



## Rack Installation Instructions

This *Rack Installation Instructions* document contains the instructions for installing the server in a rack. See “Instructions for the System x3850 M2 server” on page 2 to install the System x3850 M2 server in a rack for single-node configurations. See “Instructions for the System x3950 M2 server” on page 6 to install the System x3950 M2 server in a rack for multi-node configurations.

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

- Three or more people are required to install the device in a rack cabinet.
- Ensure that the room air temperature is below 35°C (95°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 your 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.
- 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 installing multiple devices in the rack cabinet.
- Install your 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 to support the use of the cable-management arm.
  - Minimum depth of 718 mm (28.27 in.) and maximum depth of 762 mm (30 in.) between the front and rear mounting flanges to support the use of the cable-management arm.
  - Minimum depth of 609.6 mm (24 in.) and maximum depth of 762 mm (30 in.) between the front and rear mounting flanges to support the use of the slide rails.

**Important:** Be sure to read all caution and danger statements in the *Rack Safety Information* document, which is on the IBM *System x Documentation* CD.

### Rack Safety Information, Statement 2



#### DANGER:

- Always lower the leveling pads on the rack cabinet.
- Always install stabilizer brackets on the rack cabinet.
- Always install servers and optional devices starting from the bottom of the rack cabinet.
- Always install the heaviest devices in the bottom of the rack cabinet.

### Rack Safety Information, Statement 4



Use safe practices when lifting.



≥18 kg (39.7 lb)



≥32 kg (70.5 lb)



≥55 kg (121.2 lb)

## Rack Safety Information, Statement 9



## DANGER:

Overloading a branch circuit is potentially a fire hazard and a shock hazard under certain conditions. To avoid these hazards, ensure that your system electrical requirements do not exceed branch circuit protection requirements. Refer to the information that is provided with your device for electrical specifications.

## Rack Safety Information, Statement 26

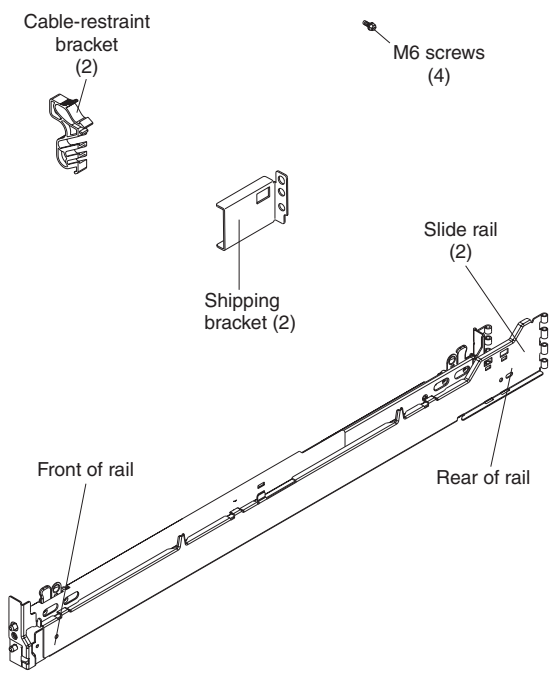
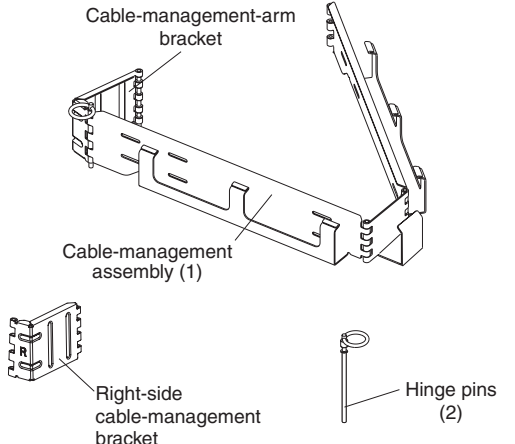



Do not place any object on top of rack-mounted devices.

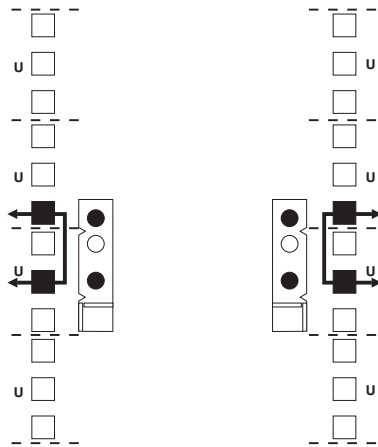
**Note:** Cage nuts and clip nuts are not required to install your server in a rack cabinet. Use 5.5 mm flat-head screws to install the slide rails in a taped-hole rack, if necessary.

