

 <http://www.lenovo.com/safety>

This document provides important information about the ThinkSystem Screw-In Slide Rail and ThinkSystem Toolless Friction Rail.

**ThinkSystem Screw-In Slide Rail package items:**

- One left rail and one right rail
- Four clip nuts
- Two clip nut bars
- Four M6 screws
- Four #12-24 screws
- Four #10-32 screws
- Four universal M4 screws

If you have ordered a cable management arm (CMA), a CMA kit is delivered with the ThinkSystem Screw-In Slide Rail.

For information about how to install the rail kit, see ThinkSystem Screw-In Slide Rail on page 3.

For information about how to install the CMA kit, see Cable Management Arm for the ThinkSystem Screw-In Slide Rail on page 7.

**ThinkSystem Toolless Friction Rail package items:**

- One left rail and one right rail
- Two M5 screws

For information about how to install the rail kit, see ThinkSystem Toolless Friction Rail on page 10.

## Read these guidelines first

Review the documentation that comes with the rack for safety and cabling information. Before you install the server in a rack, review the following guidelines:

- Two or more people are required to install devices 2U or larger in a rack.
- See the server *Maintenance Manual* or *Setup Guide* for the maximum room air temperature.
- Install the server only in a rack that has perforated doors.
- Do not block any air vents, usually 15 cm (6 inches) of air space provides proper airflow.
- Plan the device installation starting from the bottom of the rack.
- Install the heaviest device in the bottom of the rack.
- Do not leave open space above or below an installed server in your rack. To help prevent damage to server components, always install a filler panel to cover the open space and to help ensure proper air circulation.
- Do not extend more than one device out of the rack at the same time.
- Connect all power cords to properly wired and grounded electrical outlets.
- Do not overload the power outlet when installing multiple devices in the rack.
- Remove the rack doors and side panels to provide easier access during installation.
- Install the server in a rack that meets the following requirements:
  - Minimum depth of 70 mm (2.76 inches) between the front mounting flange and inside of the front door.
  - Minimum depth of 190 mm (7.48 inches) between the rear mounting flange and inside of the rear door.
  - The maximum distance between the front and the rear EIA flange of the rack is 810 mm (31.9 inches).
  - If you want to install the rails and 0U PDUs into the same rack, the rack must meet the following height and depth requirements:
    - 42U or higher
    - For ThinkSystem Screw-In Slide Rail: at least 1100-mm (43.31-inch) deep if a CMA and parallel 0U PDUs are to be installed; at least 1200-mm (47.24-inch) deep if a CMA and vertical 0U PDU are to be installed
    - For ThinkSystem Toolless Friction Rail: at least 1000-mm (39.37-inch) deep

**Note:** The following table lists the rail length. The rail length refers to the distance measured when the rail is not extended.

| Rail name   | ThinkSystem Screw-In Slide Rail | ThinkSystem Toolless Friction Rail |
|-------------|---------------------------------|------------------------------------|
| Rail length | 836.8 mm (32.94 inches)         | 728.1 mm (28.6 inches)             |



**CAUTION:**

Use safe practices when lifting.



≥ 18 kg (39.7 lb)  
 < 32 kg (70.5 lb)



≥ 32 kg (70.5 lb)  
 < 55 kg (121.2 lb)



≥ 55 kg (121.2 lb)  
 < 100 kg (220.5 lb)



**CAUTION:** Do not place any object on top of rack-mounted devices.




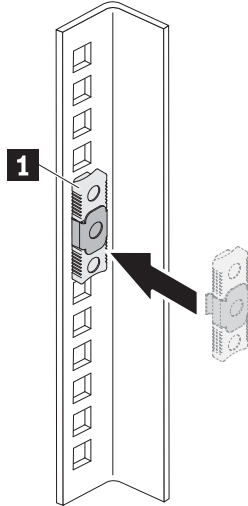
# ThinkSystem Screw-In Slide Rail

To install a server into a rack using the ThinkSystem Screw-In Slide Rail, do the following:

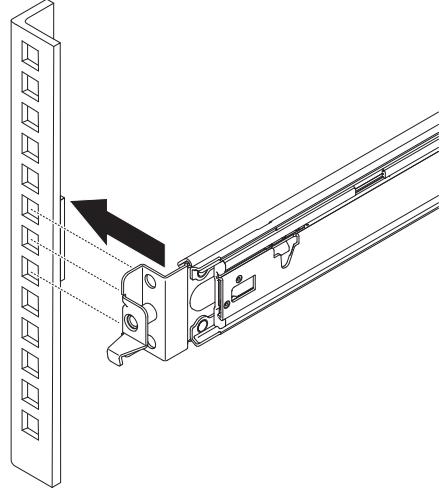
**1.** Install the rail kit onto racks with different mounting holes.

