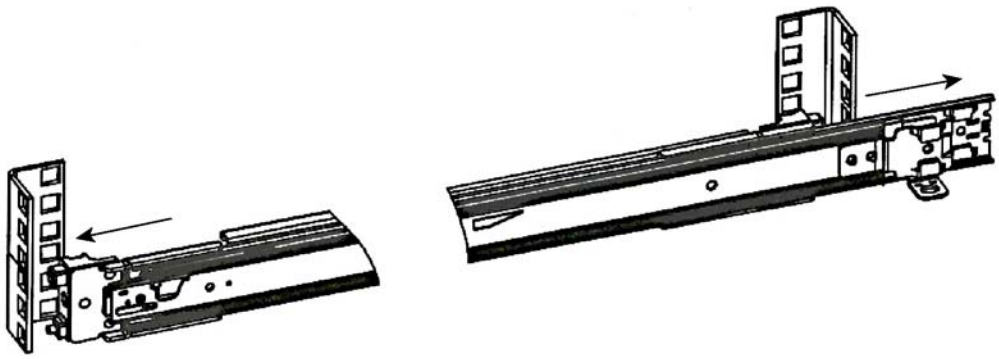
Note: The RMK-1-PRAIL kit does not require the use of tools; however, there is an option to use a screw for added stability.

1. Install the rails to the rack posts.

   Insert the rail into the rack holes. Use the slide to move the bracket inside of the rack. Once the rail is in the correct holes, release the extendable part of the rail and the bracket will snap in place and lock. (See Figure 2-9.)

Note: You can use a screw on each rail for added stability.

Figure 2-9. Installing the rails to the rack

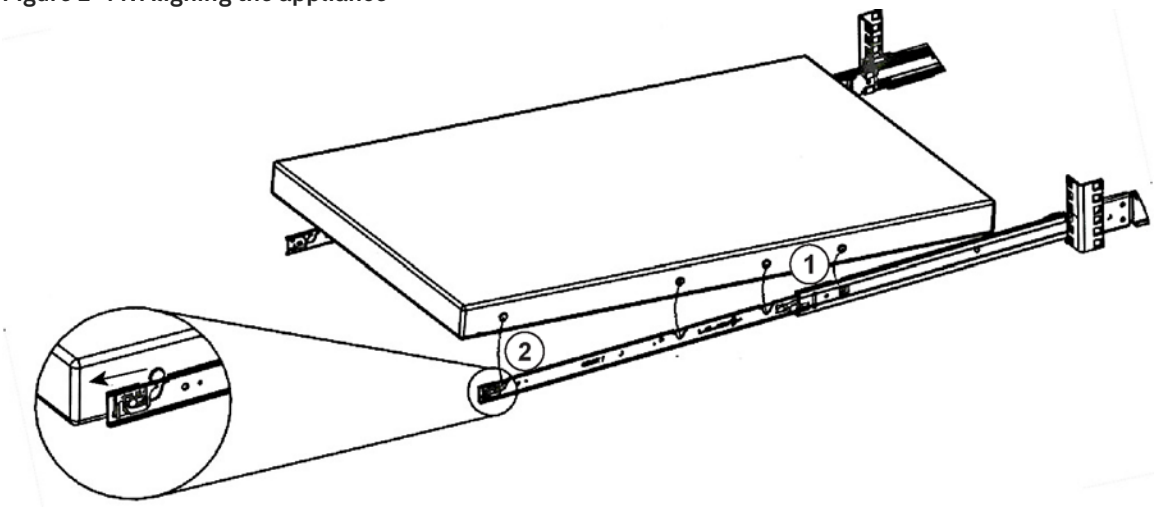


2. Pull the extendable slides out completely. (See Figure 2-10.)

Figure 2-10. Extending the slides

3. Position the appliance so that the keyed openings on the rails are aligned with the locating pins on the sides of the appliance. (See Figure 2-11.)

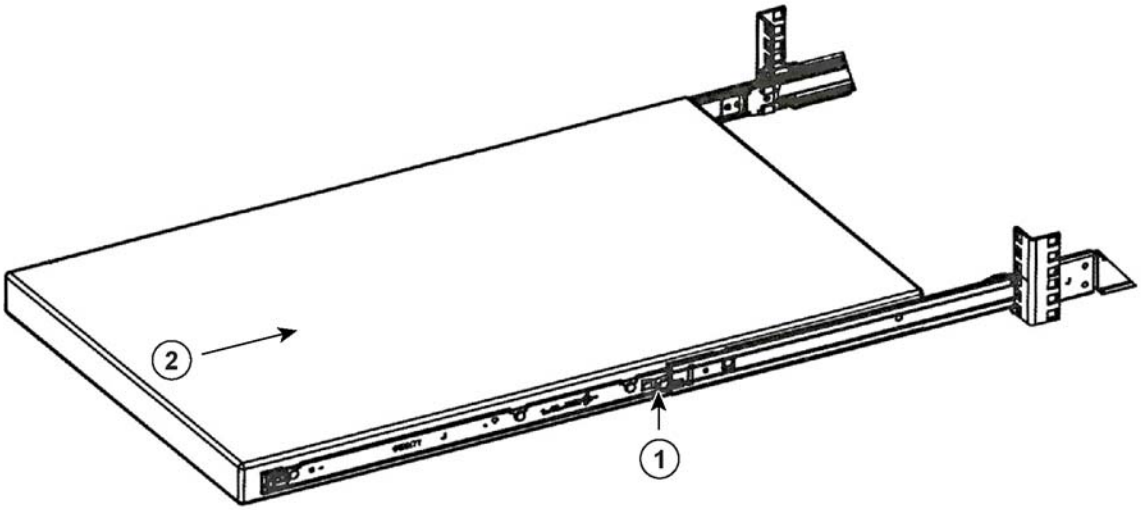
Figure 2-11. Aligning the appliance



4. Start with the back of the appliance and drop the rear spool into the rail and continue until the appliance is fully positioned in the rail.

5. Lift the release tab and push the appliance into the rack. (See Figure 2-12.)

Figure 2-12. Pushing the appliance into the rack



To remove the appliance

1. Fully extend the rails.
2. Lift the appliance out of the rails and remove the appliance from rack.

3

Installing Desktop CX x55, CX x70, SCC, and SMC Appliances

This chapter describes how to install SteelHead desktop appliances in a standard rack. It includes the following sections:

- "Appliances included in this chapter" on page 21
- "Before you begin" on page 21
- "Mounting CX255, CX570, CX770, SCC1000, and SMC9000 appliances" on page 22
- "Mounting CX555 and CX755 appliances" on page 28

Appliances included in this chapter

This chapter describes how to install the following in a rack:

- SteelHead CX desktop models CX255, CX570, CX770, CX555, CX755.
- SteelCentral Mobile Controller 9000 (SMC9000).
- SteelCentral Controller 1000 (SCC1000).

Before you begin

Before you begin the installation process:

- Unplug the AC power cords.
- Remove all external devices and connectors.
- If your rack has square holes, use the included square post-hole adapters.

  For details, see "Rack installation safety guidelines" on page 7.

Caution: Desktop appliances are designed for side-to-side airflow. If you install these appliances in a rack, do not place objects on the sides of the appliance; it restricts airflow and can damage the appliance.

Mounting CX255, CX570, CX770, SCC1000, and SMC9000 appliances

This section describes how to install CX255, CX570, CX770, SCC1000, and SMC9000 desktop appliances in a rack.

You have two rack installation options for these appliances.

- You can mount these desktop appliances in a rack with mounting brackets.

  The mounting brackets are included with the accessory kit for the CX570, CX770, SCC1000, and SMC9000 appliances, as well as CX255 appliances manufactured after April 1, 2014.

  For CX255 desktop appliances manufactured before April 1, 2014, the mounting brackets are not included. You need to order the RMK-010 installation kit to obtain the mounting brackets.

- You can mount these desktop appliances in a side-by-side configuration in a rack.

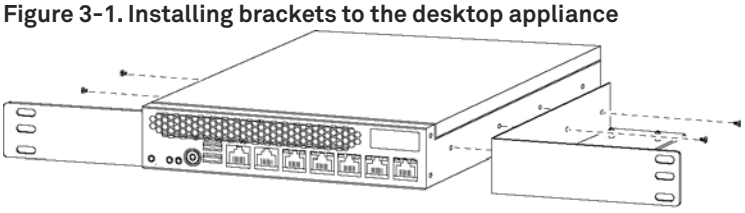
  For this configuration, you need to order the RMK-016 installation kit.

To install a desktop appliance in a rack using the mounting brackets (RMK-010)

1. Carefully lift the appliance out of the shipping carton.
2. Mount the brackets onto the sides of the chassis using the screws that are included in the kit to secure the brackets in place. (See Figure 3-1.)

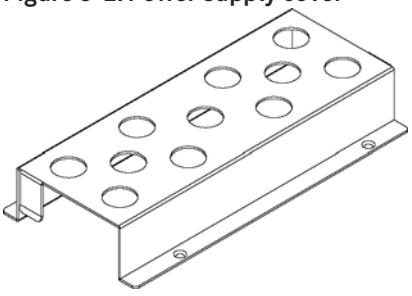
Note: The bracket for the right side of the appliance has a tray attached for the power adapter.

Figure 3-1. Installing brackets to the desktop appliance



3. Place the power supply on the tray so that the AC inlet is facing the back.
4. Place the cover over the power supply and secure it to the tray using the four screws that ship with the kit. (See Figure 3-2.)

Figure 3-2. Power supply cover

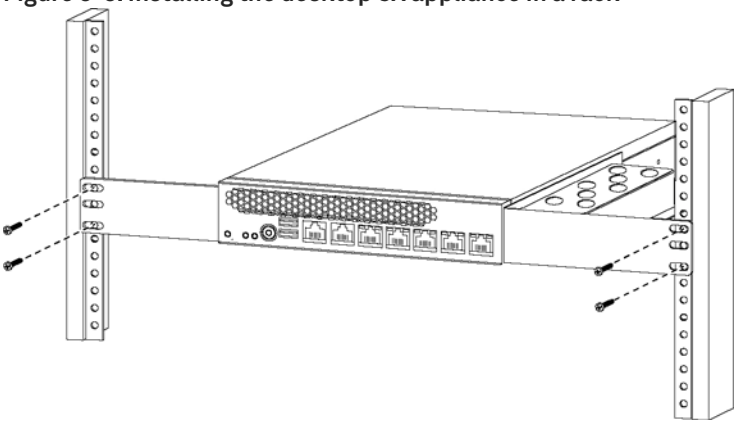


5. Connect the power supply cord to the appliance. Tuck the cord down in the middle of the power supply and bracket.

6. Slide the appliance into the rack and mount the brackets to the rack. (See Figure 3-3.)

Note: The desktop appliance must be installed in a front mount position.

Figure 3-3. Installing the desktop CX appliance in a rack



7. Apply power by connecting the power cord from the AC inlet to the power source.

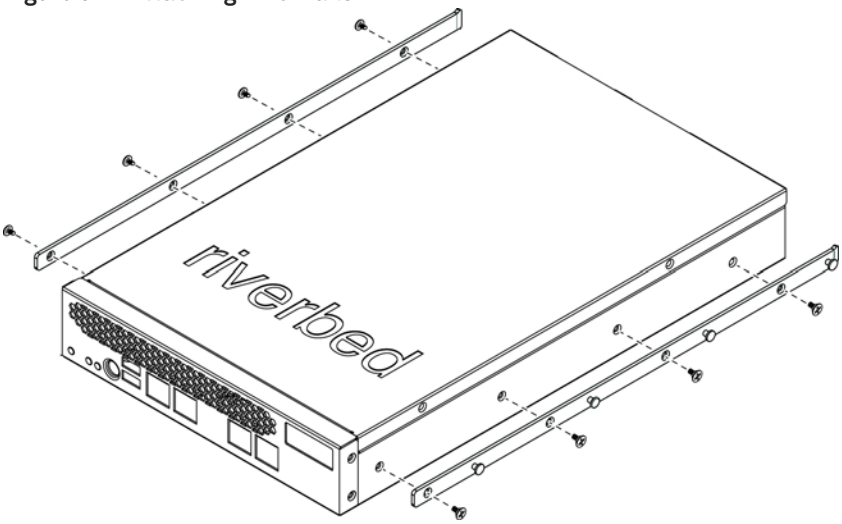
To install a desktop appliance in a rack in a side-by-side configuration (RMK-016)

1. If the appliance is already installed in a rack using the standard mounting brackets, remove the appliance from the rack and remove the mounting brackets.

2. Attach the inner rails to each side of the appliance.

   Secure each inner rail with four screws.