## Instructions for the System x3850 M2 server

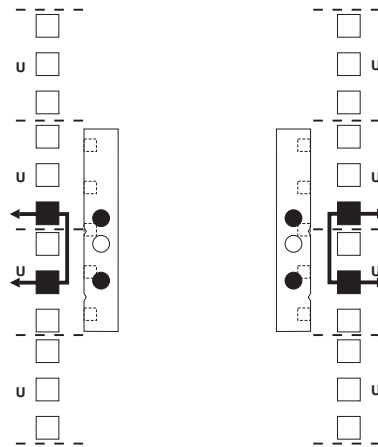
The following illustration shows the items that come with your server that you need to install the server in your rack cabinet and where the items are packaged. If any items are missing or damaged, contact your place of purchase.

Rack-kit package	Cable-management-arm package
	
Server carton	
	

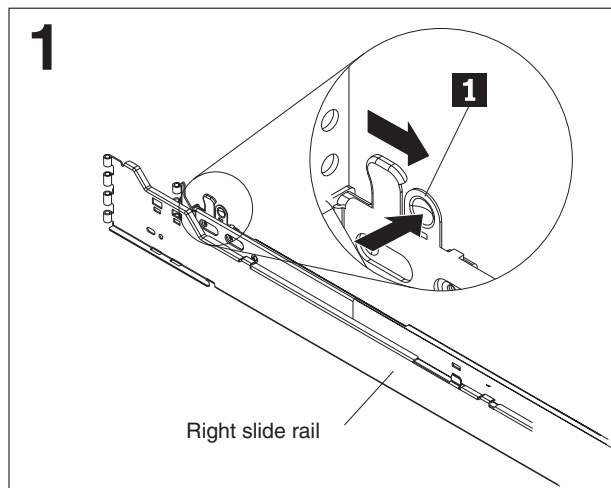
Use the following illustration of the front and rear rack-mounting flanges to determine the appropriate rack-mounting holes for installing the slide rails.



Front

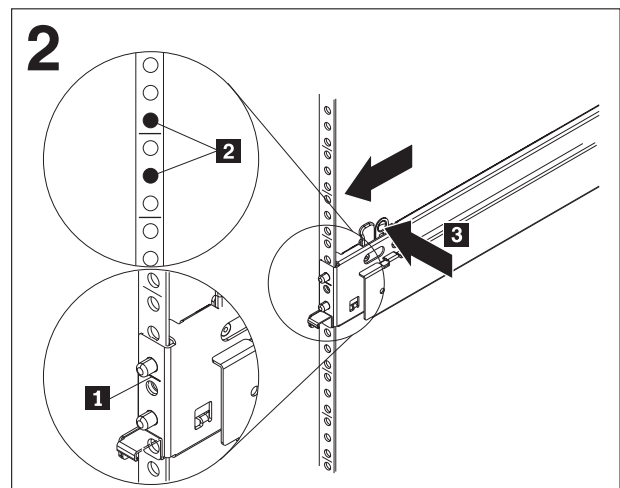


Rear



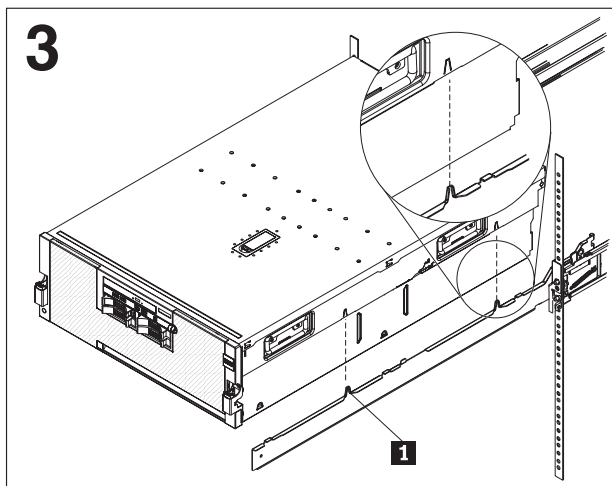
Push outward on the slide-rail latch **1**; then, pull the latch back to open the slide rail. The latch will catch to stay open. Open the other end of the slide rail; then, do the same for the other slide rail.

**Note:** If you are installing the server in the top of the rack or directly under another server or device, remove the cable-management-arm bracket from the cable-management assembly and install the cable-management-arm bracket on the slide rail. Go to step 6 to install the cable-management-arm bracket; then, continue with step 2.