• **Rack with 9.5-mm square holes:**

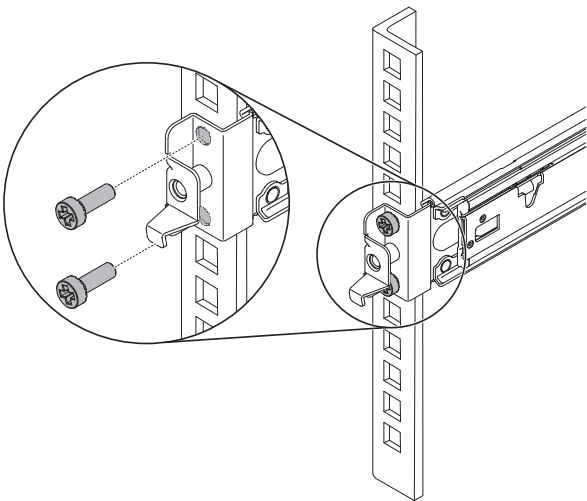
- a. Select an available space (depending on the server you are installing) in the rack to install your server. Place the nut bar  on the selected space of the rack.



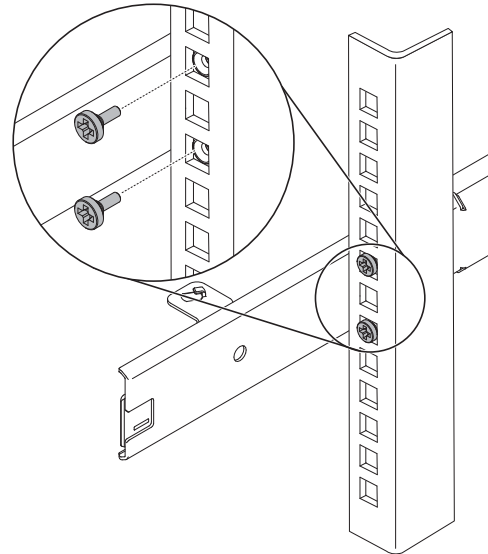
- b. Line up the pin hole of the front rail to the nut bar you just placed on the rack.



- c. Insert the M6 screws to the front of the rack to secure the front of the rail.

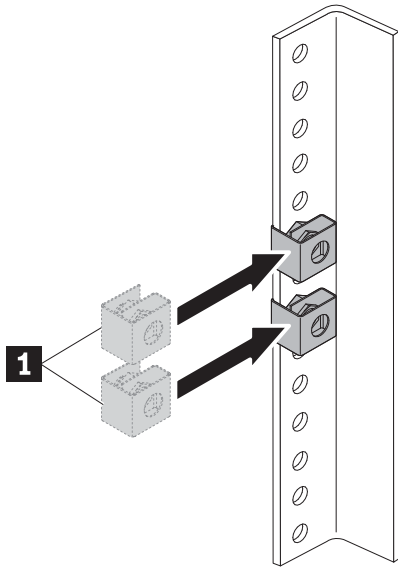


- d. Insert the universal M4 screws to the rear of the rack to secure the rear of the rail.

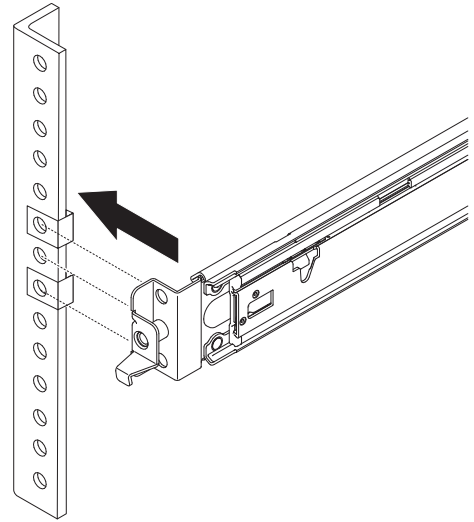


• **Rack with 7.1-mm round holes**

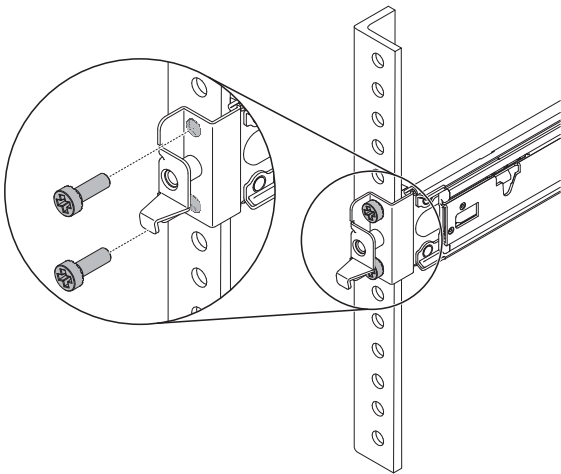
**a.** Select an available space (depending on the server you are installing) in the rack to install your server. Place the clip nuts **1** on the selected space of the rack.



