



Rack installation instructions

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

- Two or more people are required to install devices 2U or larger in a rack cabinet.
- One or more people are required to install devices 1U or larger in a rack cabinet.
- Make sure that the room air temperature is below 40°C (104°F).
- Do not block any air vents; usually 15 cm (6 in.) of space provides proper airflow.
- Do not leave open spaces above or below an installed server in your rack cabinet. To help prevent damage to server components, always install a blank filler panel to cover the open space and to help ensure proper air circulation.
- Install the server only in a rack cabinet with perforated doors.
- Plan the device installation starting from the bottom of the rack cabinet.
- Install the heaviest device in the bottom of the rack cabinet.
- Always install the tip plates on the rack.
- Do not extend more than one device out of the rack cabinet at the same time.
- Remove the rack doors and side panels to provide easier access during installation.
- Connect the server to a properly grounded outlet.
- Do not overload the power outlet when you install multiple devices in the rack cabinet.
- Install the server in a rack that meets the following requirements:
 - Minimum depth of 70 mm (2.76 in.) between the front mounting flange and inside of the front door.
 - Minimum depth of 157 mm (6.18 in.) between the rear mounting flange and inside of the rear door.



Use safe practices when lifting.



≥18 kg (39.7 lb)



≥32 kg (70.5 lb)



≥55 kg (121.2 lb)



Do not place any objects on top of rack-mounted devices.



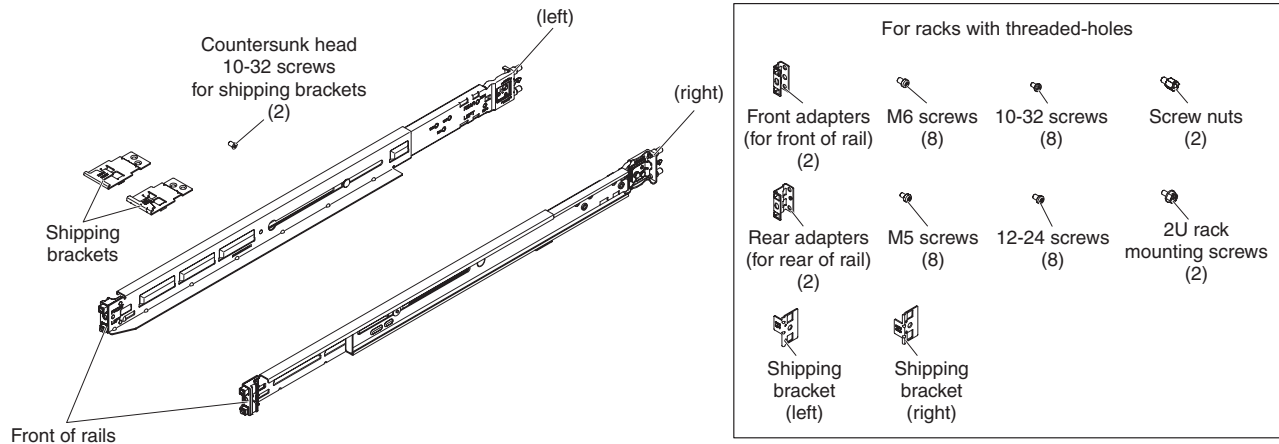
Notes:

1. When you install a 2U server, be sure to install the rails in the bottom U of the 2U area in the rack.
2. Cage nuts and clip nuts may be required to install the server in a rack cabinet.
3. Your server might look different from the servers that are illustrated, and some parts of the rack installation kit might not be used.

The following illustration shows the items that you need to install the server in the rack cabinet. If any items are missing or damaged, contact your place of purchase.

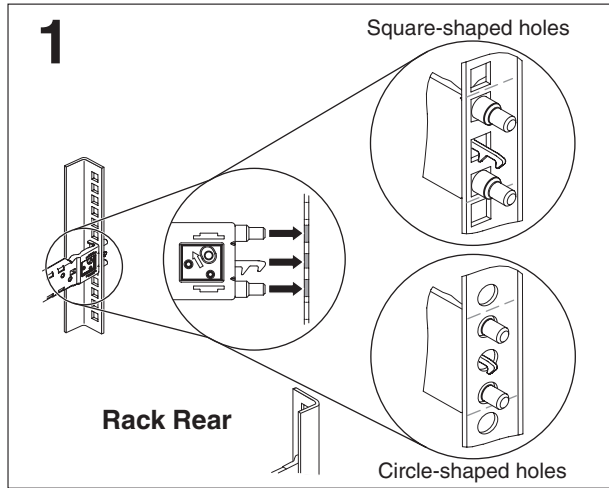
Notes:

1. Some items come with the server, not in the rack installation kit.
2. You will need the components in the screw kit option to install the rails in a rack with threaded holes.
3. For the 1U server, if the rails in your rack installation kit came with shipping screws, remove them before you begin the following installation procedure.



Installing a 2U server into the rack

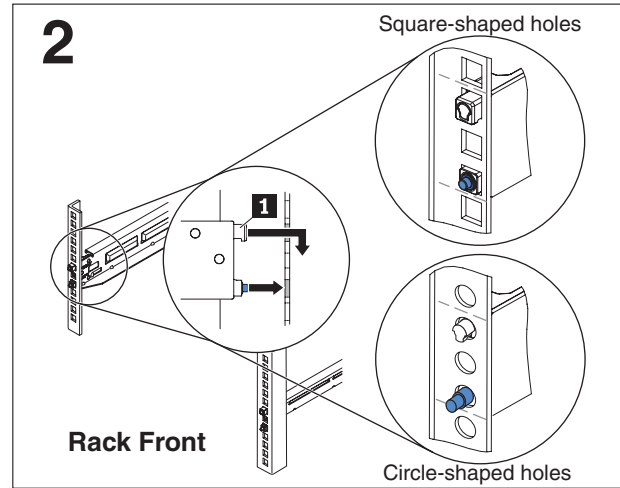
For rack with square-shaped or circle-shaped holes



Installing the rear end of the rails in a rack with non-threaded holes.