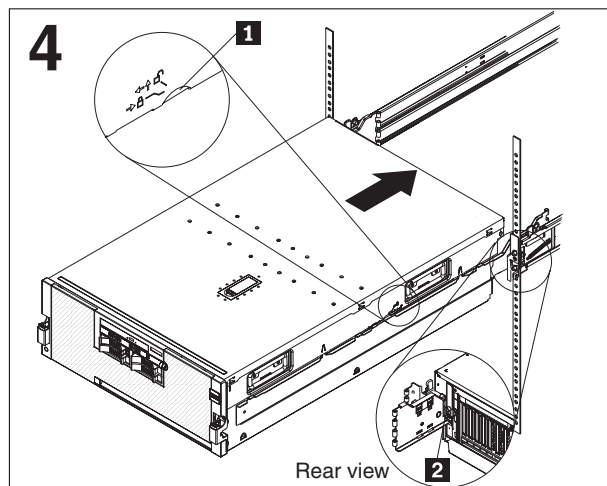
Align the left-slide rail with the front mounting flange. Align the score mark **1** with the line between the middle two 1-U installation positions. Push outward on the slide-rail latch **3** to close the latch and secure the slide rail. Do the same for the right-slide rail. Align the slide rail with the rear mounting flange. Close the latches to secure the rear of both slide rails.

**Note:** Make sure that the slide rails are securely seated on the mounting flanges. When secure, the slide rail pins **2** protrude through the mounting flanges and the slide rails.



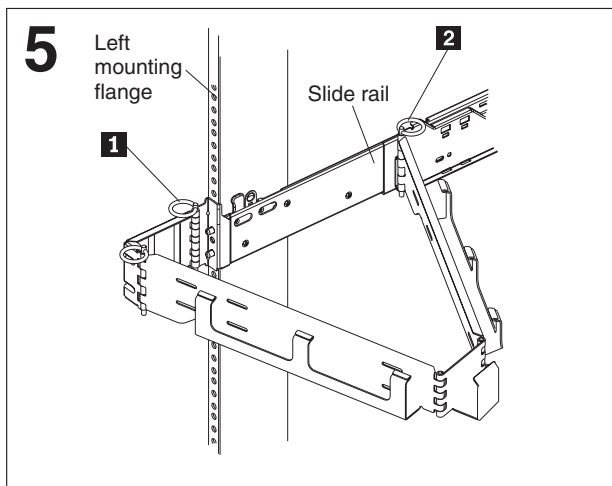
Extend the slide rails fully from the rack until the slide rails lock. Align the tabs on the slide rails **1** with the matching inserts on the server and lower the server onto the slide rails.

**Note:** Make sure that each slide-rail tab is inserted in the matching insert on the server and that the server is resting on the top edge of the slide rails.



Carefully slide the server along the slide rails approximately one inch toward the rack to lock the server on the slide rails.

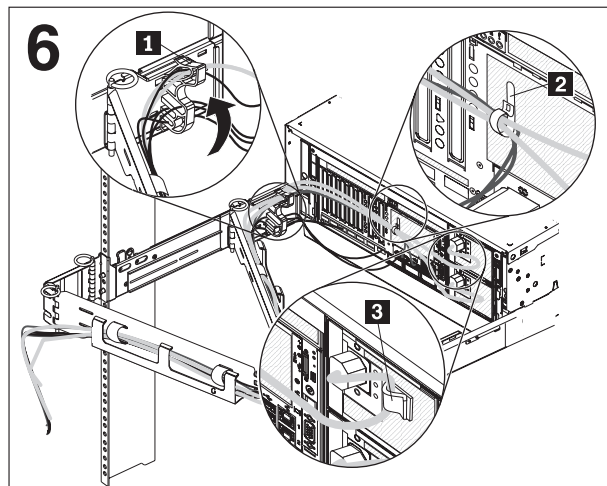
**Note:** When locked in position, an indicator **1** is visible on each side of the server. Make sure that the server is securely attached to the slide rail hooks **2**. To remove the server from the rack, lift up on the indicator and slide the server forward; then, use the handles to lift the server out of the rack.



Attach the cable-management assembly to the rear of the slide rail using a hinge pin **1**. Attach the free end of the cable-management assembly to the slide rail using the second hinge pin **2**.

**Note:** If you installed the cable-management-arm bracket in step 1, complete the installation of the cable-management assembly.