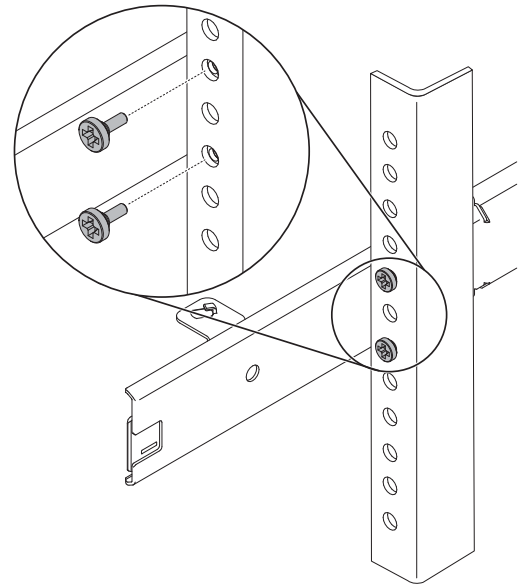
**b.** Line up the pin hole of the front rail to the clip nuts you just placed on the rack.



**c.** Insert the M6 screws to the front of the rack to secure the front of the rail.

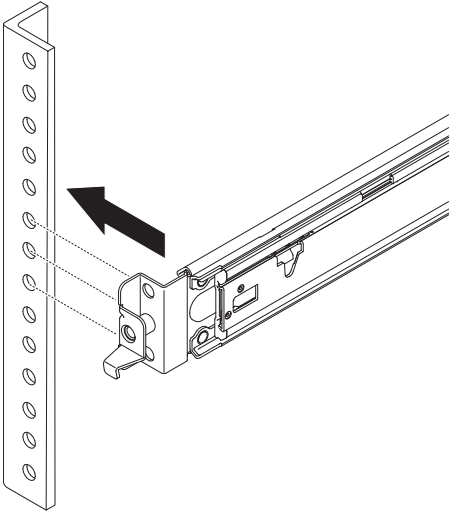


**d.** Insert the universal M4 screws to the rear of the rack to secure the rear of the rail.

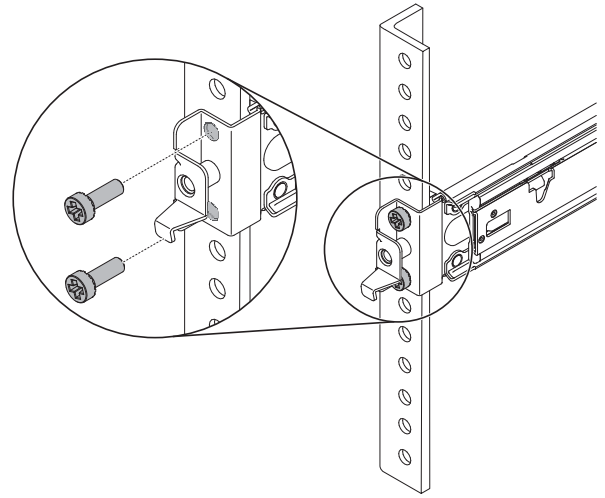


• **Rack with #10-32 thread holes**

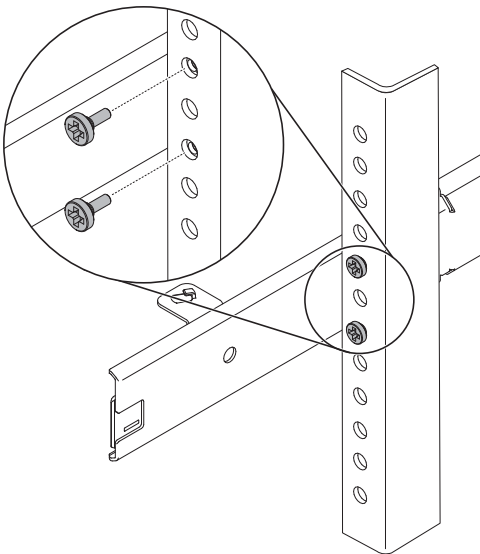
a. Select an available space (depending on the server you are installing) in the rack to install your server. Line up the pin hole of the front rail to the selected space on the rack.



b. Insert the M6 or #12-24 screws to the front of the rail and secure it on the front of the rack.