Note: The non-threaded holes on the rack will either be square-shaped or circle-shaped.

Choose one of the rails for installation. By facing the front side of the racks, line up the pins on the rear of the rail with either the square-shaped or circle-shaped holes on the rear of the rack. Push the rail so that the pins go into the holes and latches into place.

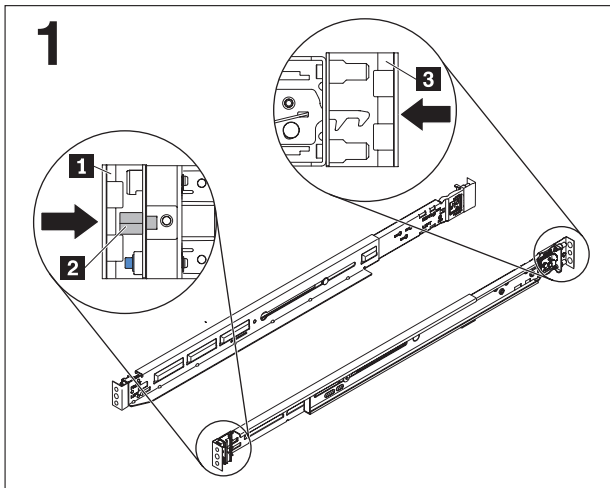


Installing the front end of the rails in a rack with non-threaded holes.

Pull the rail forward and insert the pins **1** on the front of the rail into either the square-shaped or circle-shaped holes on the front of the rack. Drop the rail down until it latches into place.

Repeat steps 1 and 2 to install the other rail. Make sure that each rail is securely engaged in the rack. Go to step 3.

For rack with threaded-holes

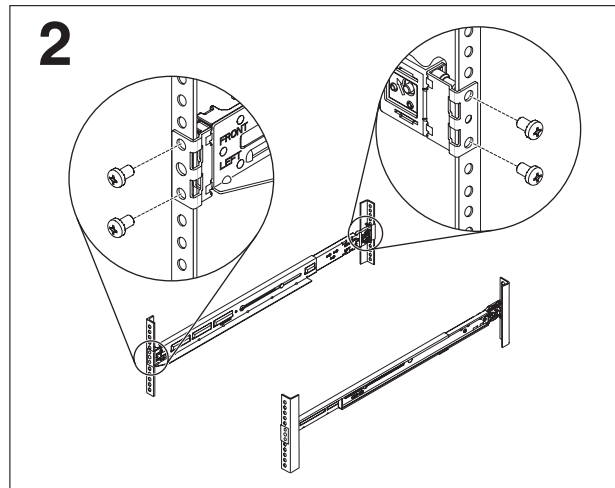


Before installing the rails in rack with threaded holes, first install the front and rear adapters on the rails.

Choose one of the rails for installation. Line up the pins on the front of the rail with the two square-shaped holes of the front adapter **1**. Push the front adapter so that the pins go into the holes and the front adapter latches on the rail.

Align the screw nut **2** with the middle hole of both the front adapter and rail, then install the screw nut.

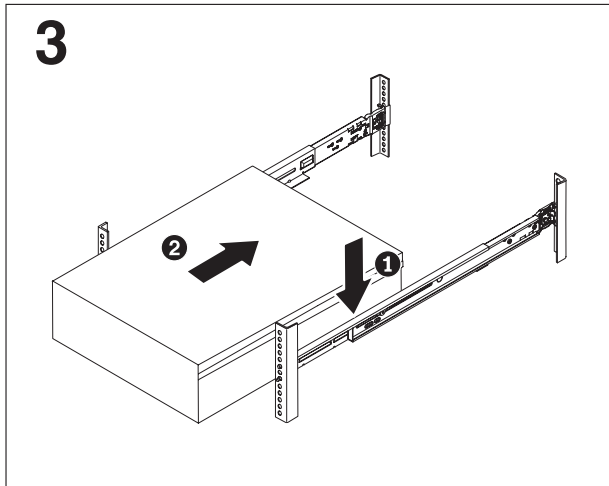
Line up the pins on the rear of the rail with the three holes (two square-shaped and one circle-shaped) on the rear adapter. Push the rear adapter **3** so that the pins go into the holes and the rear adapter latches on the rail.



Installing the rails in a rack with threaded holes.

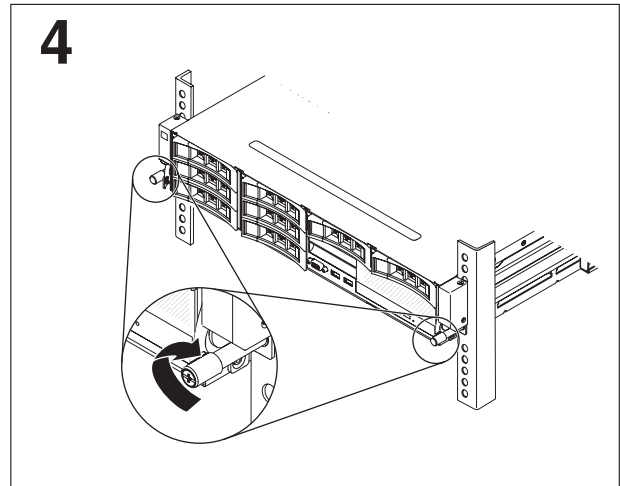
Align the holes on the rear of the rail and attached adapter with the holes on the rear of the rack; then install the screws to secure the rail to the rear of the rack. Repeat this step for the front of the rail.

Repeat steps 1 and 2 to install the other rail. Make sure that each rail is securely installed in the rack. Go to step 3.



Installing the server on the rails.