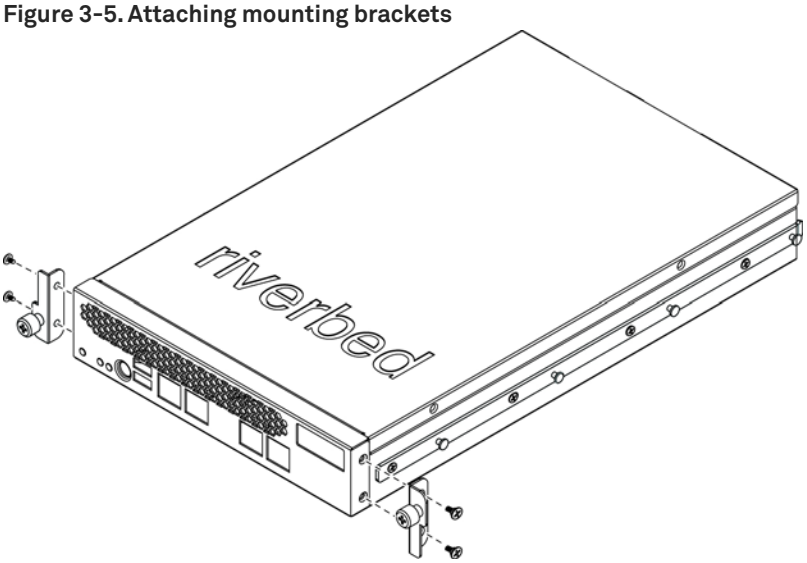
Figure 3-4. Attaching inner rails



3. Attach the mounting brackets for the side-by-side rack kit to each side of the appliance.

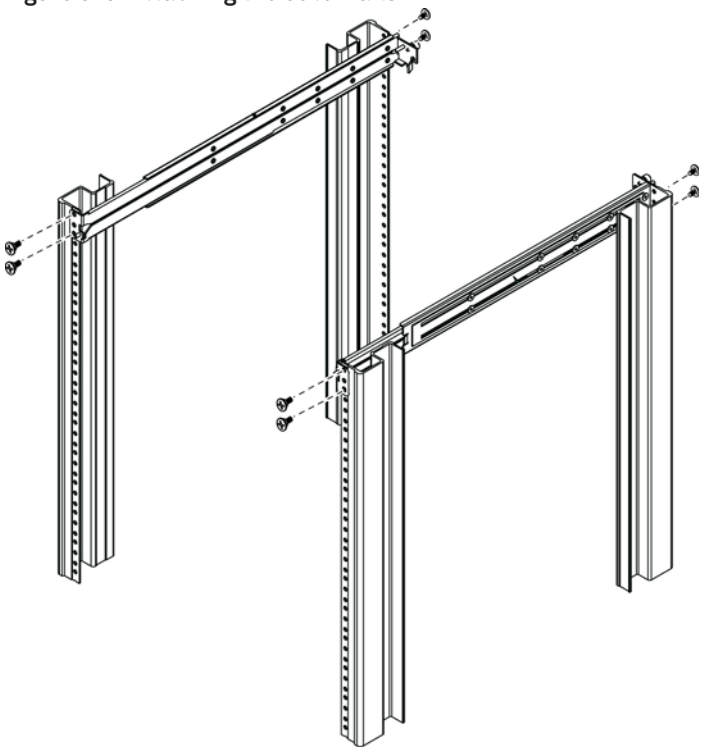
Each mounting bracket attaches with two screws. Both brackets are the same, but since they attach to opposite sides of the appliance, they are oriented differently when installed.

Figure 3-5. Attaching mounting brackets



4. Attach the outer rails to the rack and secure each end with two screws.

Figure 3-6. Attaching the outer rails

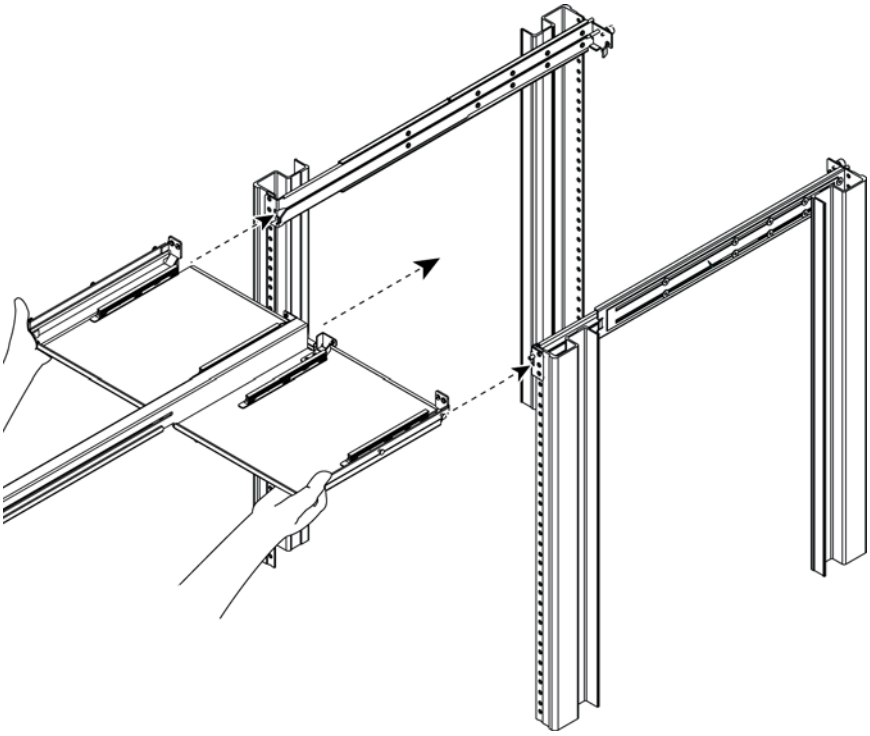


If needed, adjust the rail size to fit your rack. Each rail has six screws that secure the rail components to establish the length. You can loosen the screws and slide the rail components to make small adjustments to the length or move the screws to another position to make larger adjustments.

5. Insert the power supply platform that contains the middle rail. Tighten the two thumb screws in the rear to secure it.

   This platform has metal studs on the outside that slide in the channels on the outer rails.

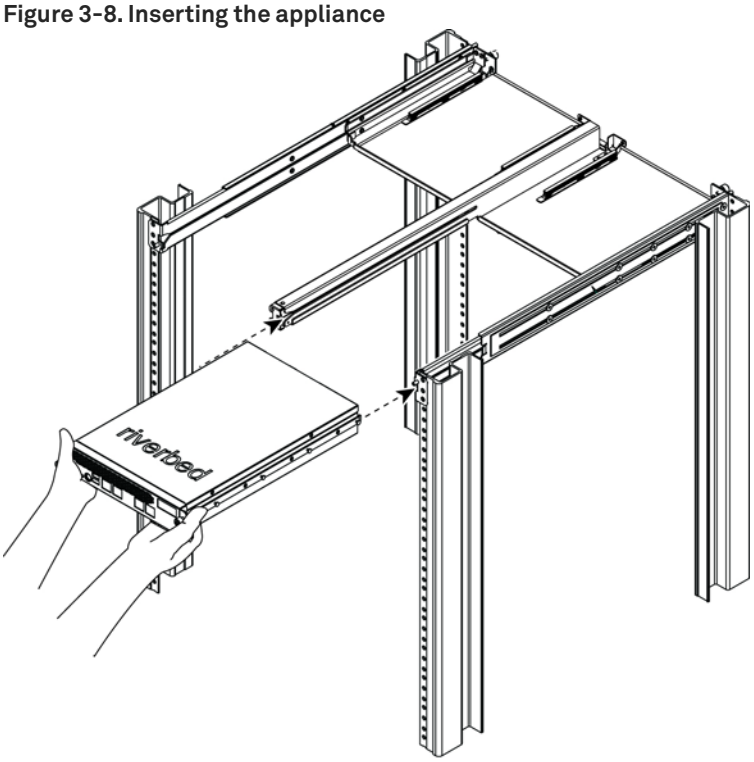
Figure 3-7. Inserting the power supply platform and middle rail



6. Slide each desktop appliance into the rails and tighten the thumb screws.

The metal studs on the inner rails slide into the channels on the outer rails.

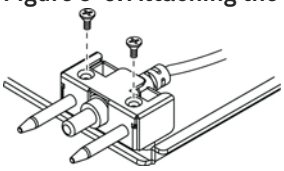
Figure 3-8. Inserting the appliance



7. Attach the two-prong power cord connector to the tray insert and insert the power cord.

   The connector consists of an upper and lower piece. Use two screws to attach the lower piece to the tray insert, insert the power cord into the connector, and use two more screws to secure the upper piece to the lower piece.

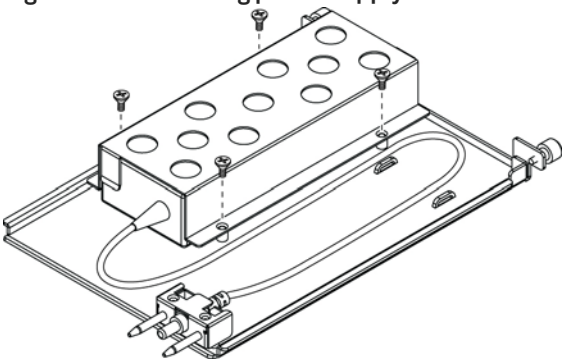
Figure 3-9. Attaching the power cord connector



8. Attach the power supply to the tray insert.

   It attaches with four screws—two on each side of the power supply.

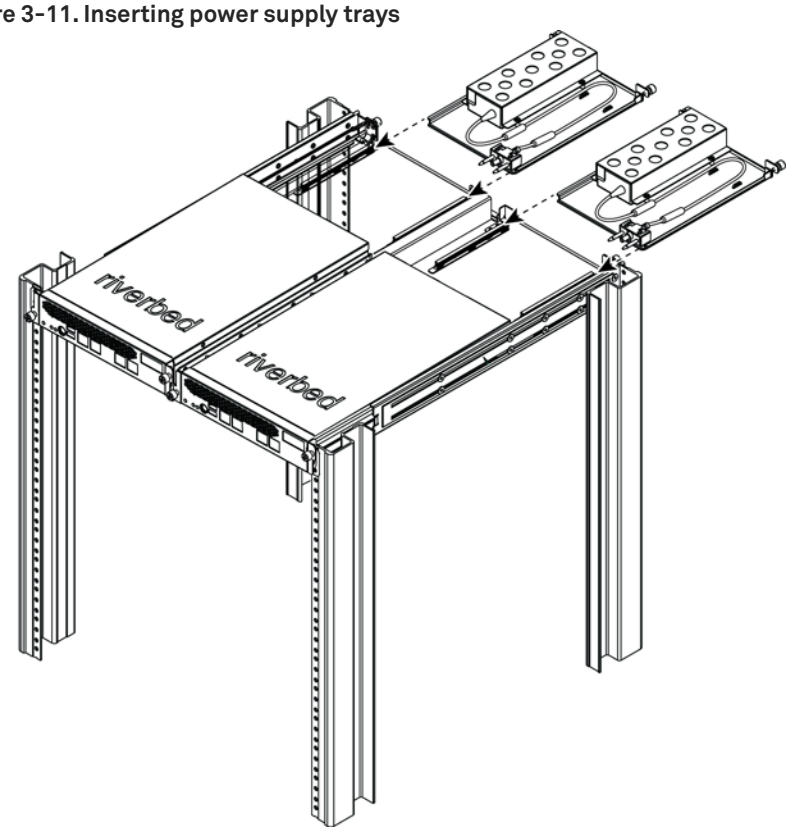
Figure 3-10. Attaching power supply



9. Slide each power supply tray into the power supply platform until the power cord connects with the appliance.

The two prongs serve as guides to align the cord with the appliance and fit into holes on the rear of the appliance.

Figure 3-11. Inserting power supply trays



10. Tighten the thumb screws.

Once installed, you can individually remove and insert each appliance. (Note, when you remove the appliance, it disconnects the appliance from the power cord.)

Mounting CX555 and CX755 appliances

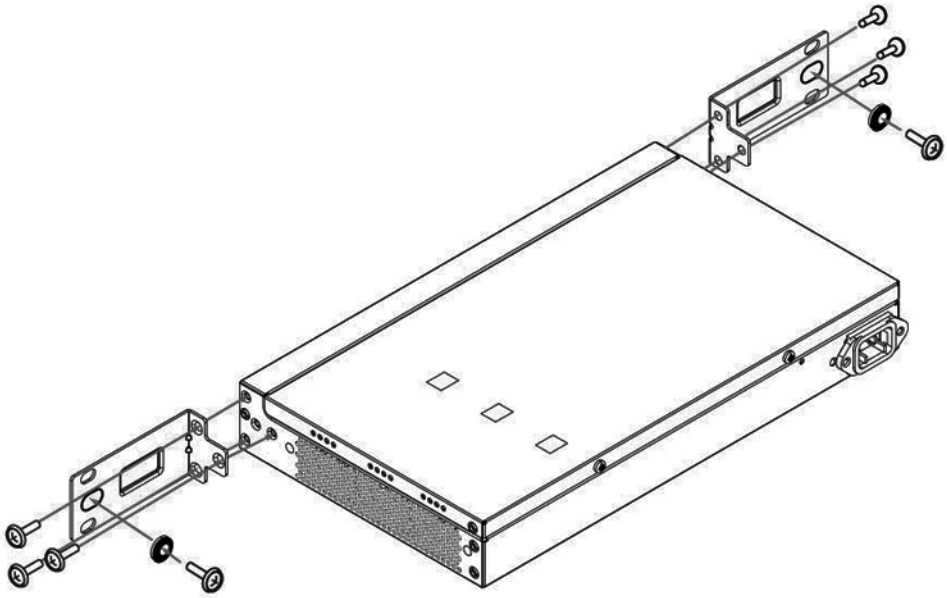
This section describes how to install CX555 and CX755 appliances in a rack.