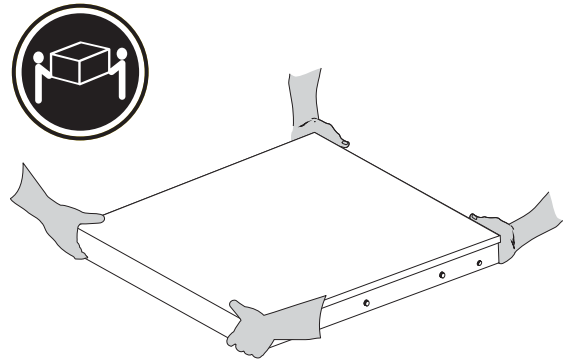
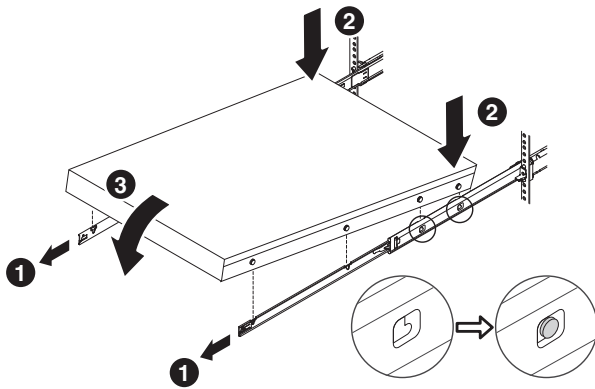
c. Insert the universal M4 screws to the rear of the rack to secure the rear of the rail.



**2.** Install the server onto the rails.

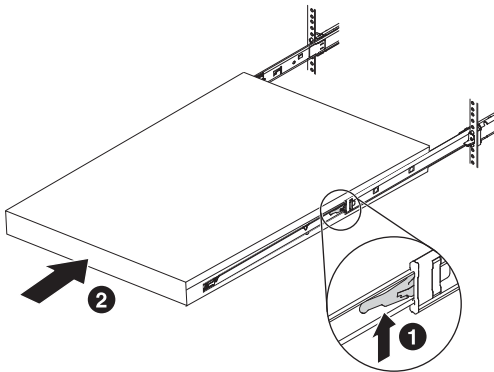
- ❶ Pull the rails forward until the inner slide members click two times into place.
- ❷ Carefully lift the server and tilt it into position over the rails so that the mounting studs on the server line up with the mounting holes in the inner slide members.
- ❸ Slowly lower the server down until the rear mounting studs slide into the rear mounting holes, and then the front mounting studs go into the corresponding mounting holes in the rails. Ensure that the mounting studs are locked into position so the server is firmly secured.

**Caution:** Ensure that two people are lifting the server together. Their hands must be positioned as illustrated.

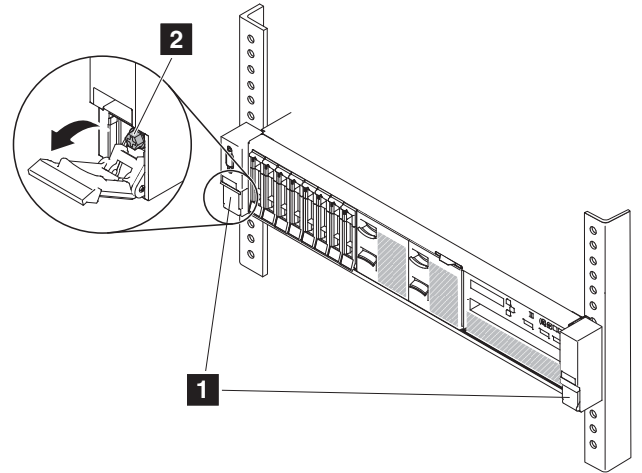


**3.** Slide the server into the rack.

- ❶ Lift the locking levers on both sides of the rails.
- ❷ Push the server all the way into the rack until it clicks into place.



**4.** Secure the server before you move the rack, or if you place the rack in a vibration-prone area. Open the latches ❶ in the front of the server, and then tighten the screws ❷.