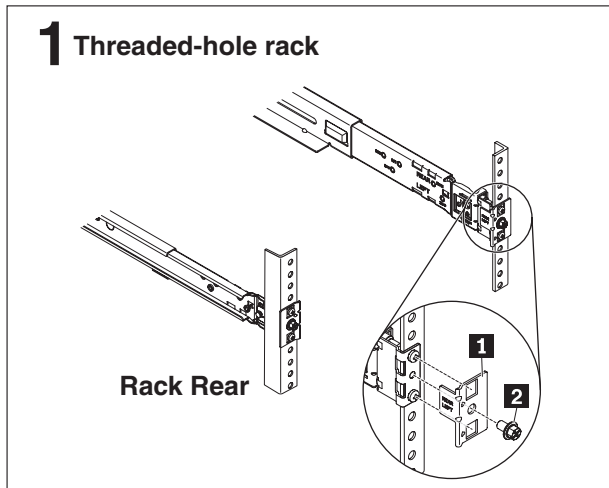
Carefully lift the server and tilt it into position over the rails, and then slowly lower the rear of the server on the rails **1**. Make sure that the server sits on the rails securely and push the server **2** all the way into the rack.



Tightening the front thumbscrews.

When you move the rack cabinet, or if you install the rack cabinet in a vibration-prone area, tighten the two thumbscrews on the front of the server to secure the server in the rack cabinet.

Installing shipping brackets to 2U server for shipping

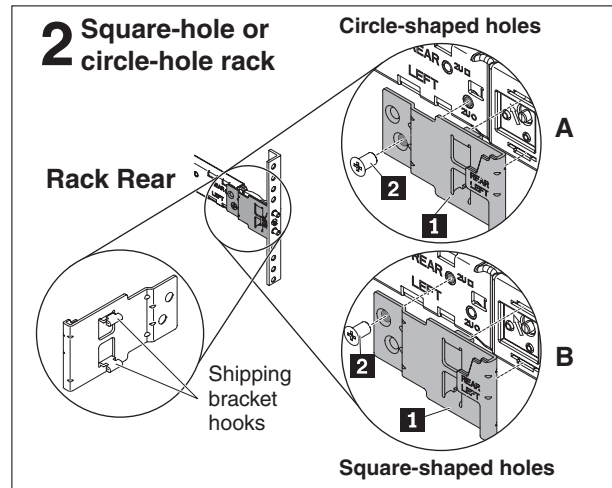


Securing the server in the rack with threaded holes for shipping.

Note: If you have installed the server in a rack with threaded holes, you must remove the server from the rack before installing the shipping brackets.

For servers installed in the rack with threaded holes, install the shipping bracket **1** marked "Left" to the rear of the left rail. Align the holes on the shipping bracket to the screws fastened to the rear of the rail; then, install the screw **2** to secure the shipping bracket to the rack.

Install the other shipping bracket to the rear of the right rail.

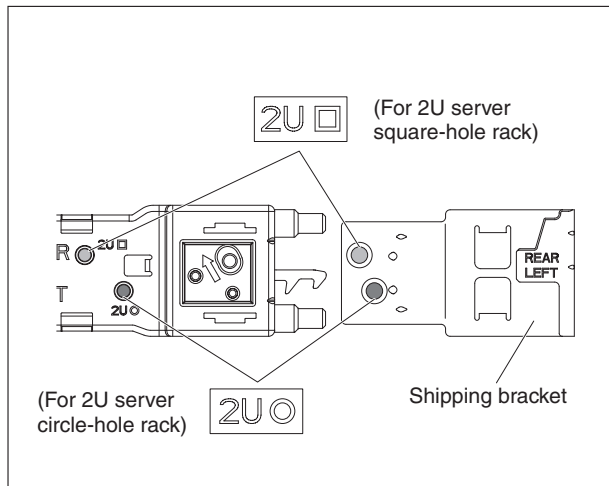


Securing the server in the rack with non-threaded holes for shipping.

Note: The non-threaded holes will either be square-shaped or circle-shaped.

For servers installed in the rack with non-threaded holes, install the shipping bracket **1** marked "Left" to the side of the left rail. Before installing, check the non-threaded holes on the rack to see whether it is square-shaped or circle-shaped. Afterwards, align the shipping bracket to the corresponding hole on the left side of the rail marked "2U". After knowing which hole to align with, insert the shipping bracket hooks into the holes of the rail. Upon insertion, there should be no gap between the shipping bracket and rail. Meanwhile, you will notice the holes on the shipping bracket and rail are not entirely aligned yet. For full alignment, shift the shipping bracket to either the square-shaped or circle-shaped icon. Finally, install the screw **2** to secure the shipping bracket to the rack. Refer to the following illustration for further details.

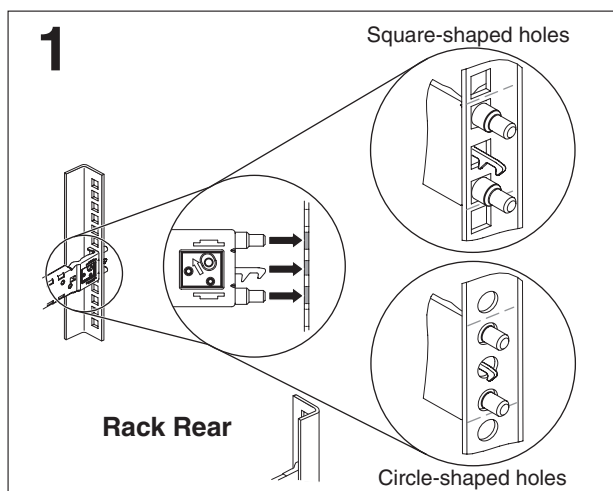
Install the other shipping bracket to the rear of the right rail.



Securing the server in the rack with non-threaded holes for shipping (continued).