To install mounting brackets to the appliance

1. Carefully lift the appliance out of the shipping carton.

2. To install the mounting brackets, use the included screw kit to secure the brackets onto the sides of the appliance (at the front of the appliance) using three screws on each side.

Figure 3-12. Installing brackets to the desktop appliance



3. To mount the brackets to the posts, slide the appliance into the rack until the front is flush against the rack posts. Install the included washer and screw in the center hole of the bracket.

   The appliance must be installed in a front-mount position.

4. Insert and tighten the rack post screws on each side of the appliance.

4

Installing xx55, xx60, DX, and SteelFusion Core 2000 and 3000 Appliances

This chapter describes how to install SteelHead CX xx55, DX, EX xx60, SteelFusion Core 2000 and 3000, and SteelCentral xx60 appliances in a rack. It includes the following sections:

- "Appliances included in this chapter" on page 31
- "Before you begin" on page 32
- "Center mounting 1U appliances in a two-post rack" on page 32
- "Working with 1U and 2U appliances using RMK-006 rails" on page 34
- "Working with 1U and 2U appliances using the extendable rail" on page 39

Appliances included in this chapter

This chapter describes how to install the following CX, DX, EX, SteelFusion Core, and SteelCentral appliances in a rack:

- 1U appliances, including CX1555 and EX1160 appliances.

  EX560 and EX760 appliances include separate rack installation instructions. Consult the instructions enclosed with your appliance for detailed information about installing these appliances in a rack.

- 2U appliances, including CX5055, CX7055, DX8000, EX1260, EX1360, and SteelFusion Core 2000 and 3000 appliances.

  For information about SteelFusion Core 3500 appliances, see Chapter 2, "Installing xx70, Interceptor 9600, and SteelFusion Core 3500 Appliances."

- SteelCentral xx60 appliances. Procedures and references to the 1U and 2U models apply to the SteelCentral xx60 appliances.

  For rack installation information for the NetShark 1100, 2100, and 2200, see the *NetShark Maintenance Guide*.

Before you begin

Before you begin the installation process:

- Remove the outer rails before attempting to install the appliance in a rack.
- Unplug the AC power cords.
- Remove all external devices and connectors.
- If your rack has square holes, use the included square post-hole adaptors.

  For details, see “Rack installation safety guidelines” on page 7.

Center mounting 1U appliances in a two-post rack

You can mount 1U CX xx55, EX, and SteelCentral xx60 appliances in a two-post rack in the center-mount position. The 1U appliances ship with two-post brackets (the RMK-004 rail kit) for this option.

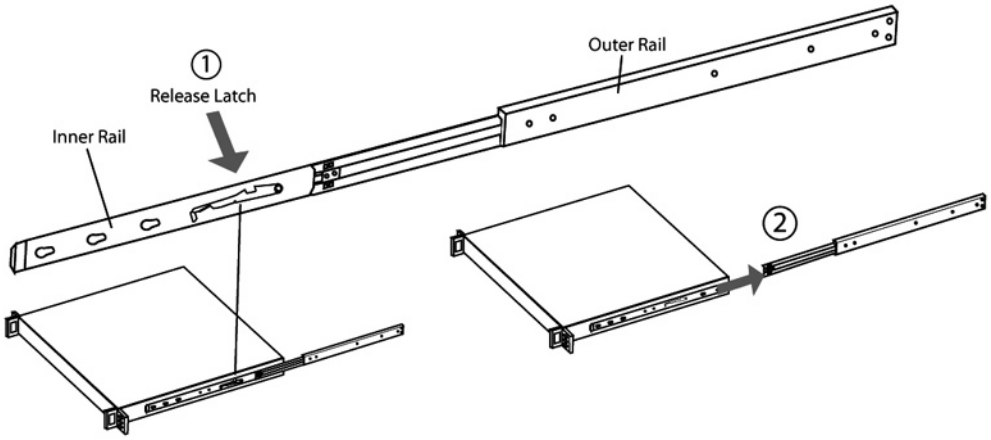
Note: All 2U appliances must be mounted to a four-post rack; they cannot be mounted to a two-post rack.

The following procedure describes how to remove the preinstalled four-post rails and install the two-post brackets for installation in a two-post rack.

To center mount appliances in a two-post rack

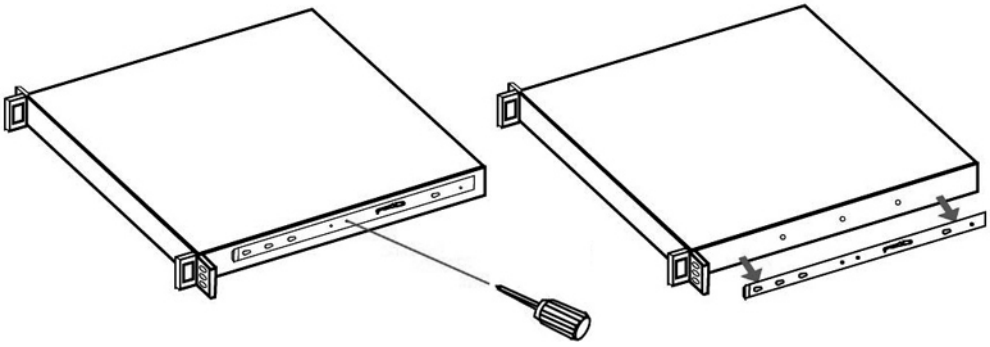
1. If the appliance is already installed in a rack, remove the appliance from the rack.
2. To detach the outer rails, slide the outer rail to the end of the appliance, push the release latch toward the front of the appliance, and pull the outer rail completely off the appliance.

Figure 4-1. Detaching the outer rails



3. To remove the inner rail, unscrew the three screws on each side of the appliance.

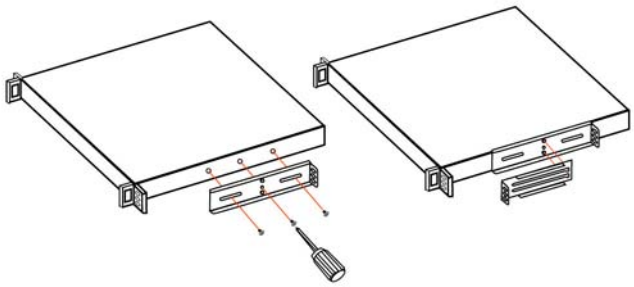
Figure 4-2. Removing inner rail securing screws



4. Attach the first bracket to the appliance with the three included screws.

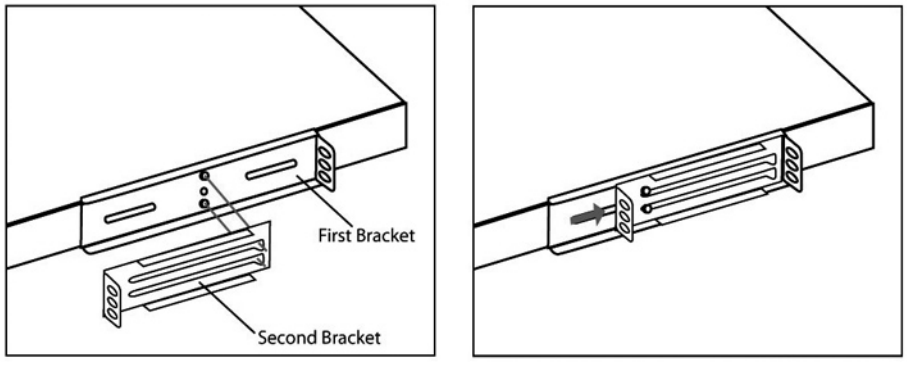
   Select a position that centers and balances the appliance on the bracket.

Figure 4-3. Attaching two-post center-mount brackets



5. Slide the second bracket onto the pegs of the first bracket by placing the second bracket over the first bracket at the widest opening and then slide toward the narrower part to secure.

Figure 4-4. Attaching second bracket to first bracket



6. Repeat steps 4 and 5 on the other side of the appliance.

7. Mount the appliance in the center of a two-post rack.

Working with 1U and 2U appliances using RMK-006 rails

You can mount 1U and 2U SteelHead CX xx55, DX, EX xx60 appliances, SteelCentral xx60 appliances, and the SteelFusion Core appliances using the RMK-006 rails. These rails are also known as King Slide rails.

The RMK-006 rails are preset for racks with depths of 24 7/8 inches to 28 9/16 inches (632 mm to 726 mm). You can adjust the size of these rails to fit your rack.

This section describes:

- "Setting up the rails" on page 34
- "Mounting the appliance" on page 37
- "Operating the rails" on page 39

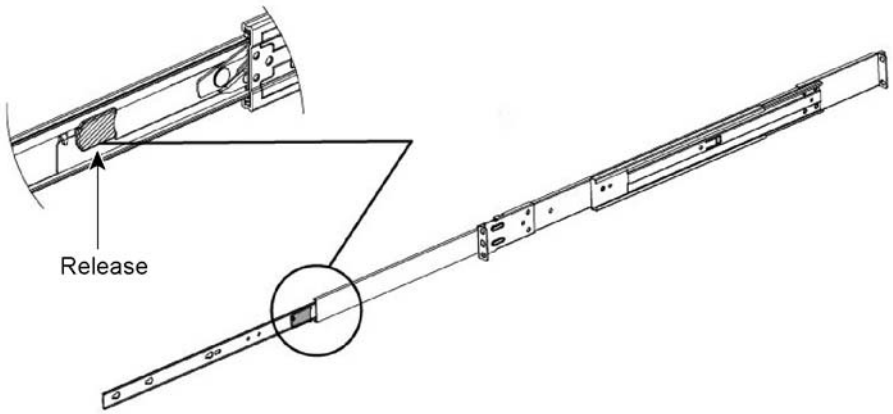
Setting up the rails

To set up the rails, detach the inner rails from the outer rails and attach the inner rails to the appliance.

To detach the inner rails from the outer rails

- Push the white release button and pull out the inner rail.

Figure 4-5. Releasing the inner rail from the outer rail

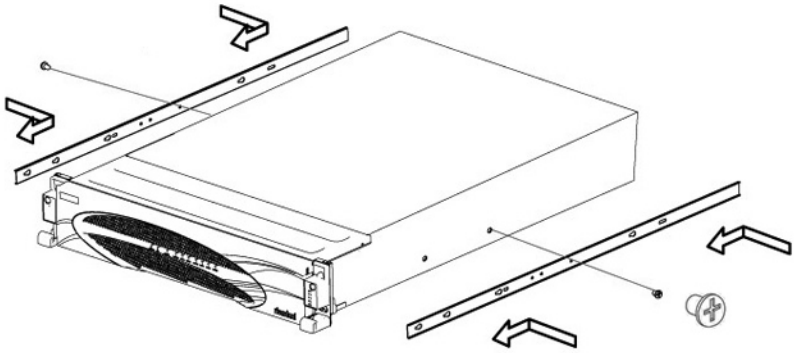


To attach the inner rail to the appliance

- Install the inner rails to the sides of the appliance using the included M4x4 screws.

The mounting hardware is in the accessory kit for the appliance.

Figure 4-6. Installing the inner rails to the appliance



Adjusting the size

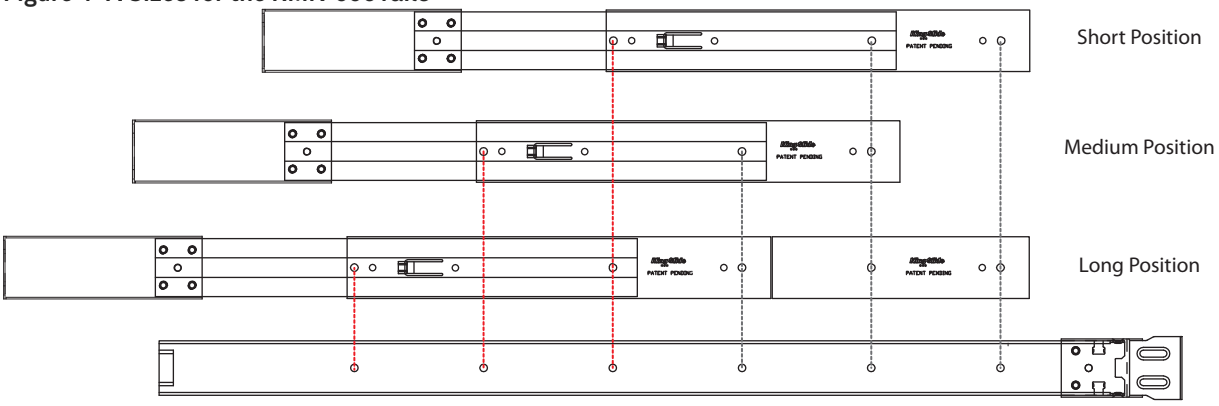
You can adjust the length of the outer rails to fit the distance between your rack posts. You can set them to the following sizes:

- Short, ranging from 21 1/8 inches to 24 7/8 inches (537 mm to 632 mm)
- Medium, ranging from 24 7/8 inches to 28 9/16 inches (632 mm to 726 mm)

  Medium is the default setting.
- Long, ranging from 28 9/16 inches to 32 inches (726 mm to 813 mm)

  The long adjustment requires the short reinforcement plate enclosed with your rails in addition to the standard bracket.