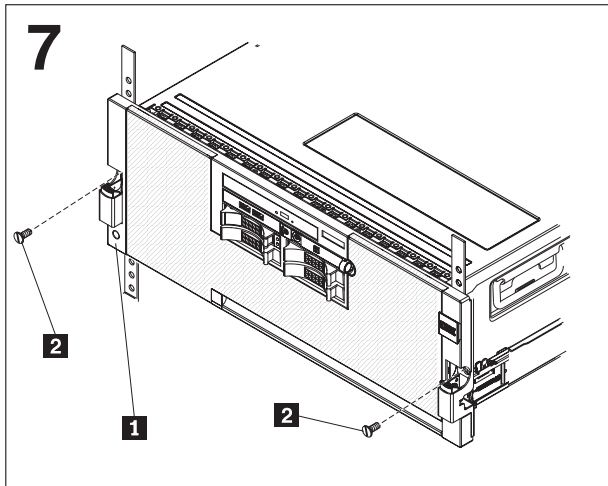
Optionally, you can attach the cable-management arm to the right side of the rack using the right-side cable-management bracket. Installation of the cable-management assembly on the right side interferes with removal of the power supplies.



Attach the power cords and other cables to the rear of the server. Secure the cable-restraint bracket **1** to the slide rail.

**Note:** Allow slack in all cables to avoid tension in the cables.

Use cable clamps **2** to secure the cables across the rear of the server. Use the power supply clamps **3** to secure the power cords. Attach the thinner cables to the cable-restraint bracket **1** on the slide rail.



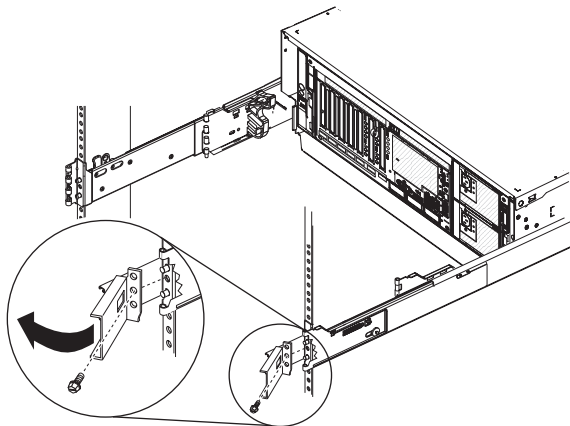
**Attention:** If you are moving the rack or the rack is in a vibration-prone area, you must insert the M6 screws **2**. Otherwise, the server might inadvertently slide out of the rack.

Slide the server into the rack cabinet until the release latches **1** lock into place. To slide the server out of the rack, press on the release latches.

To remove the server from the rack, reverse these instructions. After you remove the cables from the rear of the server, you might find it easier to separate the cable-management arm from the server, keeping the cables in the cable-management arm, before you remove the server from the rack.

**Attention:** Two shipping brackets must be installed if you ship the rack cabinet after you install the server.

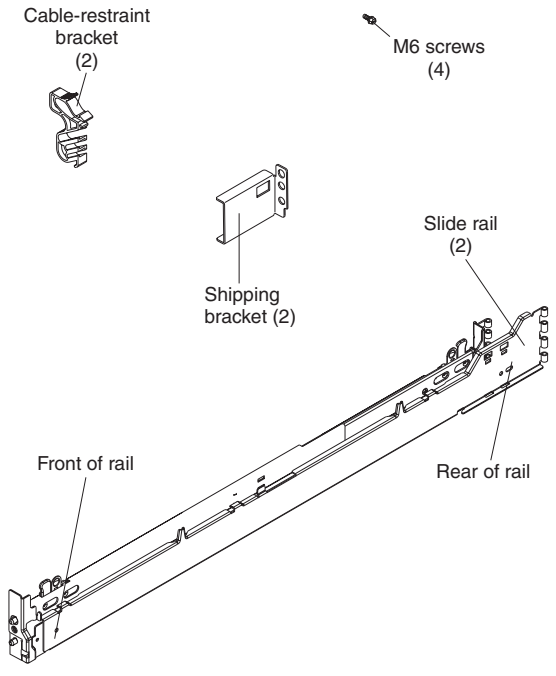
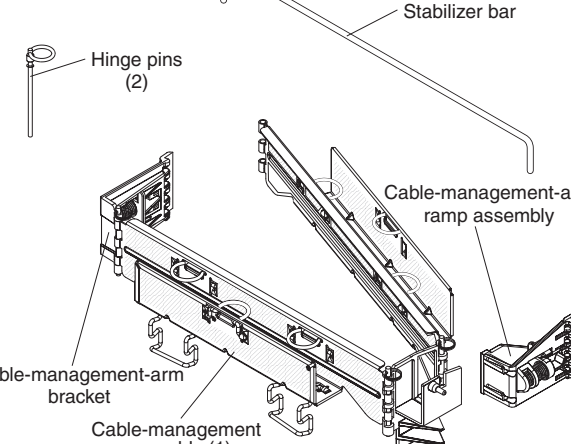

Install a shipping bracket over the slide-rail pins at the rear of each slide rail and insert and tighten one M6 screw. You must remove the ramp assembly and cable-management assembly temporarily to install the shipping brackets.