Installing a 1U server into the rack

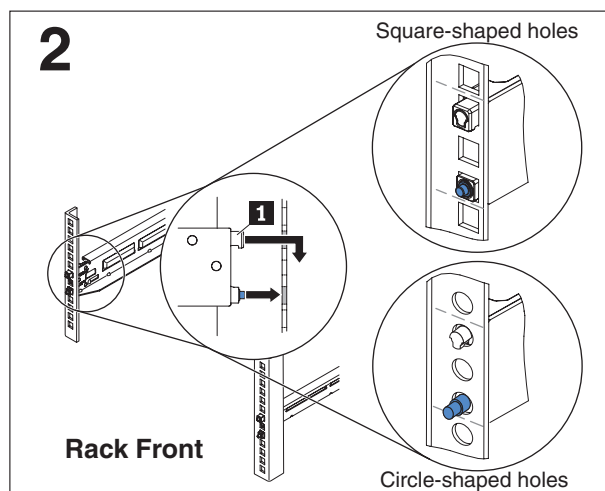
For rack with square-shaped or circle-shaped holes



Installing the rear end of the rails in a rack with non-threaded holes.

Note: The non-threaded holes on the rack will either be square-shaped or circle-shaped.

Choose one of the rails for installation. By facing the front side of the racks, line up the pins on the rear of the rail with either the square-shaped or circle-shaped holes on the rear of the rack. Push the rail so that the pins go into the holes and latches into place.

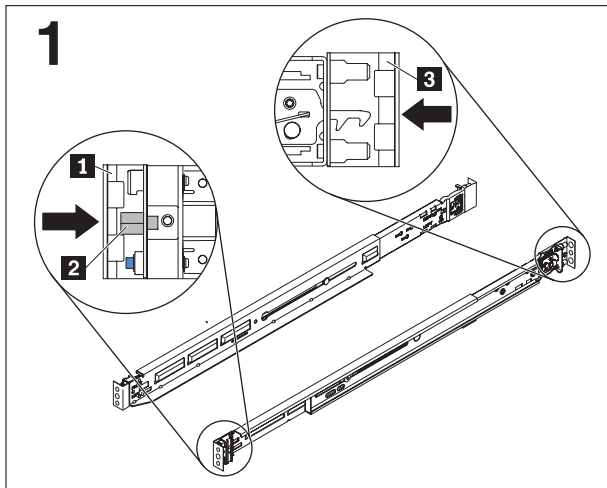


Installing the front end of the rails in a rack with non-threaded holes.

Pull the rail forward and insert the pins **1** on the front of the rail into either the square-shaped or circle-shaped holes on the front of the rack. Drop the rail down until it latches into place.

Repeat steps 1 and 2 to install the other rail. Make sure that each rail is securely engaged in the rack. Go to step 3.

For rack with threaded-holes

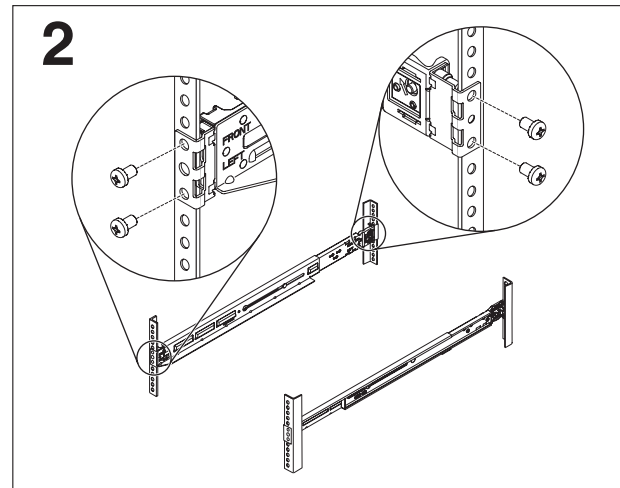


Before installing the rails in rack with threaded holes, first install the front and rear adapters on the rails.

Choose one of the rails for installation. Line up the pins on the front of the rail with the two square-shaped holes of the front adapter **1**. Push the front adapter so that the pins go into the holes and the front adapter latches on the rail.

Align the screw nut **2** with the middle hole of both the front adapter and rail, then install the screw nut.

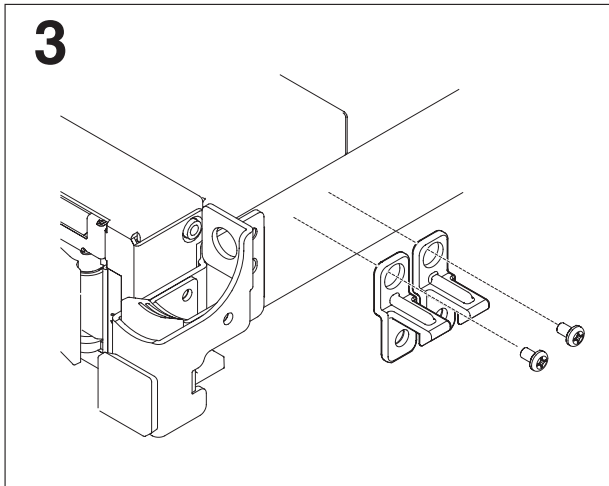
Line up the pins on the rear of the rail with the three holes (two square-shaped and one circle-shaped) on the rear adapter. Push the rear adapter **3** so that the pins go into the holes and the rear adapter latches on the rail.



Installing the rails with the attached adapters in a rack with threaded holes.

Align the holes on the rear of the rail and attached adapter with the holes on the rear of the rack; then install the screws to secure the rail to the rear of the rack. Repeat this step for the front of the rail.

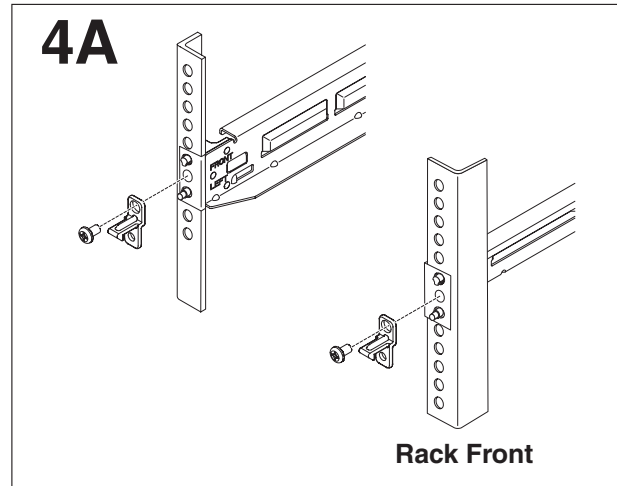
Repeat steps 1 and 2 to install the other rail. Make sure that each rail is securely installed in the rack. Go to step 3.