Figure 4-7. Sizes for the RMK-006 rails



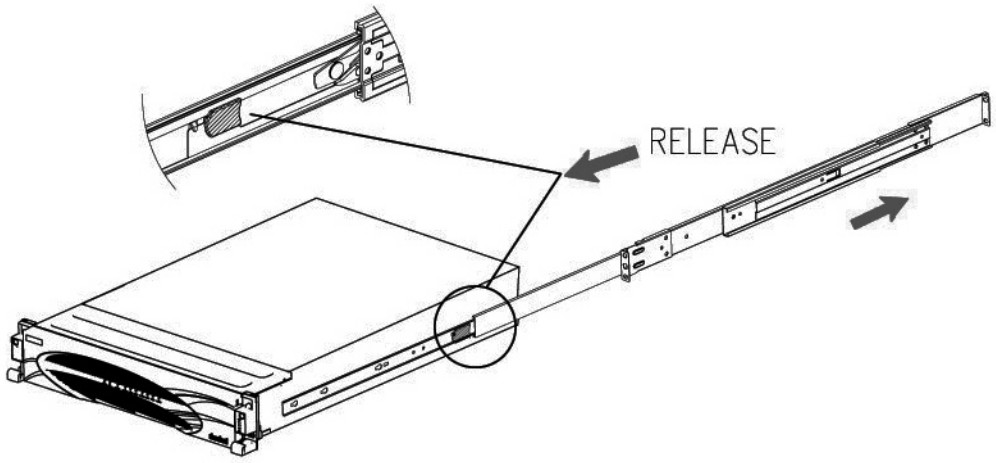
Note: Align the left hole of the depth bracket with the first hole on the rail for the large setting, the second hole for the medium setting, or the third hole for the small setting, as indicated by the red line in the previous illustration.

To adjust the length of the rails

1. Remove outer rails from the appliance and the inner rail.

2. Push the white release button and pull the outer rail away from the appliance.

Figure 4-8. Detaching the outer rails from the appliance



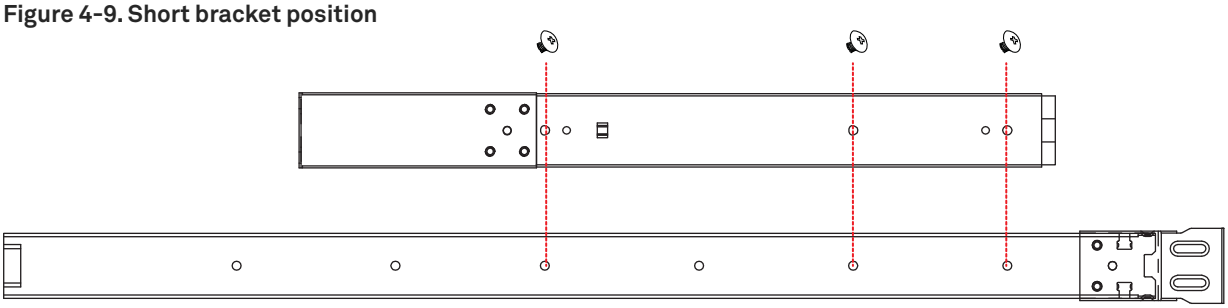
3. Turn over the outer rail and remove the three screws that secure the depth bracket. Adjust the position of the ball bearing slider and the oval access area to access these screws.

4. Move the bracket to the appropriate position for the required length and secure with three screws.

   You do not need to remove the rear brackets to adjust the rail sizes.

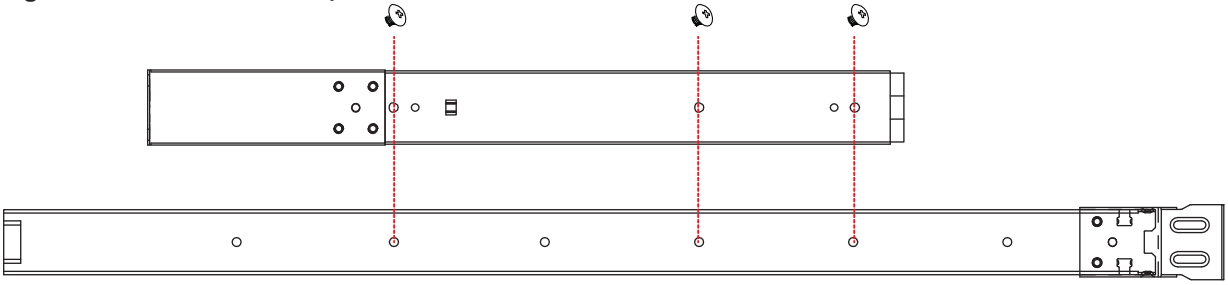
   For the short position, align the left screw hole on the bracket with the hole third from the left on the outer rail and secure with the three screws.

Figure 4-9. Short bracket position



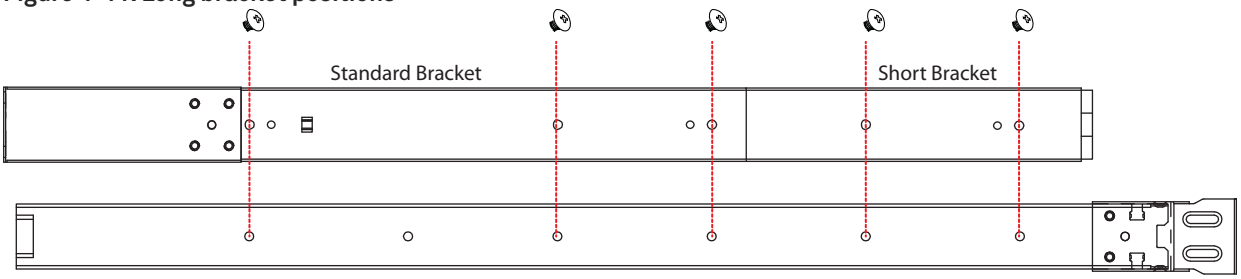
   For the medium position, align the left screw hole on the bracket with the hole second from the left on the outer rail and secure with three screws.

Figure 4-10. Medium bracket position



For the long position, align the left screw hole on the bracket with the hole on the left on the outer rail and secure with three screws. Add the short reinforcement bracket and secure with two screws.

Figure 4-11. Long bracket positions



You need to adjust the position of the ball bearing slider and the oval access area to access the positions for these screws.

Mounting the appliance

After you have detached the outer rails from the inner rails on the appliance and adjusted the length of the outer rails to fit your rack posts, you are ready to install the outer rail assemblies to the rack.

Note: All 2U appliances must be mounted to a four-post rack; they cannot be mounted to a two-post rack.

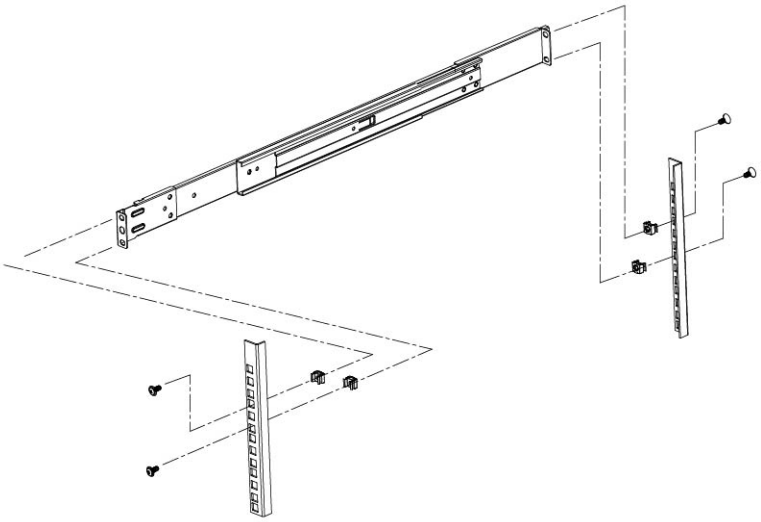
Caution: 2U appliances weigh 58 lb (26 kg). A minimum of two people is required to move a 2U appliance. Lift the appliance using both hands and with your knees bent.

To mount the appliance to a four-post rack

1. Install the outer rails to the rack posts with the included screw set.

The screw set is included in the appliance accessory kit.

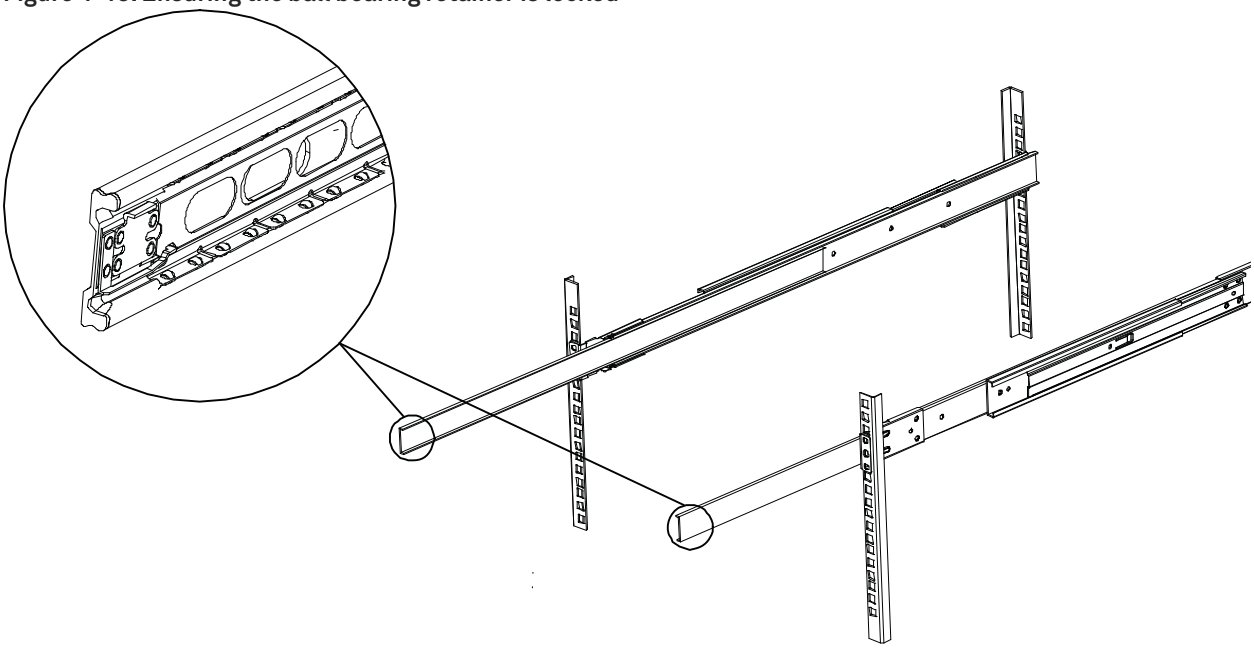
Figure 4-12. Attaching the outer rails to the rack



2. Verify the ball bearing retainer is locked in the forward position of the outer rails.

Caution: The ball bearing retainer on the outer rail must be returned to the forward position to connect with the inner rail on the appliance. The bearings might fall off if the ball bearing retainer is not pushed forward.