# Cable Management Arm for the ThinkSystem Screw-In Slide Rail

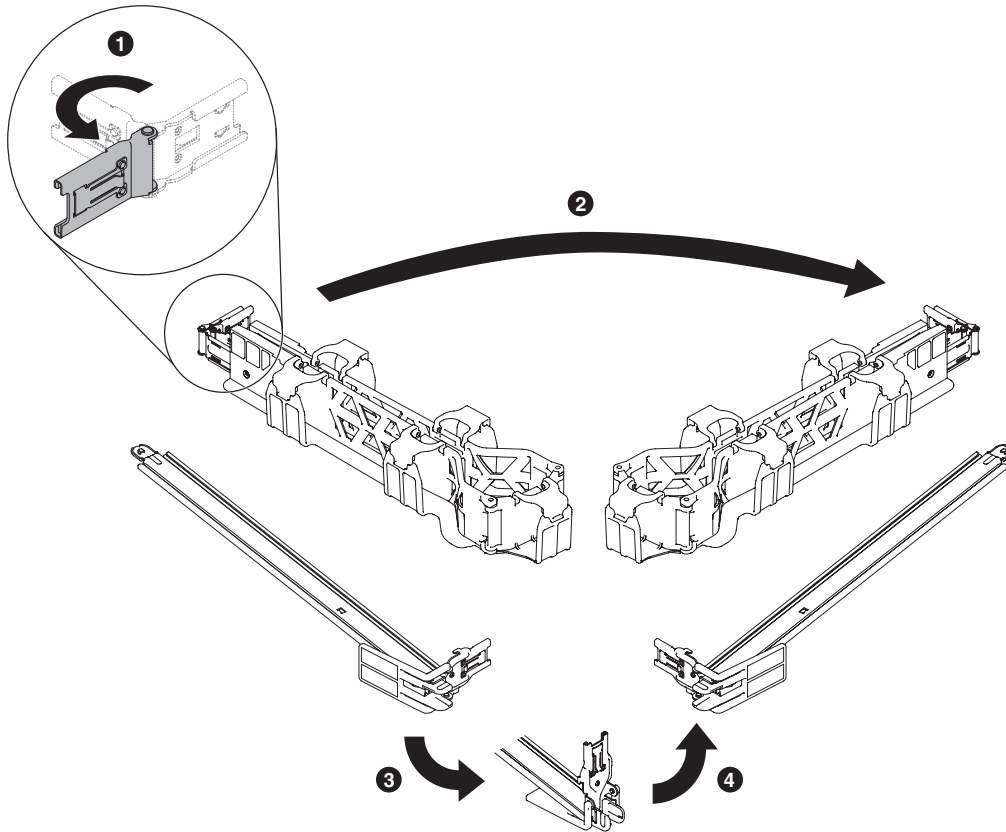
To install the cable management arm (CMA) for the ThinkSystem Screw-In Slide Rail, do the following:

**1.** Choose the mounting side for the CMA.

It is recommended that you connect the CMA mounting brackets on the side opposite the power supplies (the left side of the rack when viewed from the rear of the rack). In this way, you can access the rear cables and power supplies more easily.

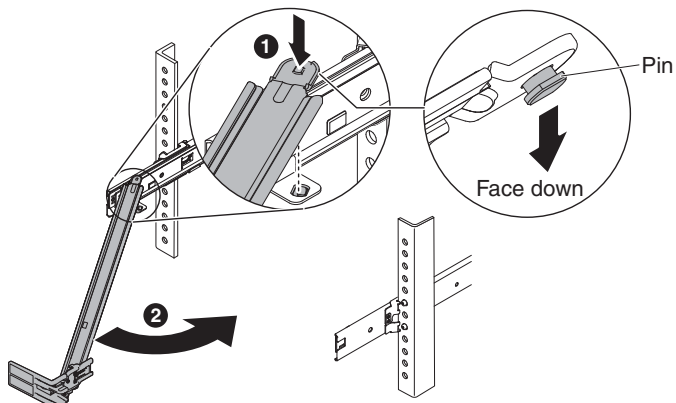
- If you decide to mount the CMA on the left side, go to step 2 directly.
- If you still decide to mount the CMA on the right side (the power supply side), do the following:
  - ➊ Rotate the CMA mounting brackets by 180 degrees as shown.
  - ➋ Place the CMA to the right side.
  - ➌ Adjust the stop bracket on the end of the support bar as shown.
  - ➍ Rotate the support bar to the right side.

Ensure that you orient both the CMA and support bar correctly and the cable brackets on the CMA are facing upward as shown.