Removing the rack brackets from the server.

Note: If your server does not come with the rack brackets, go to step 5.

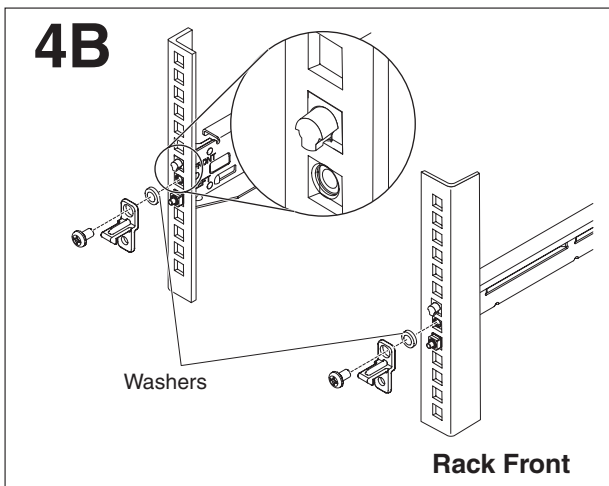
Loosen the screws and remove the rack brackets from the side of the server. Go to step 4.



Installing the rack brackets.

Align the hole on the rack bracket with the middle hole on the front of the rack; then, install the screws to secure the rack bracket in the rack.

Repeat this step to install the other rack bracket. Make sure that each rack bracket is securely installed in the rack. Go to step 5.

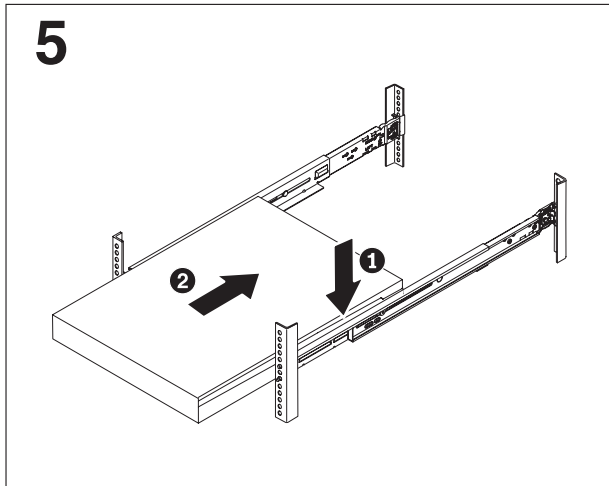


Installing the rack brackets (for racks with square-shaped holes on the front).

Align the hole on the rack bracket with the middle hole on the front of the rack; then, install the screws to secure the rack bracket in the rack.

Note: A washer needs to be added between the hole and the rack bracket during installation.

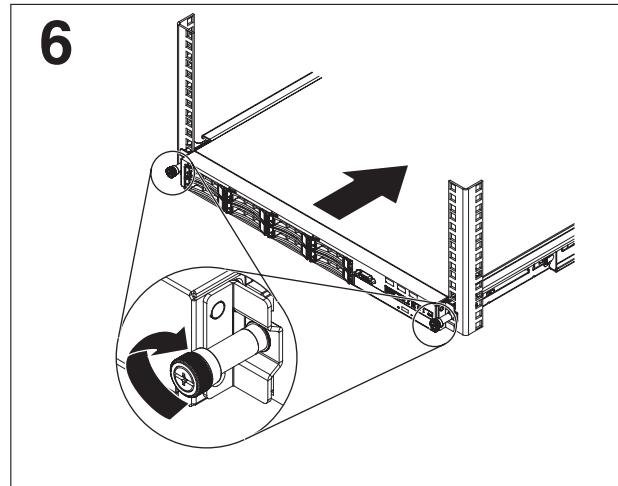
Repeat this step to install the other rack bracket. Make sure that each rack bracket is securely installed in the rack. Go to step 5.



Installing the server on the rails.

Carefully lift the server and tilt it into position over the rails, and then slowly lower the rear of the server on the rails **1**. Make sure that the server sits on the rails securely and push the server **2** all the way into the rack.

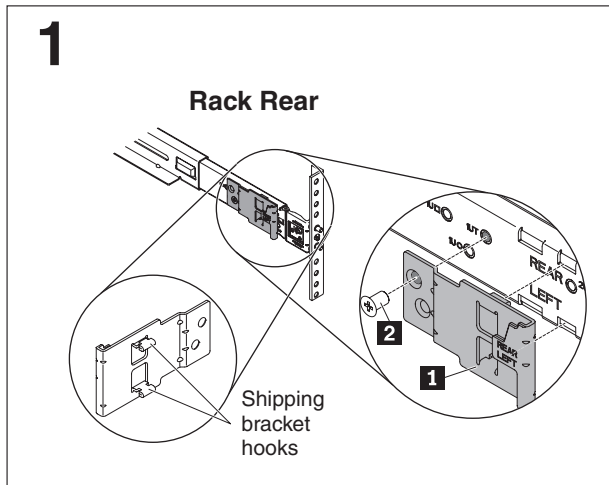
If the server comes with latches, the latches click into place when the server is securely installed in the rack.



Tightening the front thumbscrews (for specific models).

Depending on your server model, thumbscrews are available on the front of the server. If they are available, remember no rack brackets will be present. When you move the rack cabinet, or if you install the rack cabinet in a vibration-prone area, tighten the two thumbscrews on the front of the server to secure the server in the rack cabinet.