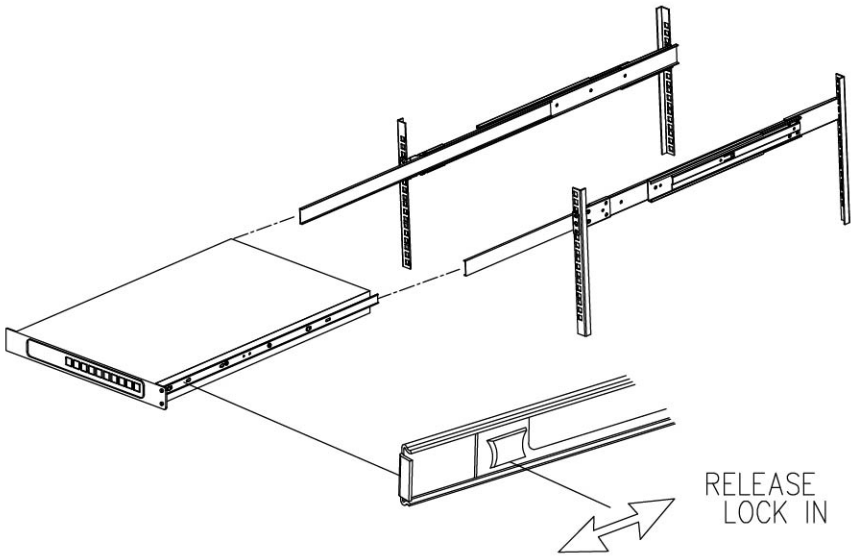
Figure 4-13. Ensuring the ball bearing retainer is locked



3. With two people lifting the appliance, gently slide the inner rails into the outer rails until you reach a hard stop.

4. Pull the release tabs on both of the inner rails and push the appliance all the way into the rack.

Figure 4-14. Sliding the appliance into the rack and pulling the inner rail release tab



Operating the rails

To operate the rails, follow these guidelines:

- To pull the appliance from the rack without removing it, pull it until it stops.
- To remove the appliance from the rack, push the release tab and remove the appliance.
- To push the appliance back into the rack, use the inner rail release tab shown in Figure 4-14.

Caution: Use caution when the appliance is mounted in a rack and the outer rails are extended; do not place objects or additional weight on the appliance.

Working with 1U and 2U appliances using the extendable rail

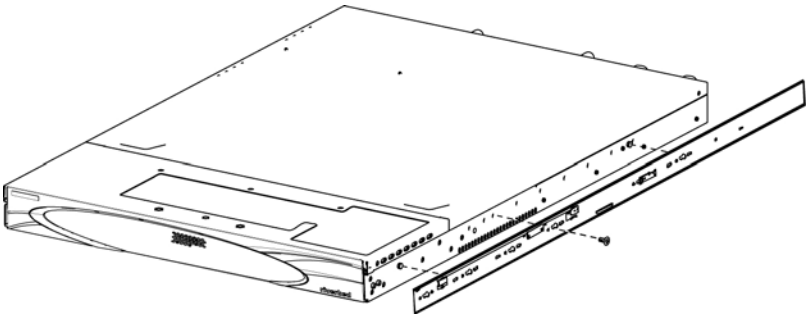
This section describes how to mount an appliance using the extendable rail (RMK-2-EXPRAIL) and contains the following procedures:

- "Setting up the rails" on page 34
- "Mounting the appliance" on page 37
- "Operating the rails" on page 39
- "Center mounting 1U appliances in a two-post rack" on page 32

Setting up the rails

To set up the rails, attach the inner rails to the appliance. (See Figure 4-15.)

Figure 4-15. Attaching the inner rails



Mounting the appliance

After you have adjusted the length of the outer rails to fit your rack posts, you are ready to install the outer rail assemblies to the rack.

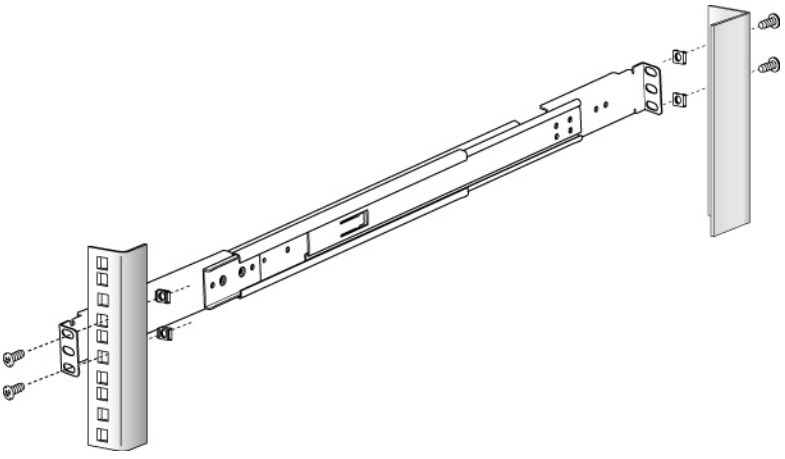
Note: All 2U appliances must be mounted to a four-post rack.

Caution: A minimum of two people is required to move a 2U appliance. Lift the appliance using both hands and with your knees bent.

To mount the appliance to a four-post rack

1. Install the outer rails to the rack posts. (See Figure 4-16.)

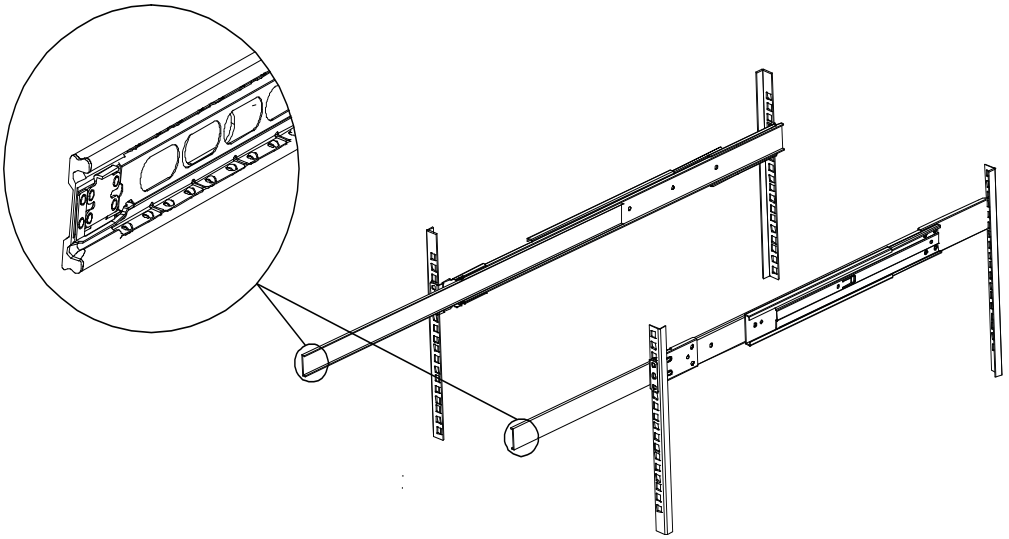
Figure 4-16. Installing the outer rails to the rack



2. Verify the ball bearing retainer is locked in the forward position of the outer rails. (See Figure 4-17.)

Caution: The ball bearing retainer on the outer rail must be returned to the forward position to connect with the inner rail on the chassis. The bearings might fall off if the ball bearing retainer is not pushed forward.

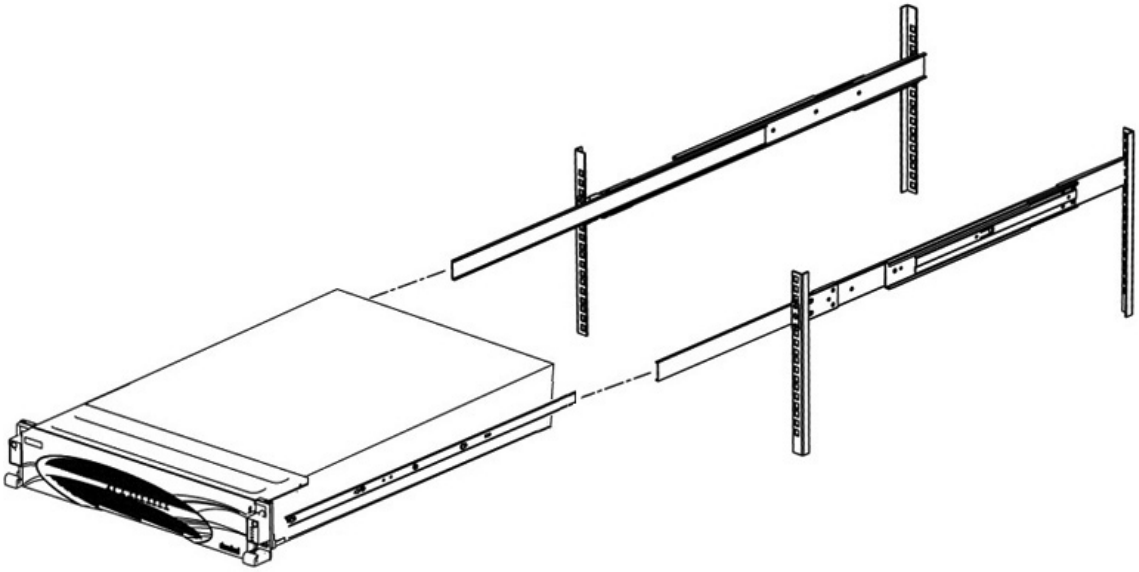
Figure 4-17. Ensuring the ball bearing retainer is locked



3. With two people lifting the appliance, gently slide the inner rails into the outer rails until you reach a hard stop.

4. Pull the release tabs on both of the inner rails and push the appliance all the way into the rack. (See Figure 4-14.)

Figure 4-18. Sliding the appliance into the rack and pulling the inner rail release tab



Operating the rails

To operate the rails, follow these guidelines:

- To pull the appliance from the rack without removing it, pull it until it stops.
- To remove the appliance from the rack, push the release tab and remove the appliance.
- To push the appliance back into the rack, use the inner rail release tab shown in Figure 4-14.

Caution: Use caution when the appliance is mounted in a rack and the outer rails are extended; do not place objects or additional weight on the appliance.

5

Installing SteelHead x50 and xx50 Appliances

This chapter describes how to install SteelHead x50 appliances in a rack. It includes the following sections:

- “Mounting desktop SteelHead x50 appliances in a rack” on page 43
- “Mounting 1U SteelHead xx50 appliances in a rack” on page 44
- “Mounting 3U SteelHead xx50 appliances in a rack” on page 52

Note: All 3U appliances must be mounted to a four-post rack; they cannot be mounted to a two-post rack.

Mounting desktop SteelHead x50 appliances in a rack

This section describes how to install SteelHead x50 appliances in a rack.

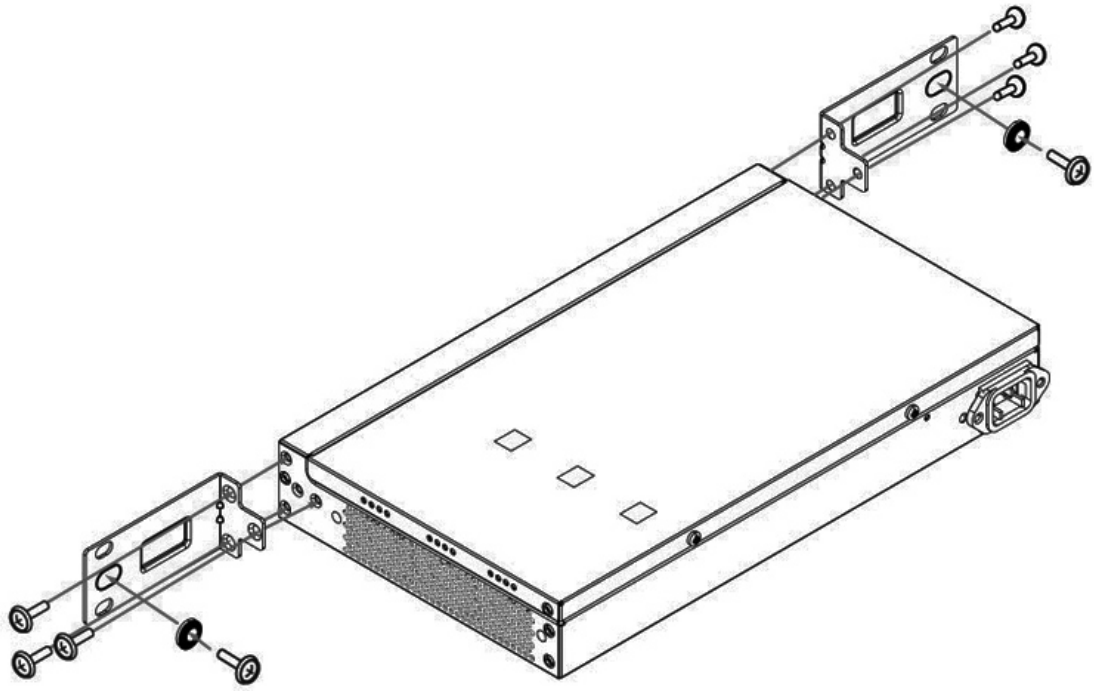
Caution: SteelHead x50 appliances are designed for side-to-side airflow. If you install these appliances in a rack, do not place objects on the sides of the appliance; it restricts airflow and can damage the appliance.

To install mounting brackets to the appliance

1. Carefully lift the appliance out of the shipping carton.

2. To install the mounting brackets, use the included screw kit to secure the brackets onto the sides of the appliance (at the front of the appliance) using three screws on each side.

Figure 5-1. Installing brackets to the desktop appliance



3. To mount the brackets to the posts, slide the appliance into the rack until the front is flush against the rack posts. Install the included washer and screw in the center hole of the bracket. The SteelHead x50 appliances must be installed in a front-mount position.