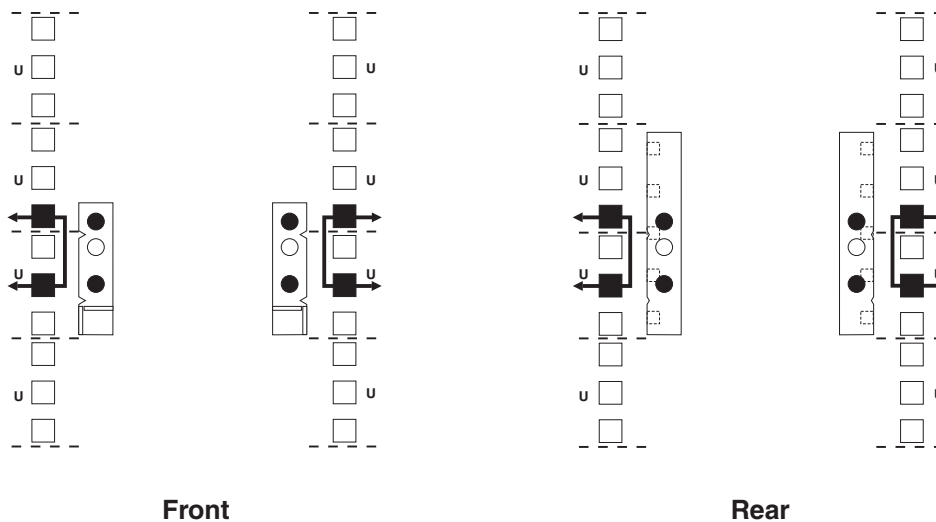
Store this information with your server documentation for future use.

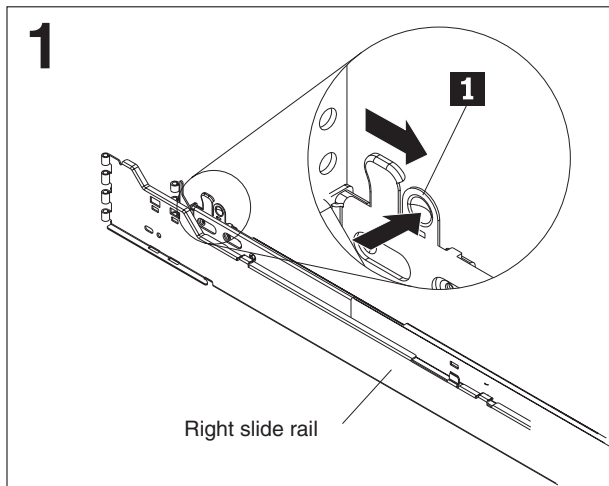
# Instructions for the System x3950 M2 server

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

Rack-kit package	Cable-management-arm package
 <p>Cable-restraint bracket (2)</p> <p>M6 screws (4)</p> <p>Shipping bracket (2)</p> <p>Slide rail (2)</p> <p>Front of rail</p> <p>Rear of rail</p>	<div data-bbox="799 504 1421 1008">  <p>Hinge pins (2)</p> <p>Stabilizer bar</p> <p>Cable-management-arm ramp assembly</p> <p>Cable-management-arm bracket</p> <p>Cable-management assembly (1)</p> </div> <div data-bbox="799 1012 1421 1257"> <p><b>Server carton</b></p>  <p>Cable strap (5)</p> <p>Cable ties (5)</p> </div>

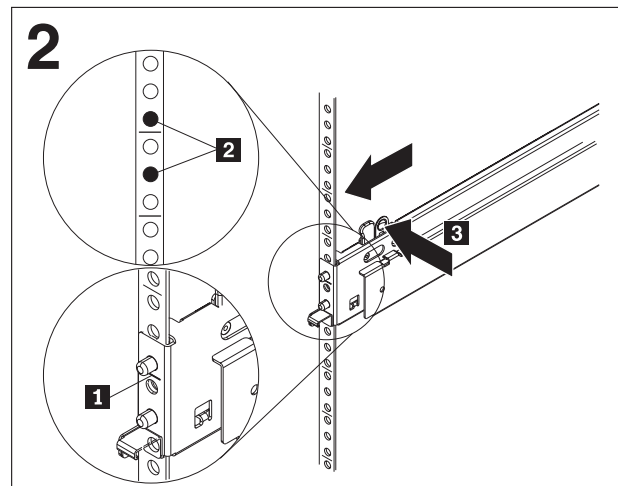
Use the following illustration of the front and rear rack-mounting flanges to determine the appropriate rack-mounting holes for installing the slide rails.