Installing shipping brackets to 1U server for shipping

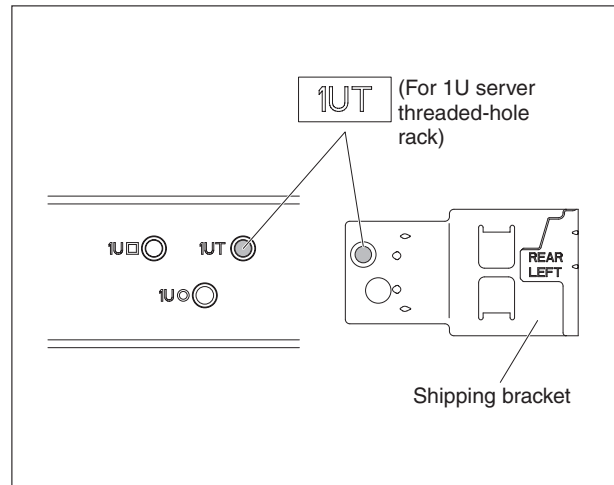


Securing the server in the rack with threaded holes for shipping.

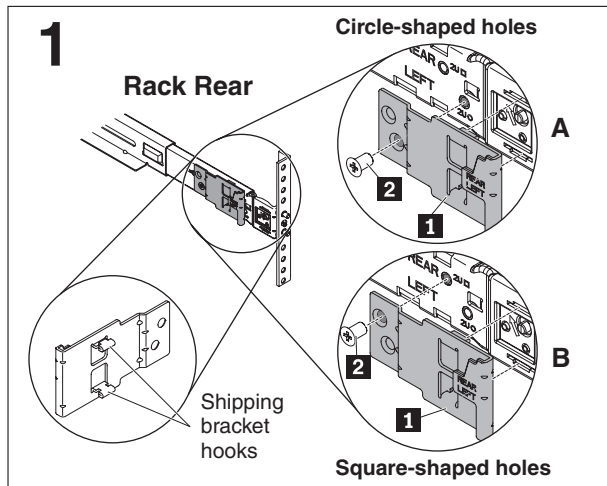
Note: If you install the server in a rack with threaded holes, you must remove the server from the rack before installing the shipping brackets.

For servers installed in the rack with threaded holes, install the shipping bracket **1** marked "Left" to the rear of the left rail. Align the upper hole on the shipping bracket to the hole on the rear of the rail marked "1UT"; then, install the shipping bracket hooks into the holes of the rail. It is normal to see a small gap between the shipping bracket and rail. Meanwhile, you will notice the holes on the shipping bracket and rail are not entirely aligned yet. For full alignment, press on the shipping bracket where the holes are located and shift the shipping bracket to the "1UT" icon. Finally, install the screw **2** to secure the shipping bracket to the rack. Refer to the illustration on the right for further details.

Install the other shipping bracket to the rear of the right rail.



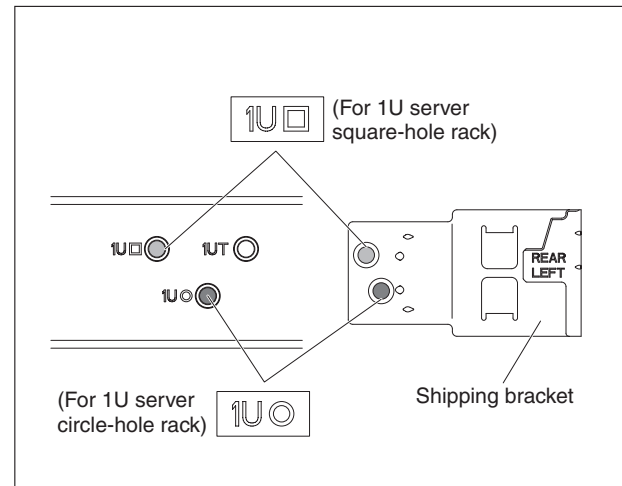
Securing the server in the rack with threaded holes for shipping (continued).



Securing the server in the rack with non-threaded holes for shipping.

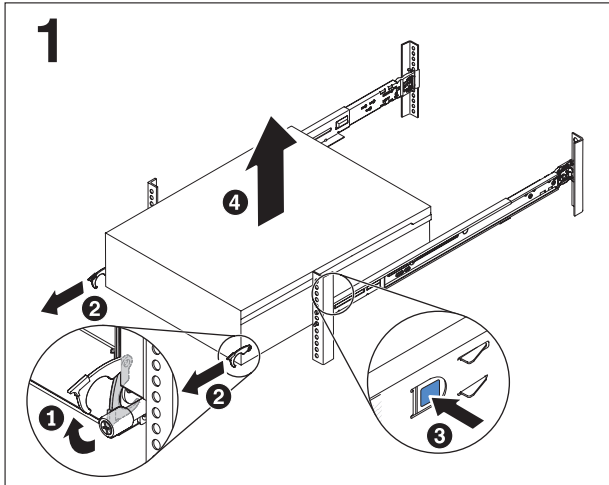
For servers installed in the rack with non-threaded holes, install the shipping bracket **1** marked "Left" to the rear of the left rail. Before installing, check the non-threaded holes on the rack to see whether it is square-shaped or circle-shaped. Afterwards, align the shipping bracket to the corresponding hole on the side of the rail marked "1U". After knowing which hole to align with, insert the shipping bracket hooks into the holes of the rail. Upon insertion, a small gap will exist between the shipping bracket and rail. Meanwhile, you will notice the holes on the shipping bracket and rail are not entirely aligned yet. For full alignment, press on the part of the shipping bracket where the holes are located and shift the shipping bracket to either the square-shaped or circle-shaped icon. Finally, install the screw **2** to secure the shipping bracket to the rack. Refer to the illustration on the right for further details.

Install the other shipping bracket to the rear of the right rail.



Securing the server in the rack with non-threaded holes for shipping (continued).