4. Insert and tighten the rack post screws on each side of the appliance.

Mounting 1U SteelHead xx50 appliances in a rack

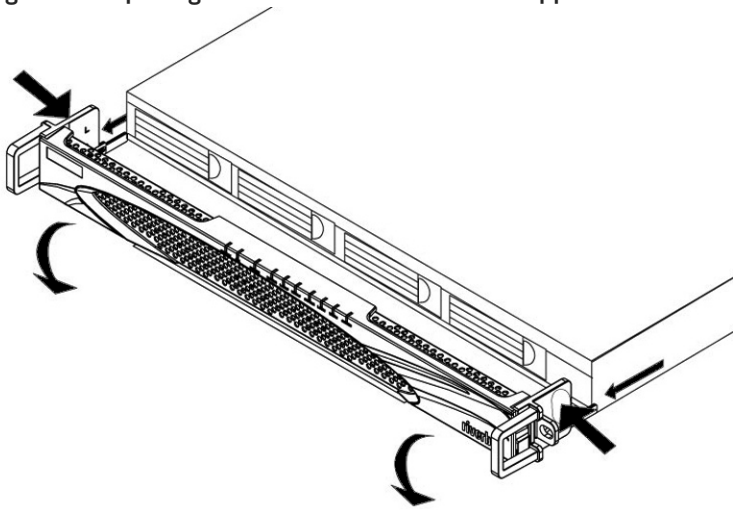
This section describes how to install SteelHead xx50 appliances in a four-post or two-post rack. It includes the following topics:

- "Mounting 1U SteelHead xx50 appliances using RMK-002A rails" on page 45
- "Mounting 1U SteelHead xx50 appliances in a four-post rack" on page 47
- "Center mounting 1U SteelHead xx50 appliances in a two-post rack" on page 50

To open the bezel on xx50 appliances

- To open the bezel, firmly press in the buttons on each side of the bezel and slide it toward you. The bezel remains attached to the appliance on hinges.

Figure 5-2. Opening the bezel on SteelHead xx50 appliances

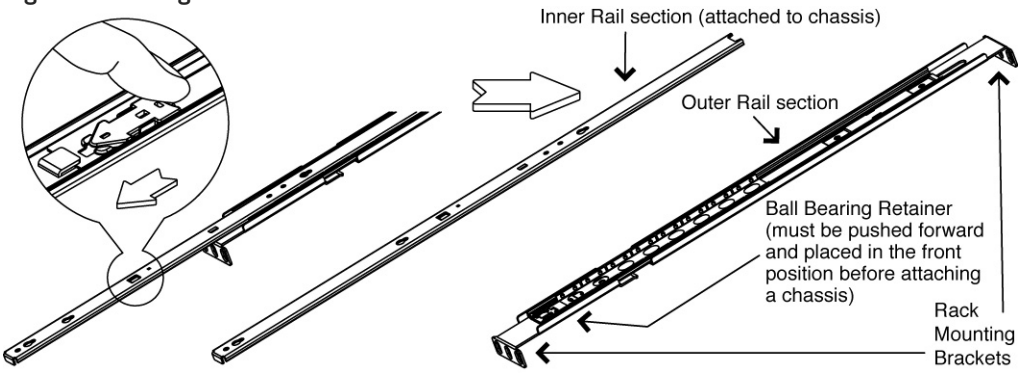


Mounting 1U SteelHead xx50 appliances using RMK-002A rails

This section describes how to mount the SteelHead xx50 appliance to a four-post rack using rack mount kit RMK-002A. The RMK-002A rails are modified rails for 1U xx50 appliances.

1. To detach the outer rails, press the release latch and pull the outer rails away from the appliance.

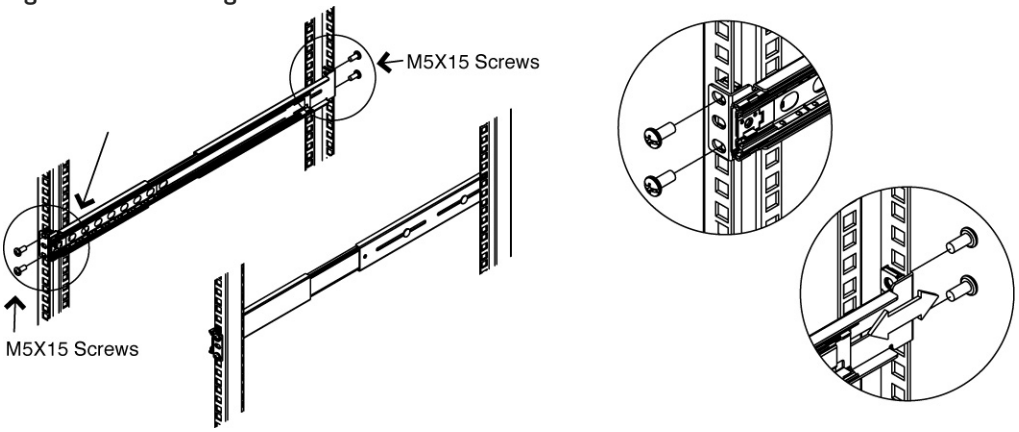
Figure 5-3. Using the release latch to detach the outer rails



2. Install the outer rails to the rack posts.

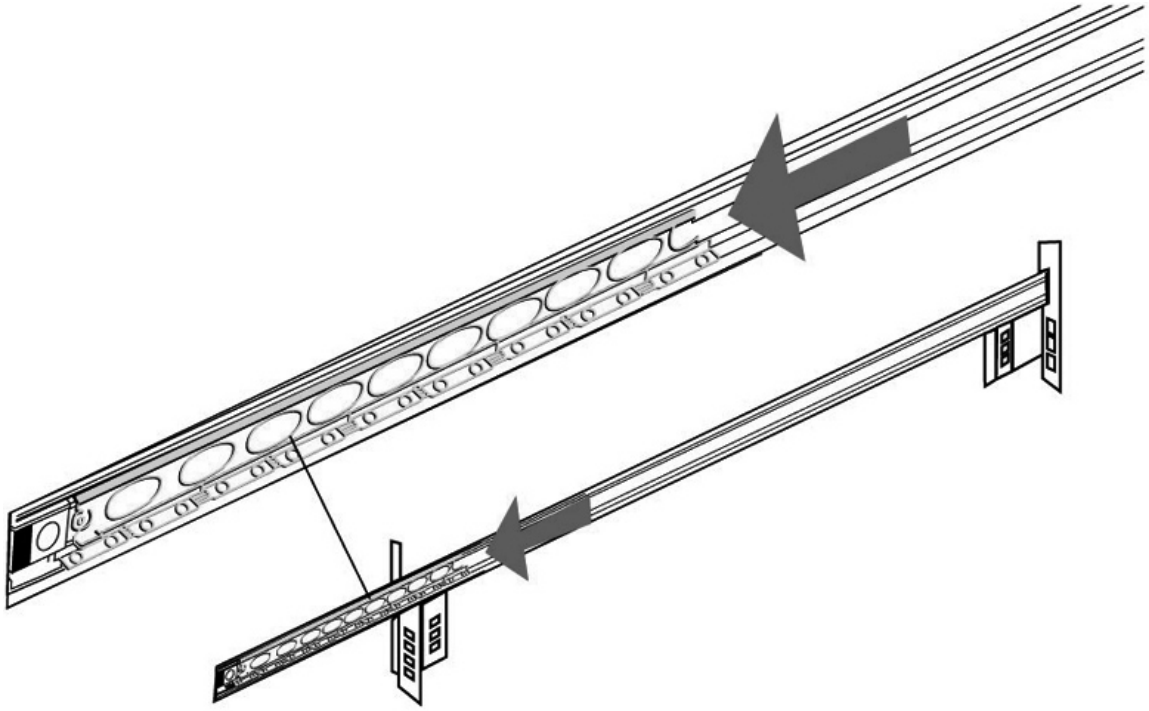
Note: The RMK-002A rails can accommodate a 22-inch to 32-inch (559-mm to 813-mm) deep rack and a maximum device weight of 88 lb (40 kg).

Figure 5-4. Attaching the outer rails to the rack



3. Slide the ball bearing retainer on the inside of the outer rail to the forward position.

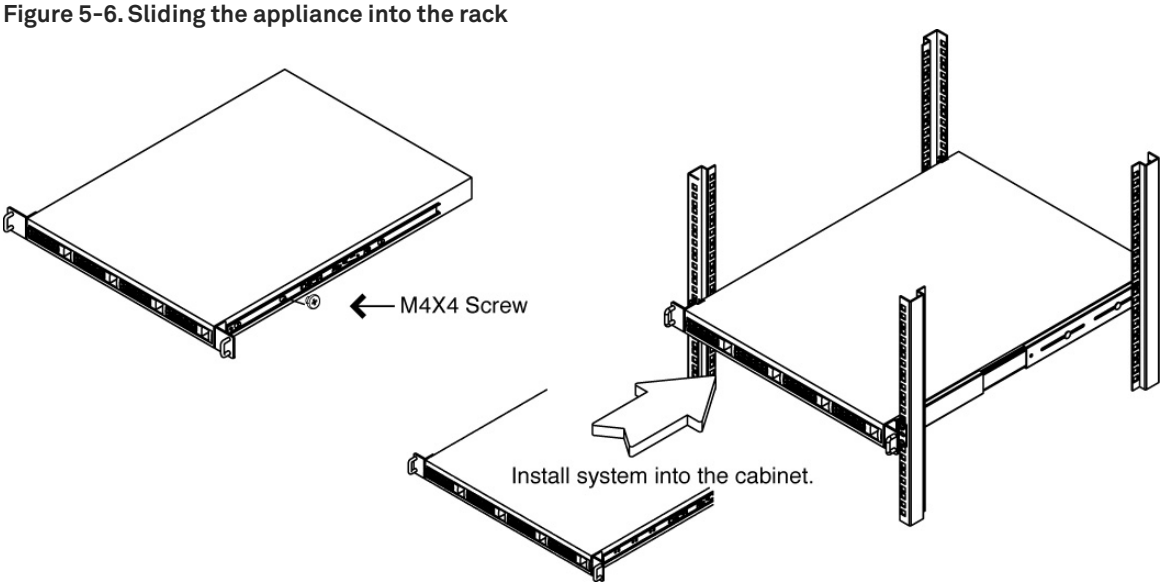
Figure 5-5. Sliding the ball bearing retainer to the forward position



Note: The ball bearing retainer must be pushed forward and placed in the front position before attaching an appliance to the rack.

4. Slide the inner rails into the outer rails, pushing the appliance into the rack.

Figure 5-6. Sliding the appliance into the rack



Note: For replacement rails for xx55 appliances, you can use the RMK–2-EXPRAIL kits.

Mounting 1U SteelHead xx50 appliances in a four-post rack

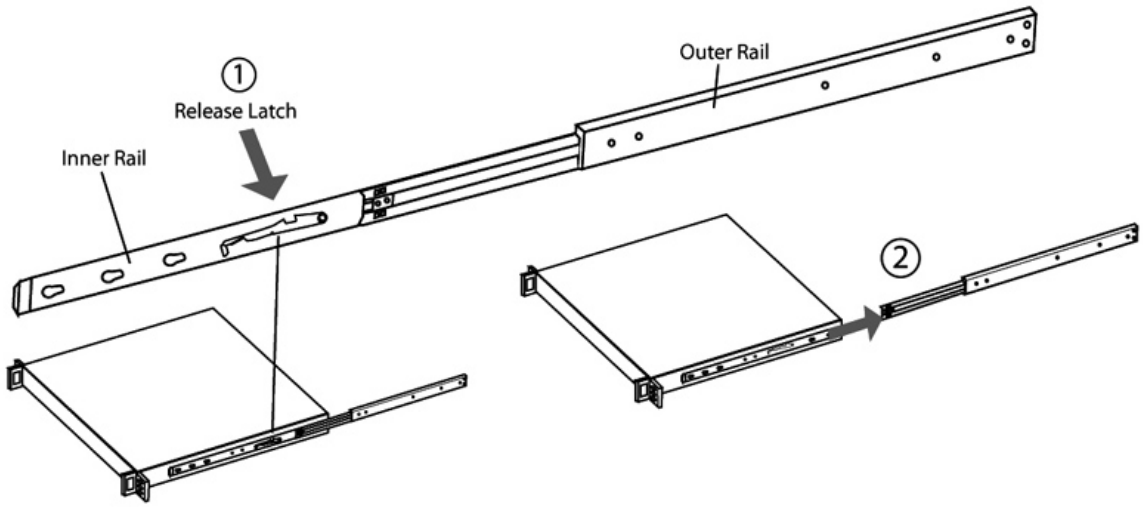
SteelHead xx50 appliances ship with rails preinstalled to the appliance for mounting to a four-post rack. This section describes how to mount the SteelHead xx50 appliance to a four-post rack.

To mount a SteelHead xx50 to a four-post rack

1. To detach the outer rails, slide the outer rail to the end of the appliance and engage the release latches. The right release latch must be pushed down and the left release latch must be pushed up.