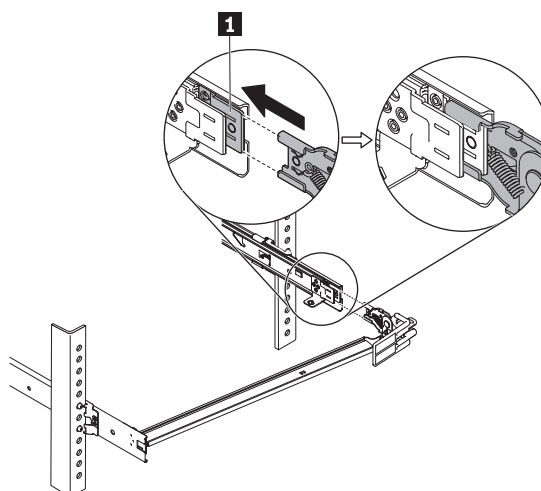


**2.** Install the CMA support bar onto the rail.

- ❶ Place the pin on the CMA support bar down into the slot in the rear end of the rail.
- ❷ Rotate the other end of the support bar toward the rail on the opposite side.

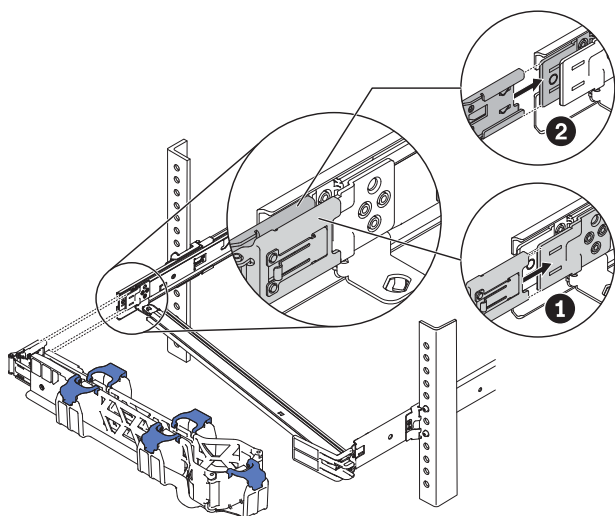


**3.** Connect the mounting bracket on the support bar to the outer bracket on the rear of the rail.



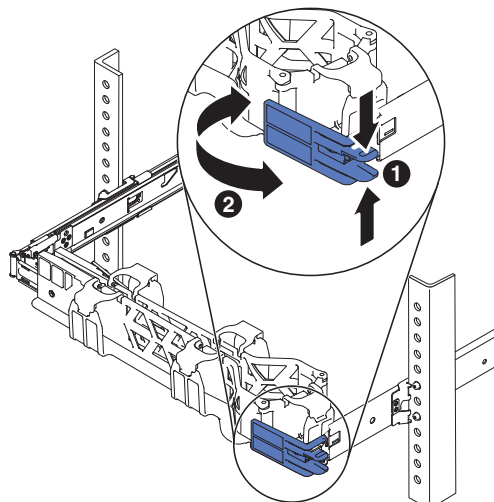
**4.** Connect the CMA mounting brackets to the rail.

- ❶ Connect the inner mounting bracket on the CMA to the inner mounting bracket on the rear of the rail.
- ❷ Connect the outer mounting bracket on the CMA to the outer mounting bracket on the rear of the rail.



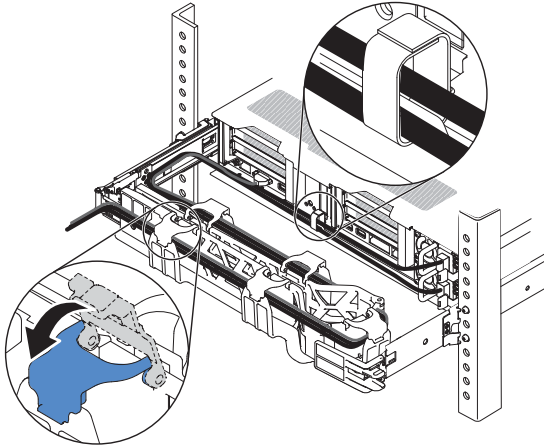
**5.** Place the CMA onto the support bar and close the stop bracket.

- ❶ Pinch the tabs of the stop bracket and rotate it to the open position.
  - ❷ Place the CMA onto the support bar and then rotate the stop bracket back into the closed position.
- To rotate the CMA on or off the support bar, you can pinch stop bracket and rotate it to the open or closed position.