Removing a 2U server from the rack

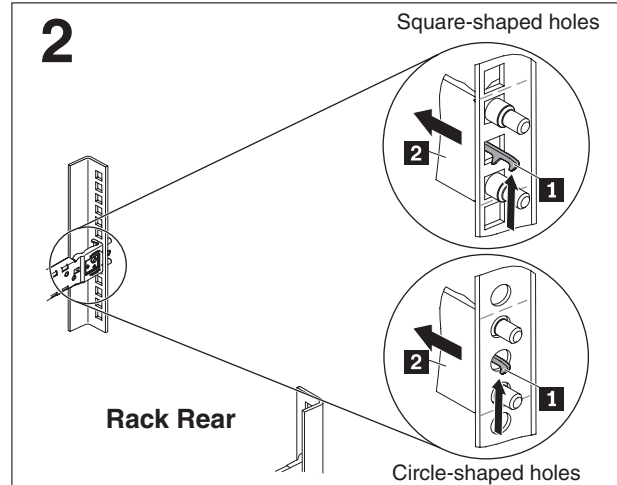


Removing the server from the rack.

To remove the server from the rack, disconnect the cables from the rear of the server. Loosen the thumbscrews and lift the handle on the front of the server **1**; then, pull the server slightly forward **2**.

While supporting the rear of the server, press the release latches **3** on both sides of the server to slide the server out of the rack.

Lift the server out of the rack cabinet **4** and place it on a sturdy surface.

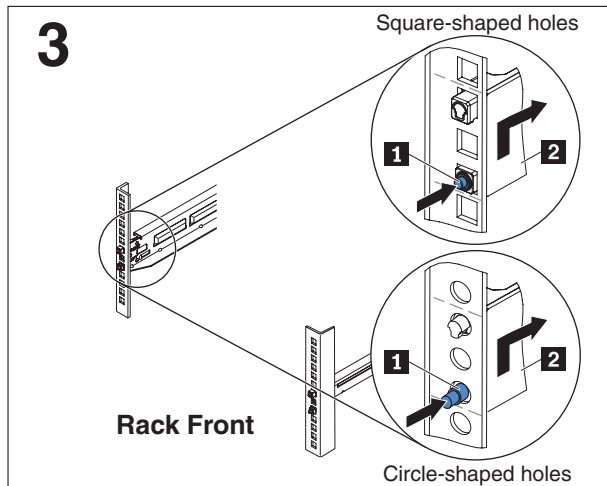


Removing the rear end of the rails with non-threaded holes.

Notes:

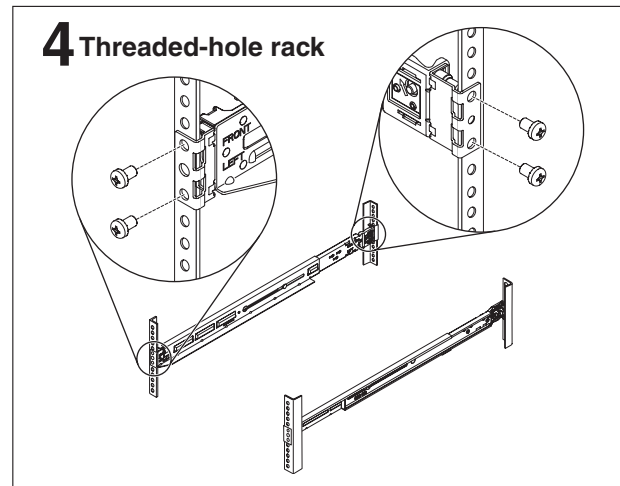
1. If you are removing the rails with threaded holes, go to step 4.
2. The non-threaded holes will either be square-shaped or circle-shaped.

To disengage the rails from the rear of the rack, push the middle latch upward **1** and then push back on the rail **2**.



Removing the front end of the rails with non-threaded holes.

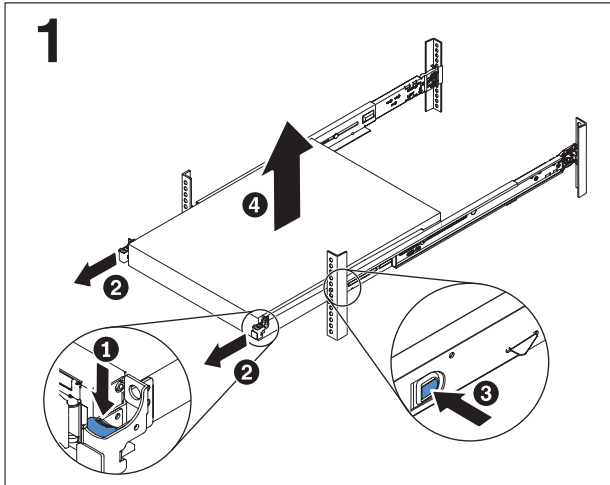
To remove the rails from the front of the rack, push in the lower pin **1** and lift up slightly on the front of the rail **2**. Remove the rails from the rack.



Removing the rails with threaded holes.

To remove the rails from a rack with threaded holes, remove the screws from the front and rear of the rails; then, remove the rails from the rack.

Removing a 1U server from the rack



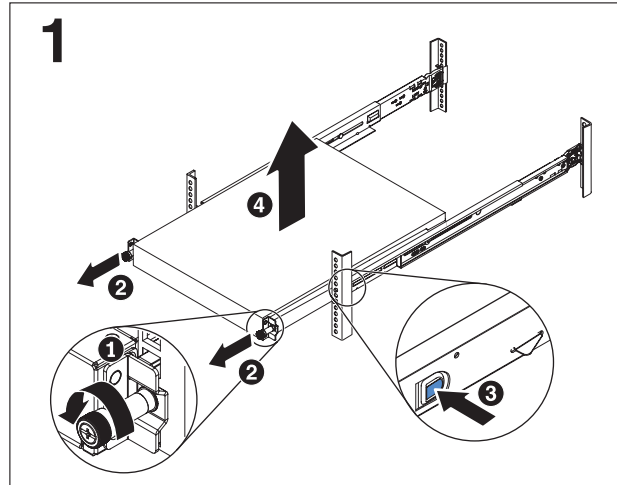
Removing the server that comes with latches from the rack.