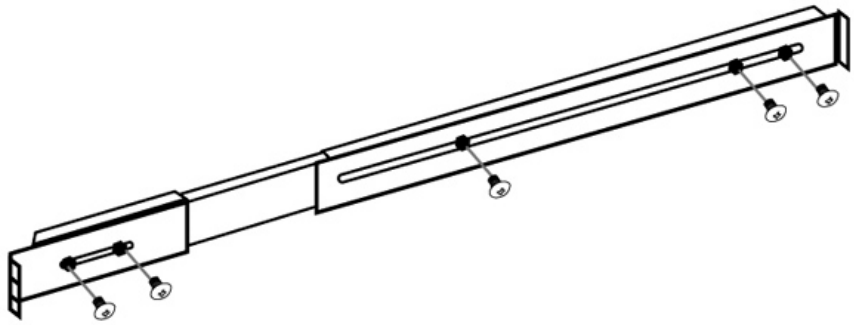
2. Pull the outer rail completely off the appliance.

Figure 5-7. Detaching the outer rails



3. If needed, attach the brackets to the outer rails with the included screw set.

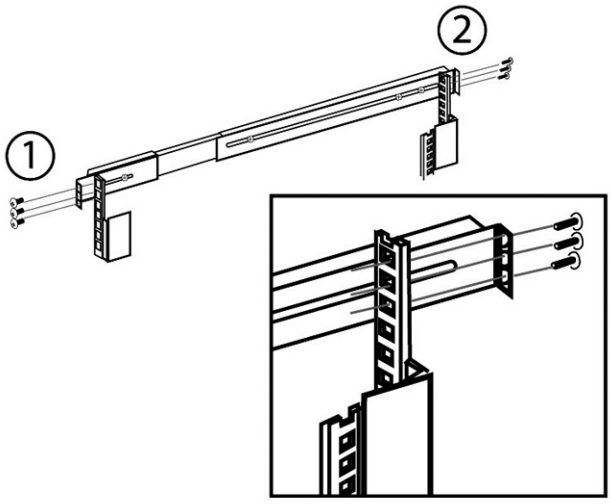
Figure 5-8. Attaching brackets to outer rails



4. To adjust the length of the outer rails to fit the distance between your rack posts, loosen the screws on the longer rear bracket of the outer rails. You can tighten and secure the bracket screws after you have affixed the outer rails to the rack posts.

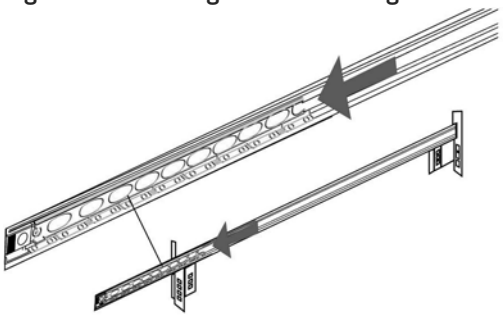
5. Install the outer rails to the rack posts.

Figure 5-9. Attaching the outer rails to the rack



6. Slide the ball bearing retainer on the inside of the outer rail to the forward position.

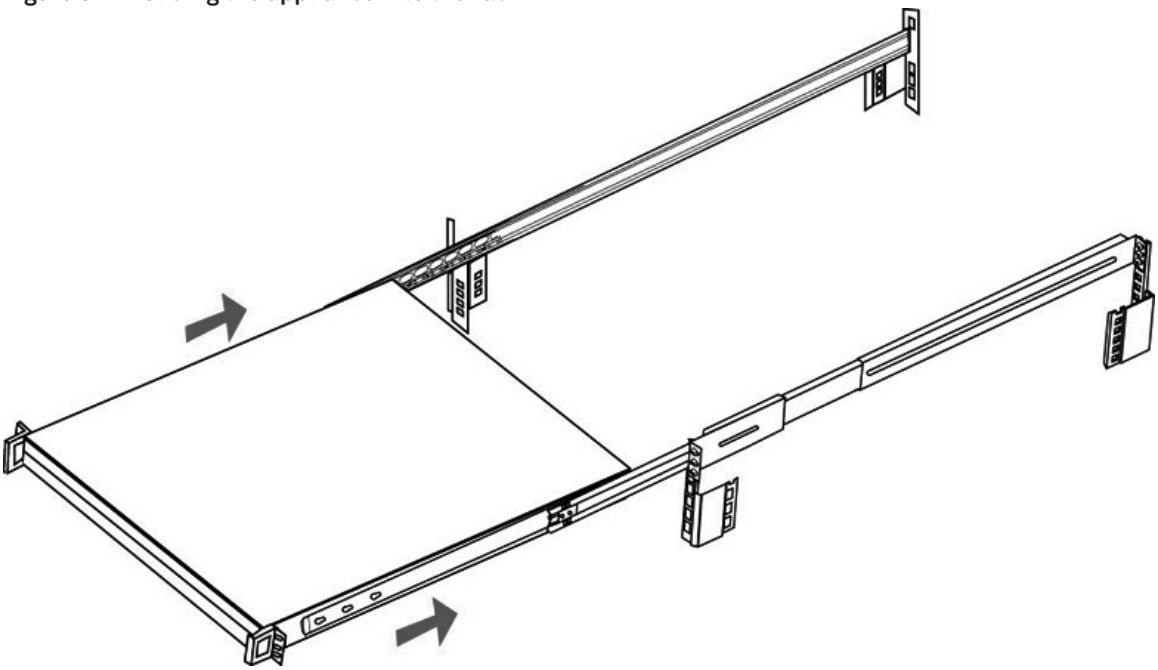
Figure 5-10. Sliding the ball bearing retainer to the forward position



Caution: The ball bearing retainer on the outer rail must be returned to the forward position to connect with the inner rail on the appliance. The bearings might fall off if the ball bearing retainer is not pushed forward.

7. Slide the inner rails into the outer rails, pushing the appliance into the rack.

Figure 5-11. Sliding the appliance into the rack



To operate the rails

- To pull out the appliance from the rack without removing it, pull it until it stops.
- To remove the appliance from the rack, pull until the outer rail release latch, shown in Figure 5-7, is visible.

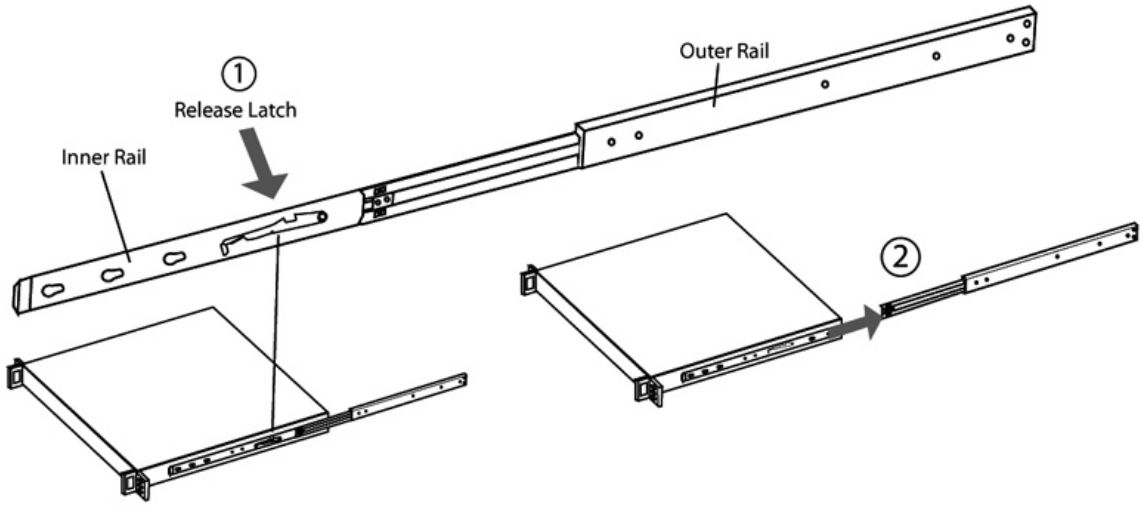
Center mounting 1U SteelHead xx50 appliances in a two-post rack

You can mount the SteelHead xx50 in a two-post rack in the center-mount position using rail kit RMK-004. This section describes how to remove the preinstalled four-post rails and install the two-post brackets for installation in a two-post rack.

To center mount xx50s to a two-post rack

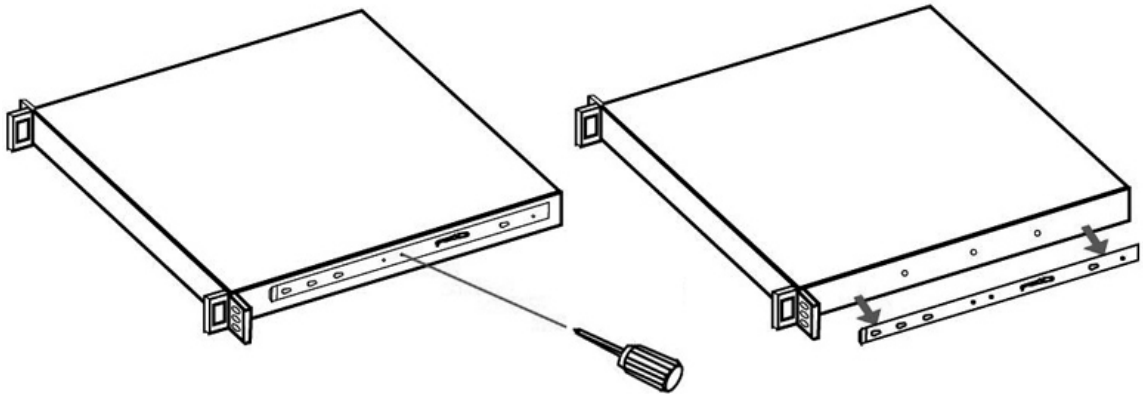
1. If the appliance is already installed in a rack, remove the appliance from the rack.
2. To detach the outer rails, slide the outer rail to the end of the appliance, push the release latch toward the front of the appliance, and pull the outer rail completely off the appliance.

Figure 5-12. Detaching the outer rails



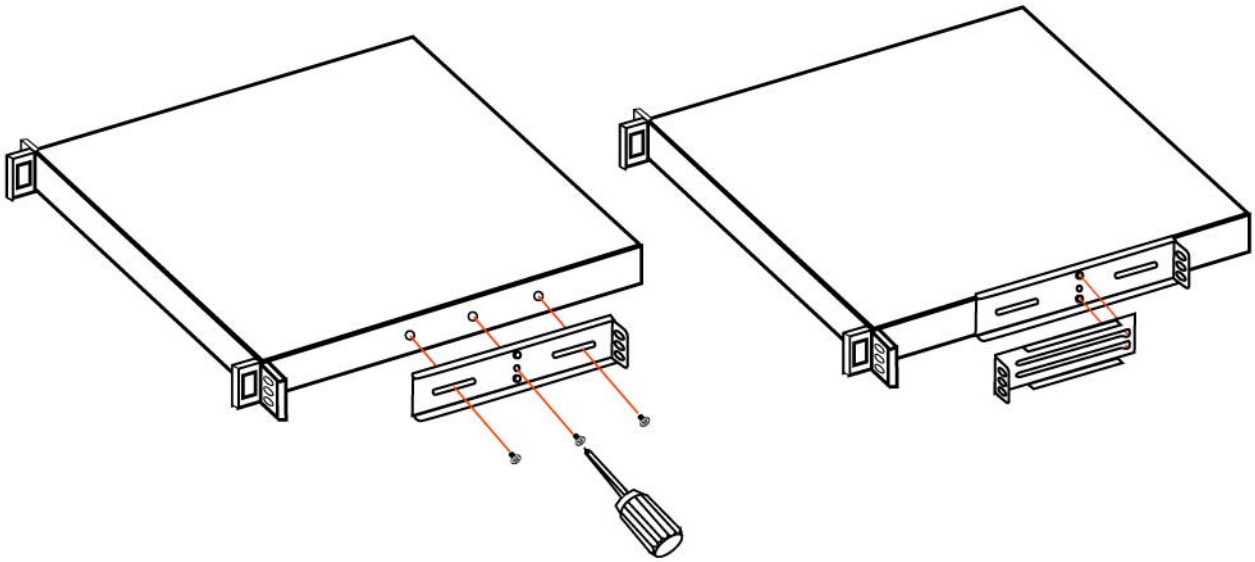
3. To remove the inner rail, unscrew the three screws on each side of the appliance.

Figure 5-13. Removing inner rail securing screws



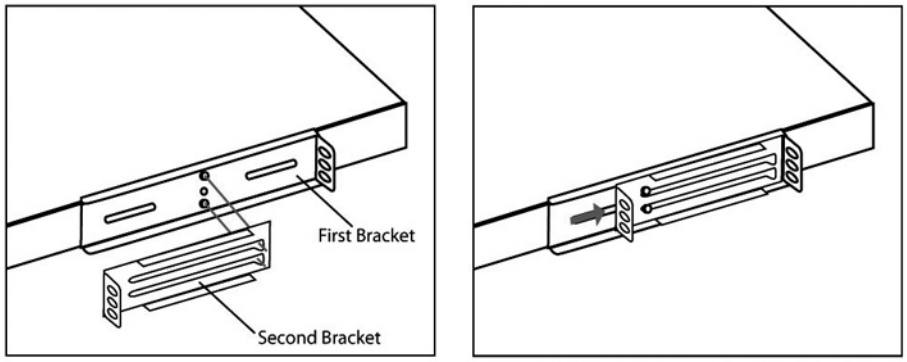
4. Attach the first bracket to the appliance with the three included screws.