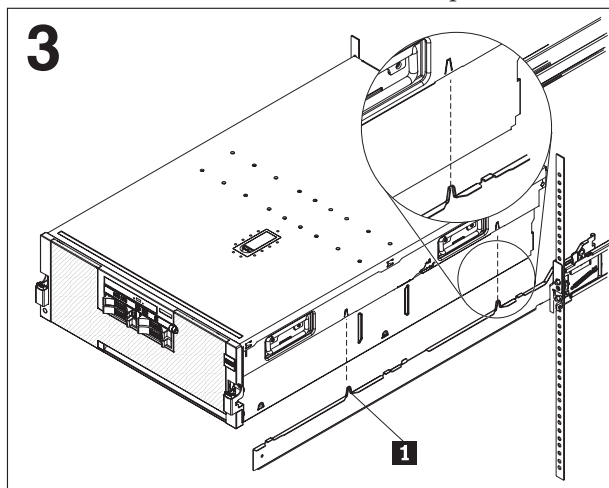
Push outward on the slide-rail latch **1**; then, pull the latch back to open the slide rail. The latch will catch to stay open. Open the other end of the slide rail; then, do the same for the other slide rail.

**Note:** If you are installing the server in the top of the rack or directly under another server or device, remove the cable-management-arm bracket from the cable-management assembly and install the cable-management-arm bracket on the slide rail. Go to step 6 to install the cable-management-arm bracket using one of the hinge pins instead of the stabilizer bar; then, continue with step 2.



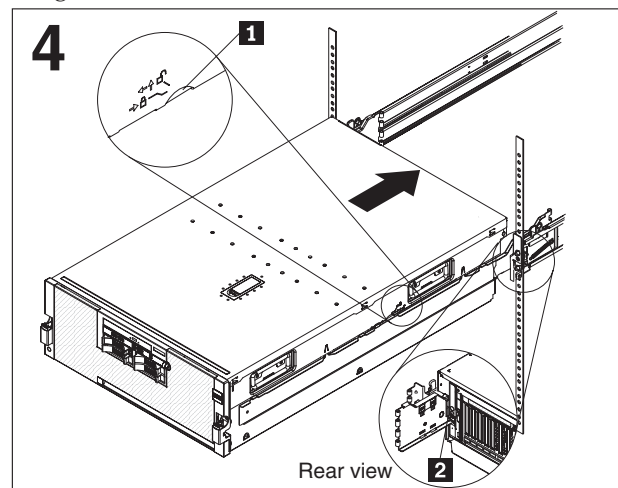
Align the left-slide rail with the front mounting flange. Align the score mark **1** with the line between the middle two 1-U installation positions. Push outward on the slide-rail latch **3** to close the latch and secure the slide rail. Do the same for the right-slide rail. Align the slide rail with the rear mounting flange. Close the latches to secure the rear of both slide rails.

**Note:** Make sure that the slide rails are securely seated on the mounting flanges. When secure, the slide rail pins **2** protrude through the mounting flanges and the slide rails.



Extend the slide rails fully from the rack until the slide rails lock. Align the tabs on the slide rails **1** with the matching inserts on the server and lower the server onto the slide rails.

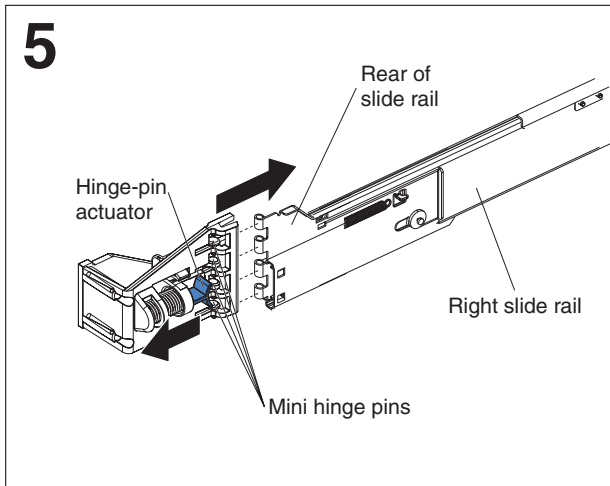
**Note:** Make sure that each slide-rail tab is inserted in the matching insert on the server and that the server is resting on the top edge of the slide rails.