Note: If your server comes with thumbscrews, refer to the illustration on the right.

To remove the server from the rack, disconnect the cables from the rear of the server. Press the release latches on the front of the server **1**; then, pull the server slightly forward **2**.

While supporting the rear of the server, press the release latches **3** on both sides of the server to slide the server out of the rack.

Lift the server out of the rack cabinet **4** and place it on a sturdy surface. Go to Step 2.



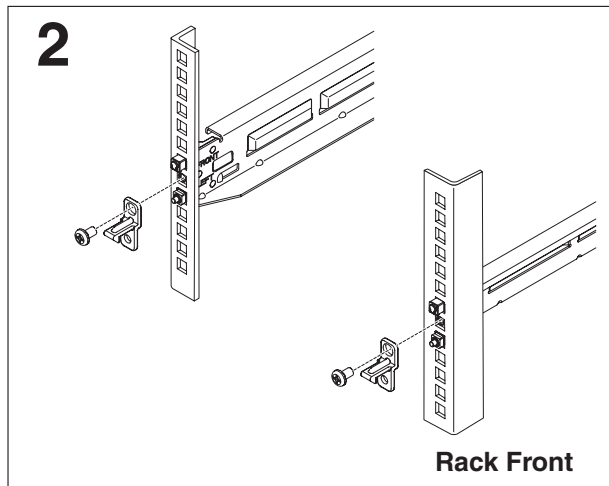
Removing the server that comes with front thumbscrews.

To remove the server from the rack, disconnect the cables from the rear of the server. Loosen the two thumbscrews on the front of the server **1**; then, pull the server slightly forward **2**.

While supporting the rear of the server, press the release latches **3** on both sides of the server to slide the server out of the rack.

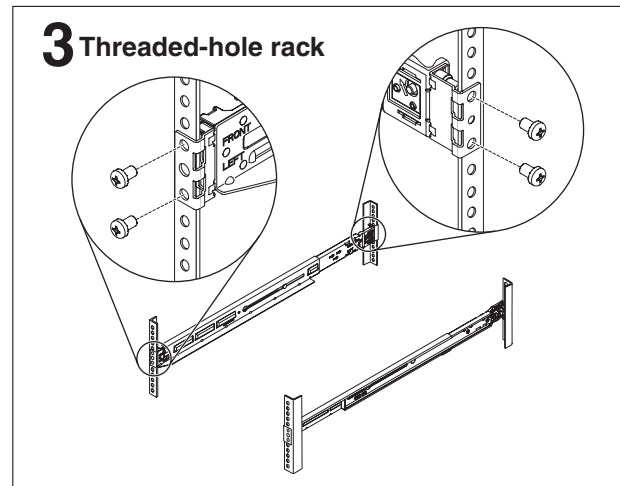
Lift the server out of the rack cabinet **4** and place it on a sturdy surface.

Please remember no rack brackets are present when the server comes with thumbscrews. Go to Step 3.



Removing the rack brackets.

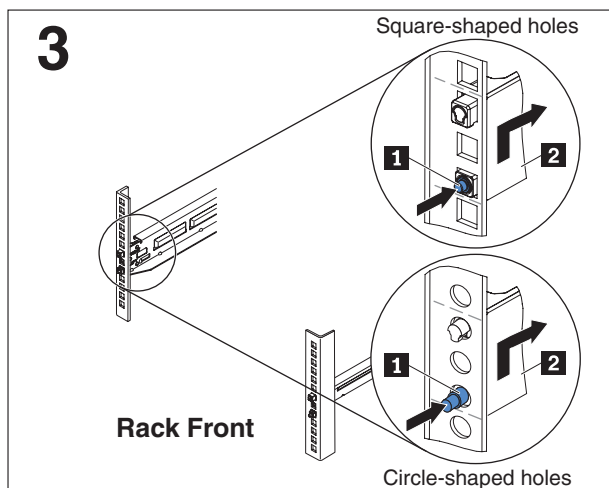
Loosen the screws and remove the rack brackets from the front end of the rails.



Removing the rails from a rack with threaded holes.

To remove the rails from a rack with threaded holes, remove the screws from the front and rear of the rails; then, remove the rails from the rack.

Note: If you are removing the rails with non-threaded holes, go to the section below.

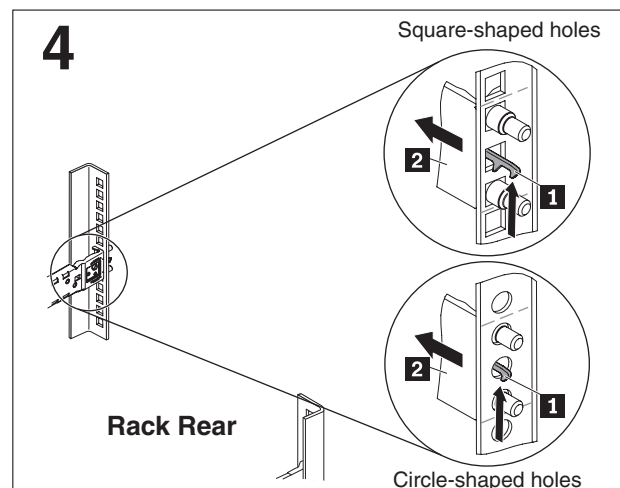


Removing the front end of the rails with non-threaded holes.

Note: The non-threaded holes will either be square-shaped or circle-shaped.

To remove the rails from the front of the rack with non-threaded holes, push in the lower pin **1** and lift up slightly on the front of the rail **2**. Remove the rails from the rack.

Store this information with your server documentation for future use.



Removing the rear end of the rails with non-threaded holes.

To disengage the rails from the rear of the rack with non-threaded holes, push the middle latch upward **1** and then push back on the rail **2**.

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