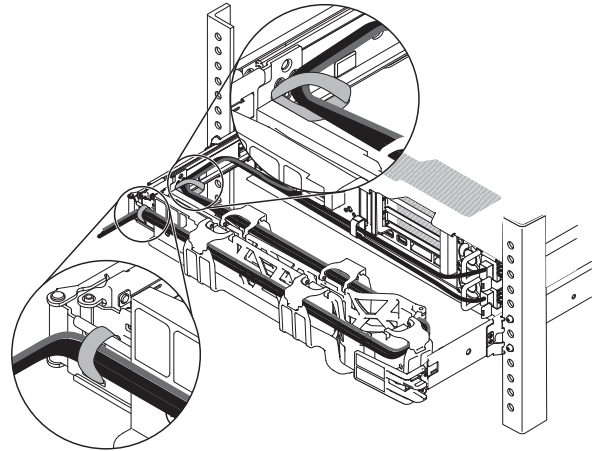




- 6.** Attach the power cords and other cables to the rear of the server. Route the cables on the CMA, secure them with cable ties, and close the CMA brackets.



- 7.** Secure the cables with the cable straps. Cables must be bundled with cable straps for proper movement.  
**Note:** Ensure that the cables do not sag below the U space so they will not get caught on the lower servers.

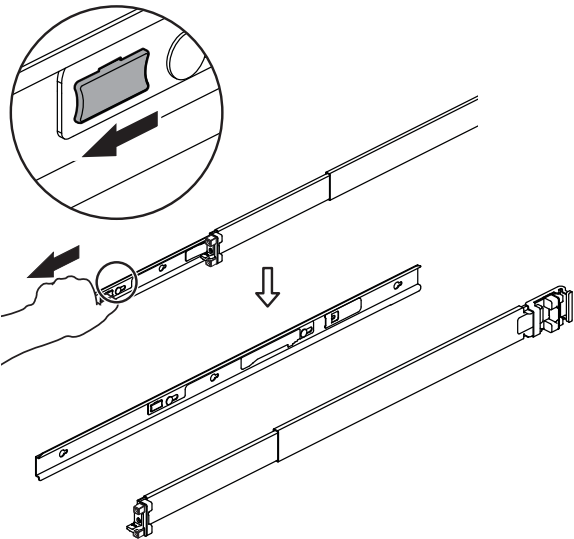


# ThinkSystem Toolless Friction Rail

To install a server into a rack using the ThinkSystem Toolless Friction Rail, do the following:

1. Remove the inner slide member of each rail by doing the following:

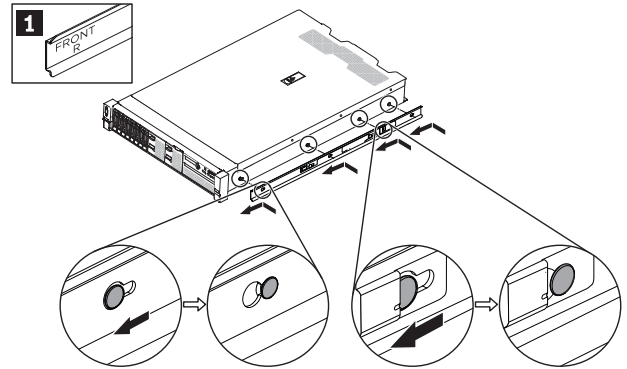
Release the latch to pull out or separate the inner slide member from the slide-rail assembly.




2. Insert the inner slide members onto both sides of the chassis by doing the following:

Align the four mounting holes in the inner slide member with the corresponding rail mounting studs on the side of the server.

Push the inner slide member as shown until the mounting studs on the server lock into place with the inner slide member.

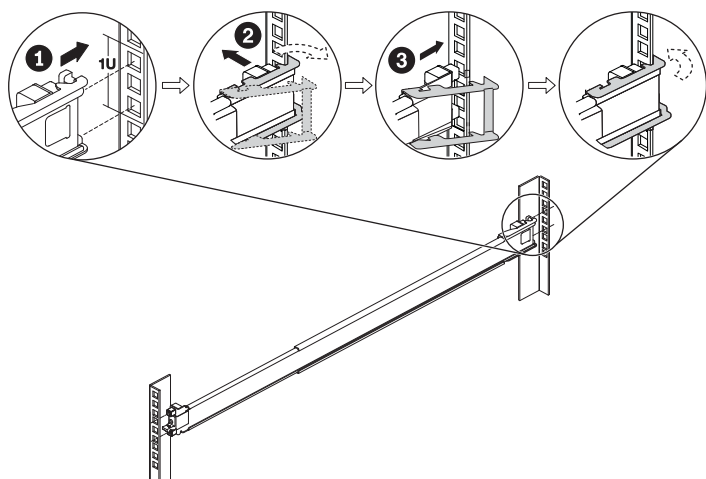


**Note:** Make sure FRONT  always faces toward the front when assemble the inner slide member to the server or to the slide-rail assembly.