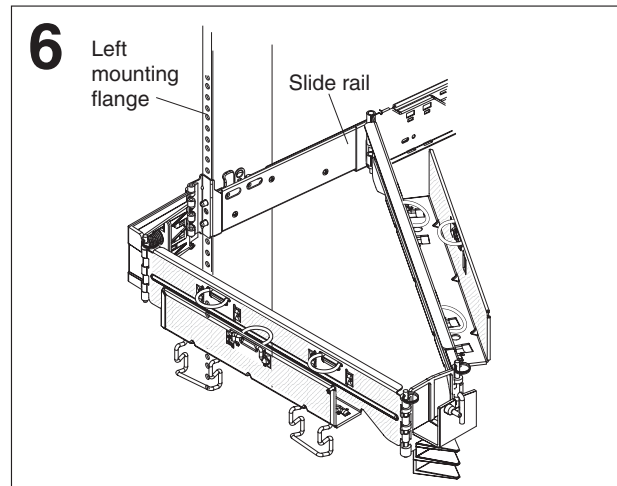
Carefully slide the server along the slide rails approximately one inch toward the rack to lock the server on the slide rails.

**Note:** When locked in position, an indicator **1** is visible on each side of the server. Make sure that the server is securely attached to the slide rail hooks **2**. To remove the server from the rack, lift up on the indicator and slide the server forward; then, use the handles to lift the server out of the rack.

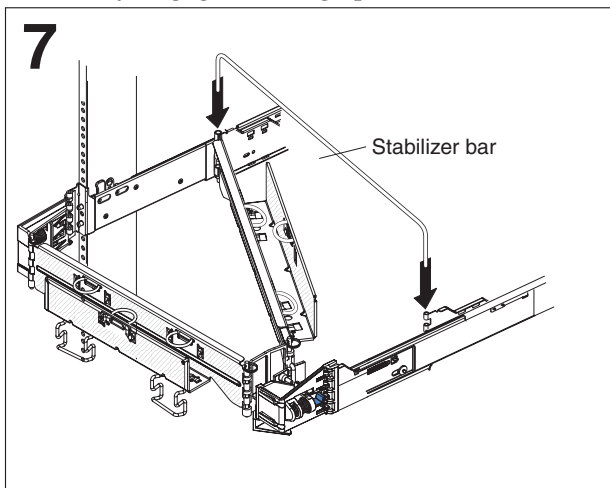




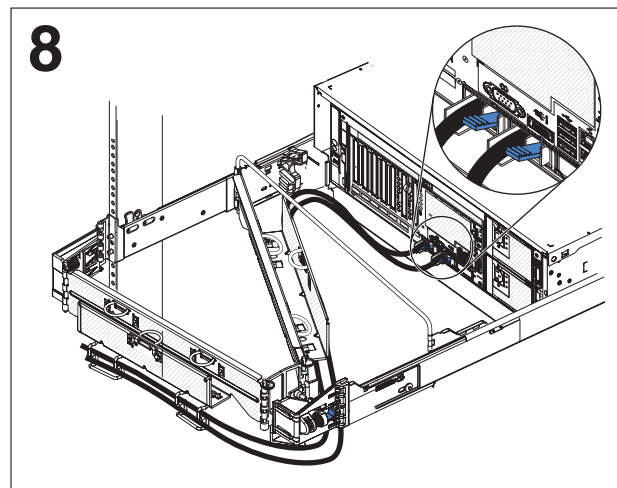
Pull back on the blue hinge-pin actuator on the ramp assembly and place the mini hinge pins of the ramp assembly into the matching hinges of the right slide rail. Push the hinge-pin actuator forward to securely engage the hinge pins.



Repeat the previous procedure to attach the cable-management assembly to the left-slide rail.

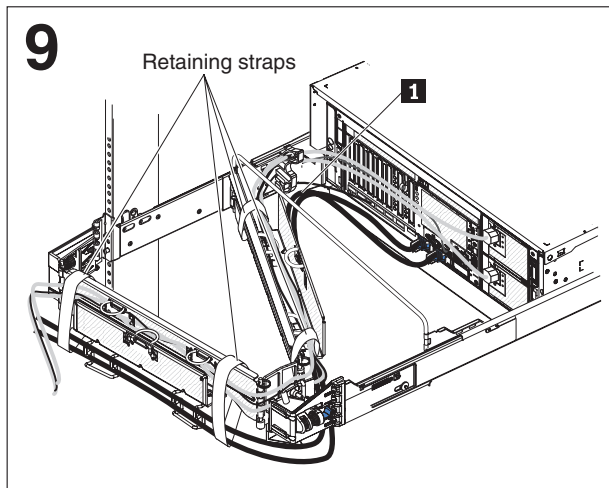


Attach the free end of the cable-management assembly to the slide rail with one end of the stabilizing bar. Attach the other side of the stabilizing bar to the right-slide rail.



Connect the ScaleXpander cables to the SMP Expansion ports and route the ScaleXpander cables through the wire-form clips.