Figure 5-14. Attaching two-post center-mount brackets



5. Slide the second bracket onto the pegs of the first bracket by placing the second bracket over the first bracket at the widest opening and then slide toward the narrower part to secure.

Figure 5-15. Attaching second bracket to first bracket



6. Repeat steps 4 and 5 on the other side of the appliance.

Mounting 3U SteelHead xx50 appliances in a rack

The SteelHead xx50 ship with rails preinstalled to the appliance for mounting to a four-post rack. This section describes how to install the appliance in a four-post rack.

Before you begin the installation process:

- Unplug the AC power cords.
- Remove all external devices and connectors.

Note: If your rack has square holes, use the included square post-hole adapters. For details, see "Square post-hole adapters" on page 9.

Note: All 3U appliances must be mounted to a four-post rack; they cannot be mounted to a two-post rack.

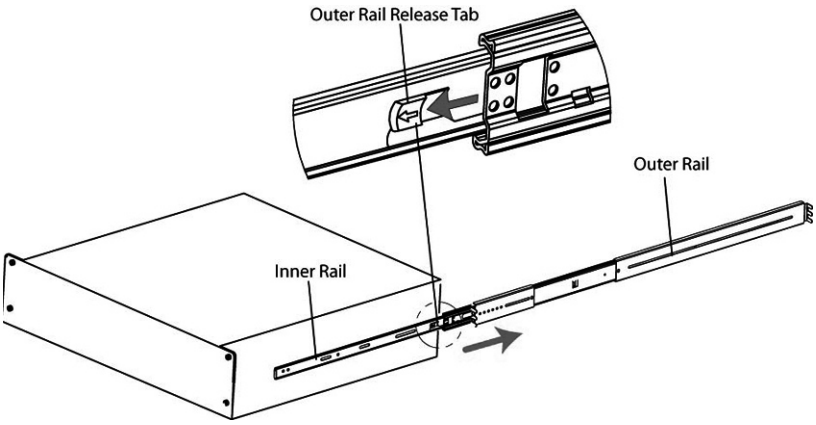
Caution: 3U appliances weigh from 59 to 71 lb (27 to 33 kg). A minimum of two people is required to move a 3U appliance. Lift the appliance using both hands and with your knees bent.

Note: The outer rails are not required to install the appliance in a shelving unit. Remove the outer rails before attempting to install the SteelHead xx50 in a shelving unit.

To detach the outer rails from the inner rails

- To detach the outer rails, slide the outer rail to the end of the appliance, pull the outer rail release tab toward the front of the appliance and pull the outer rail completely away from the appliance.

Figure 5-16. Releasing the outer rail

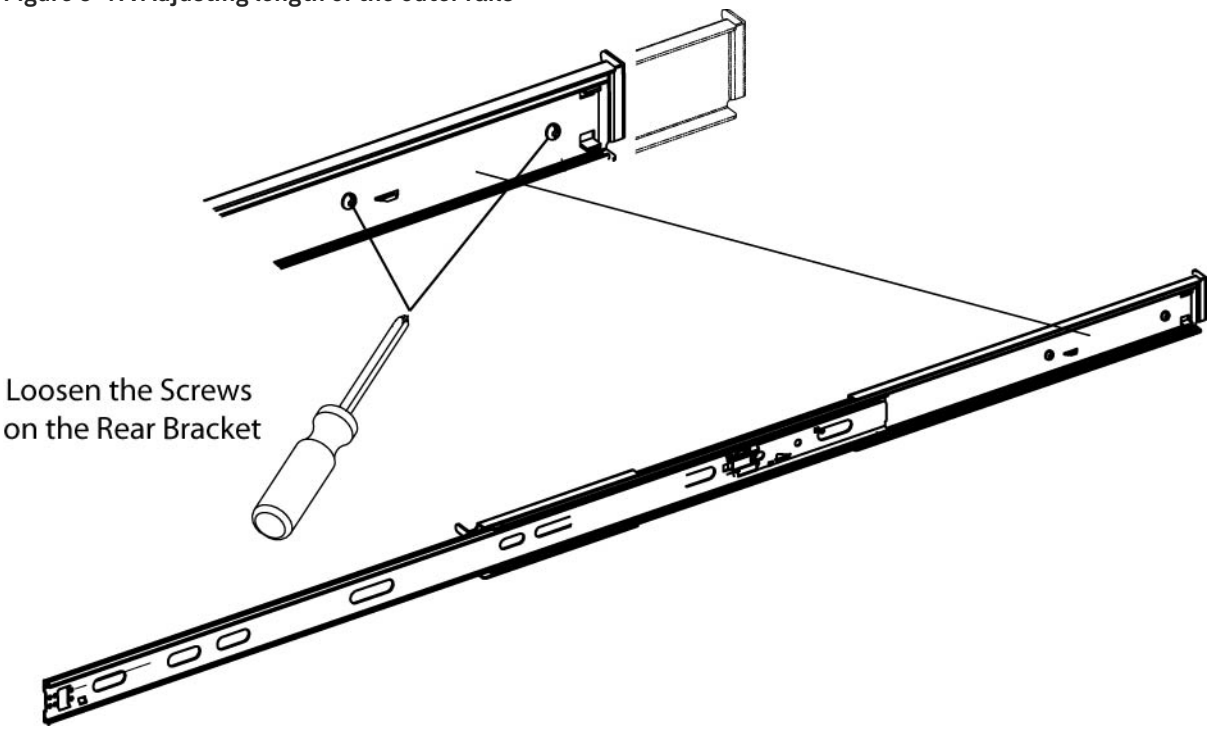


To adjust the length of the outer rails

1. To adjust the length of the outer rails to fit the distance between your rack posts, loosen the screws on the longer rear bracket of the outer rails. You can tighten and secure the bracket screws after you have affixed the outer rails to the rack posts.

Note: In some environments, you cannot reach the bracket screws after the rails have been installed. In this case the length of the outer rails should be adjusted and secured before mounting the outer rails into the rack.

Figure 5-17. Adjusting length of the outer rails



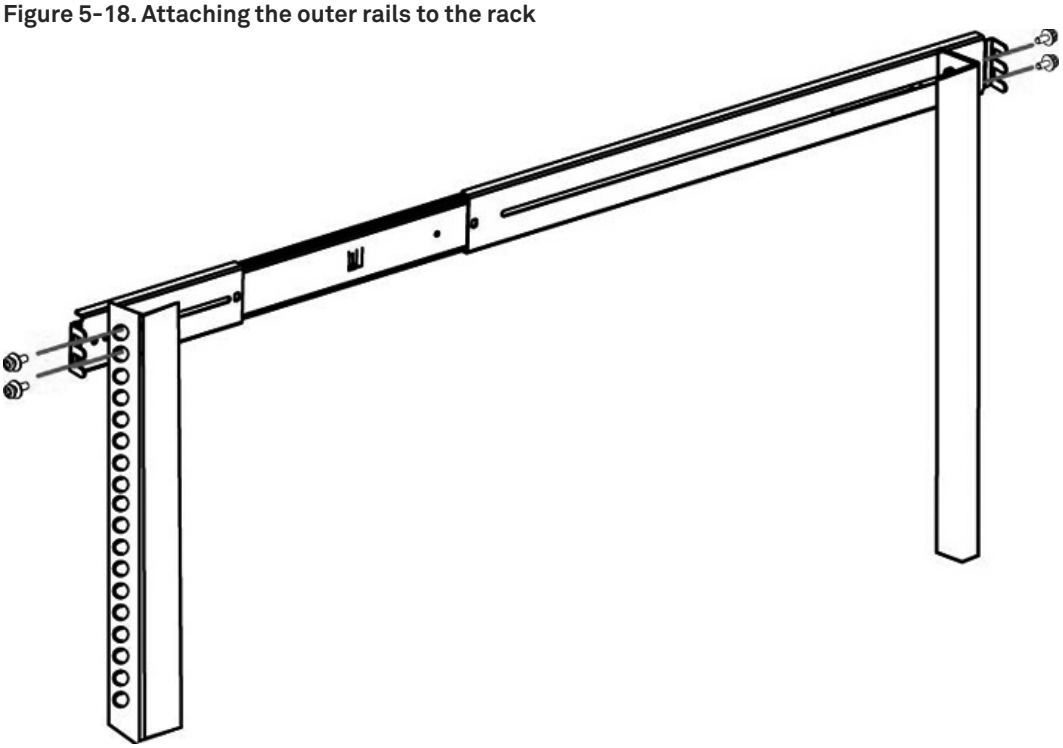
Note: The screws on the front bracket are preadjusted, do not loosen those screws.

To install the outer rails to a rack

After you have detached the outer rails from the inner rails on the appliance and adjusted the length of the outer rails to fit your rack posts, you are ready to install the outer rail assemblies to the rack.

- Install the outer rails to the rack posts with the included screw set.

Figure 5-18. Attaching the outer rails to the rack



Note: The sliding part of the outer rails should not be extended when inserting or removing the appliance.

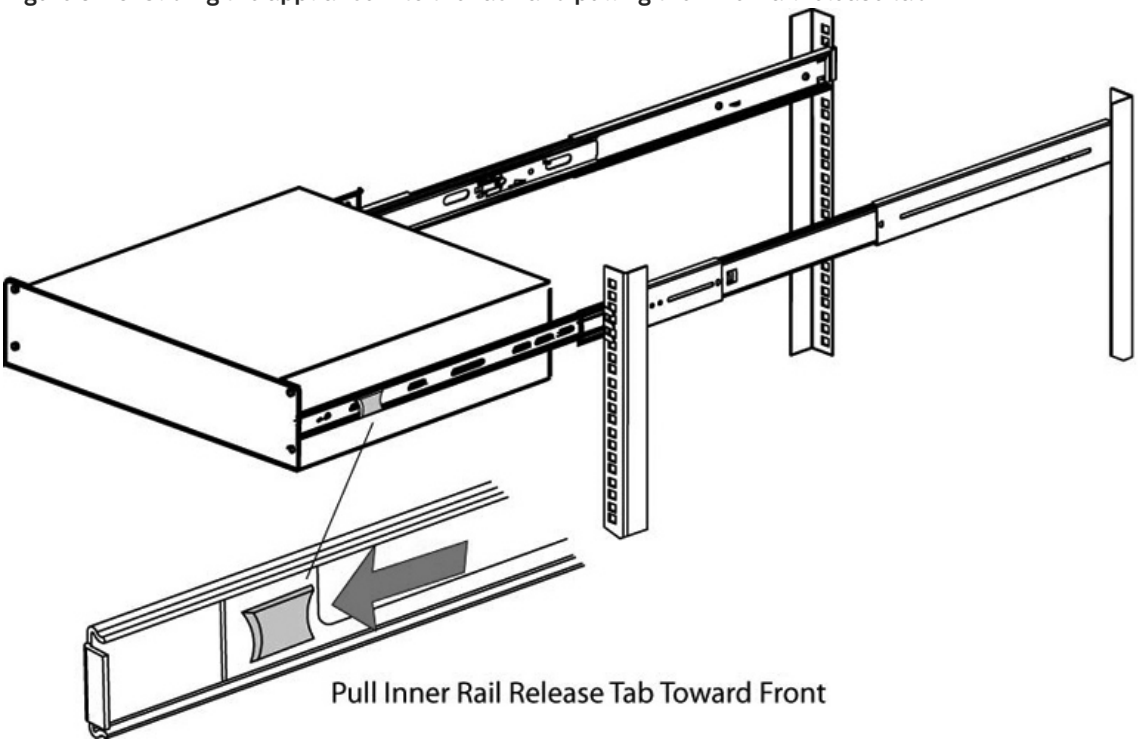
To mount the appliance in a rack

1. With two people lifting the appliance, gently slide the inner rails into the outer rails until you get to a hard stop.

Note: The inner and outer rails must meet precisely, and the appliance must be held level to join the rails. The sliding part of the outer rails should not be extended when joining the inner and outer rails.

2. When the appliance has reached a hard stop, pull the release tabs on both of the inner rails and push the appliance all the way into the rack.

Figure 5-19. Sliding the appliance into the rack and pulling the inner rail release tab



To operate the rails

- To pull out the appliance from the rack without removing it, pull it until it stops.
- To push the appliance back into the rack, use the inner rail release tab.
- To remove the appliance from the rack, pull until the outer rail release tab shown in Figure 5-16 is visible.

Caution: Use caution when the appliance is mounted in a rack and the outer rails are extended. Do not place objects or additional weight on the appliance.