3. Install the outer slide members to the frame by doing the following:

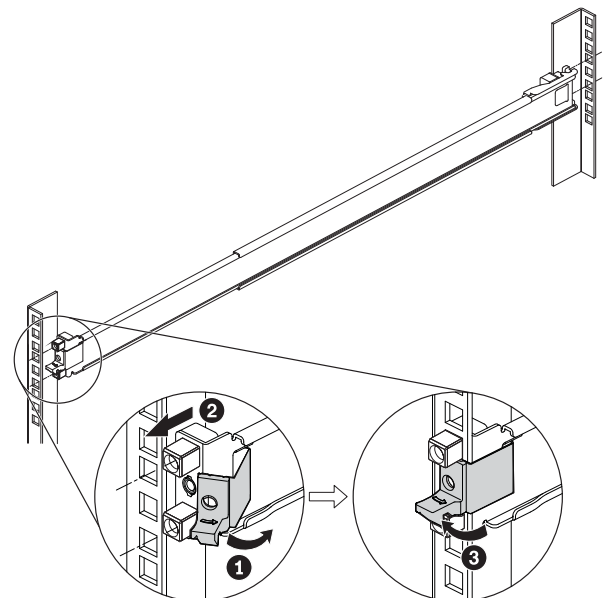
### a. Rear mounting bracket

- 1 Align the pins on the rear end of the outer slide member against the holes in the rear of the rack.
- 2 Attach the rear mounting bracket to the frame, and then push the outer slide member as shown.
- 3 Insert the tabs into the corresponding holes. The latch will lock into place afterward.



### b. Front mounting bracket

- 1 Open the front latch and align the front end of the outer slide member against the holes in the rack. Ensure that the front end and rear end of the rail are at the same horizontal level.
- 2 Push the slide rail in the direction as shown until the tabs are inserted into the corresponding holes.
- 3 Close the front latch to lock the rail in position.

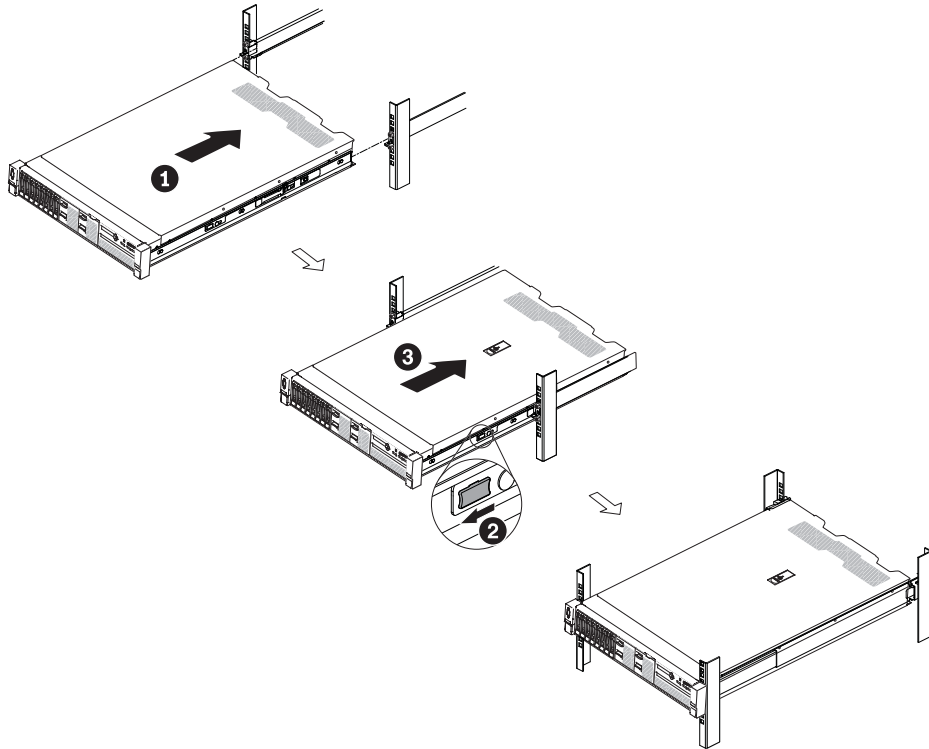


**4.** Insert the server to complete the installation by doing the following:

- ❶ Carefully lift the server and align the server with the slide rails. Position the server as shown and push the server into the rack.
- ❷ Pull the release latch forward.
- ❸ Push the server all the way into the rack until the server locks into place with a click.

**Notes:**

- Make sure that the inner slide members are inserted into the outer slide members firmly and the server sits on the rails securely.
- Secure the server before you move the rack, or if you place the rack in a vibration-prone area. Install the two screws (included in your rail kit package) to the rear of the rack.



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