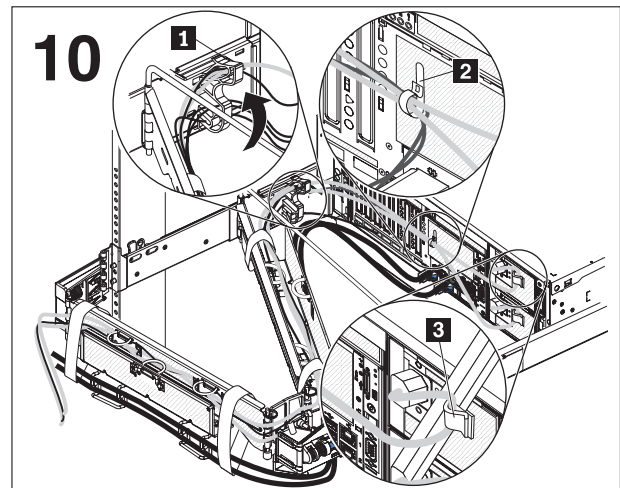


Attach the power cords and other cables to the rear of the server. First, route the power cords in the trough of the cable-management assembly; then, route the remaining cables.

Secure all cables with retaining straps.

**Note:** Do not use retaining straps to secure the ScaleXpander cables on the left-slide rail **1**. This is to allow the ScaleXpander cables to move freely and limit excessive bending.

Slide the server in and out of the rack to make sure that the ScaleXpander cables remain securely in the wire-form clips.

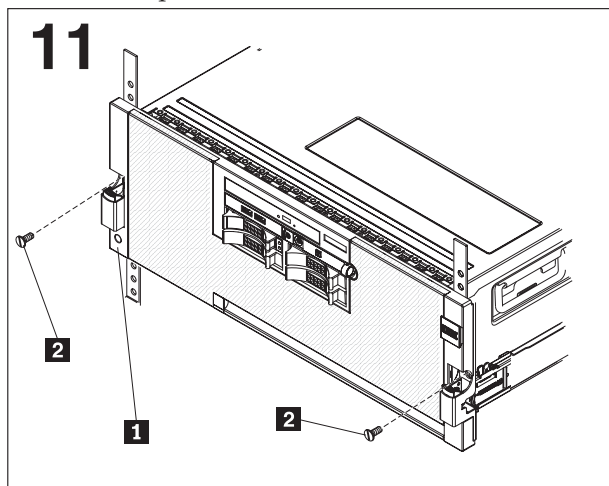


Secure the cable-restraint bracket **1** to the slide rail.

**Note:** Allow slack in all cables to avoid tension in the cables between the server and the cable-management assembly.

Use cable clamps **2** to secure the cables across the rear of the server. Use the power supply clamps **3** to secure the power cords. Attach the thinner cables to the cable-restraint bracket **1** on the slide rail.

Pull the server out of the rack; then, pull the ScaleXpander cables taut from the rear of the server and tighten the retaining straps.



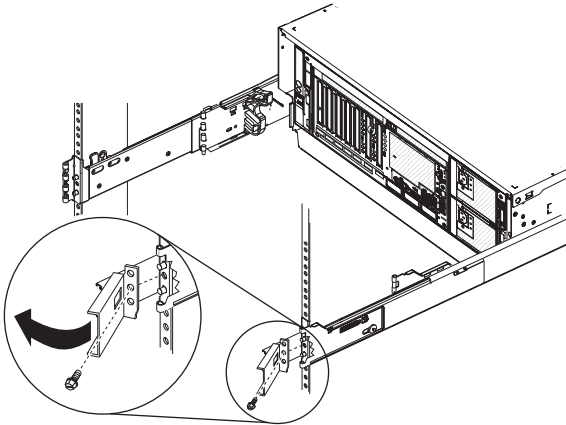
**Attention:** If you are moving the rack or the rack is in a vibration-prone area, you must insert the M6 screws **2**. Otherwise, the server might inadvertently slide out of the rack.

Slide the server into the rack cabinet until the release latches **1** lock into place. To slide the server out of the rack, press on the release latches.

To remove the server from the rack, reverse these instructions. After you remove the cables from the rear of the server, you might find it easier to separate the cable-management arm from the server, keeping the cables in the cable-management arm, before you remove the server from the rack.

**Attention:** Two shipping brackets must be installed if you ship the rack cabinet after you install the server.

Install a shipping bracket over the slide-rail pins at the rear of each slide rail and insert and tighten one M6 screw. You must remove the ramp assembly and cable-management assembly temporarily to install the shipping brackets.



Store this information with your server documentation for future use.



---

**Second Edition (January 2008)**

IBM and System x are trademarks of the IBM Corporation in the United States, other countries, or both.

© **Copyright International Business Machines Corporation 2008. All rights reserved.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

(1P) P/N: 40M2375

