IBM

4-Post and Universal Telco Frame (UTF) Rack Mount Kit Installation Instructions

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.
- Do not leave any unused U spaces within a rack cabinet open. Blank filler panels must be used to prevent recirculation of warm air.
- If your rack cabinet has doors installed, make sure these doors are perforated. Front or rear doors cannot be used in a 600mm floor footprint rack cabinet.
- Remove the rack doors and side panels to provide easier access during installation.
- Connect the BladeCenter™ T Type 8730 unit to a 220-volt power distribution unit (PDU) or to a properly grounded 220-volt power outlet. Connect the BladeCenter T Type 8720 unit to the overhead direct current (dc) power source.

Safety Information, Statement 4

Use safe practices when lifting.
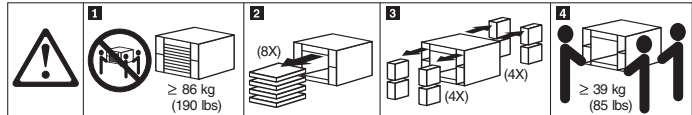
≥18 kg (39.7 lb)   ≥32 kg (70.5 lb)   ≥55 kg (121.2 lb)

Safety Information, Statement 20

To avoid personal injury, before lifting the unit, remove all the blades, power modules, and blowers to reduce the weight.

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.**
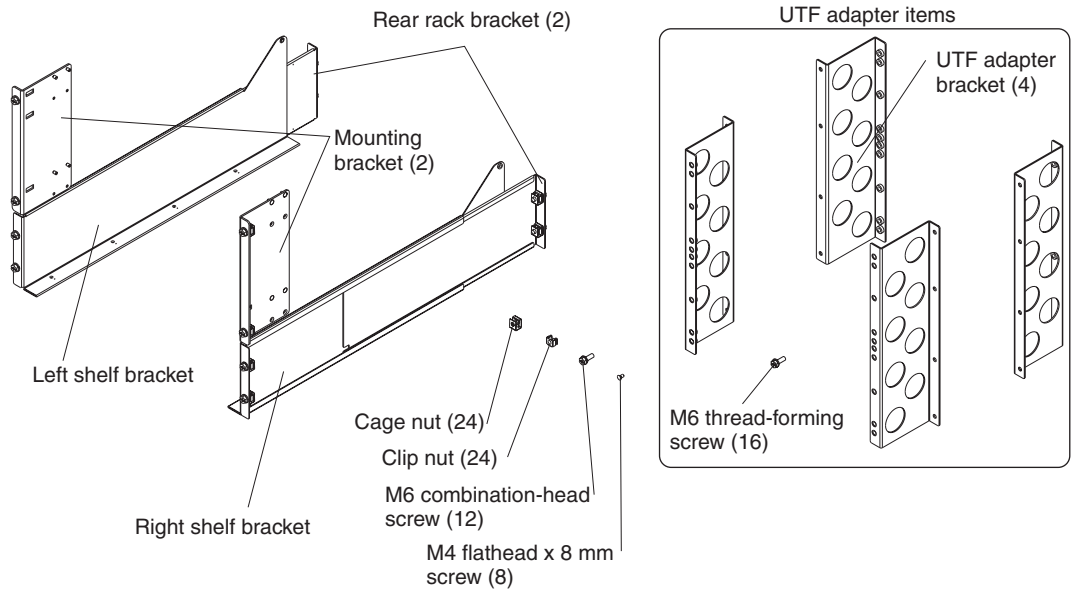- **Always install the heaviest devices in the bottom of the rack cabinet.**
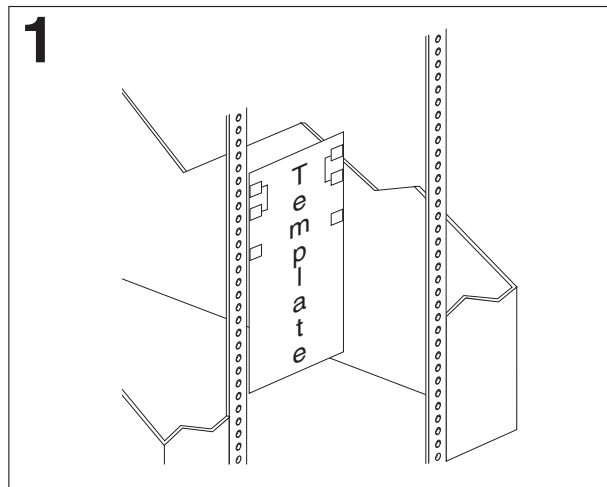
Rack Safety Information, Statement 9

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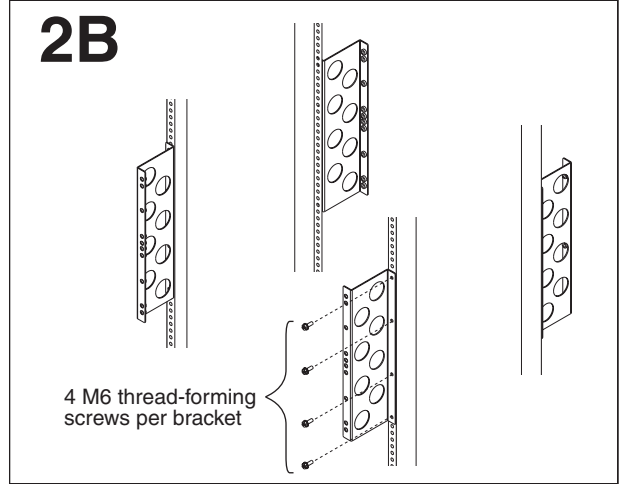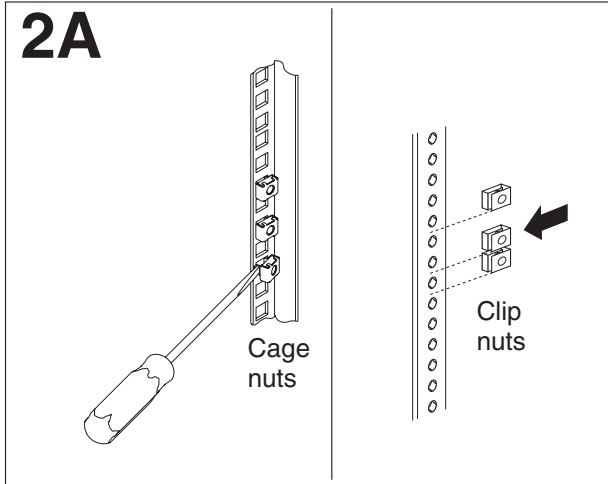
The following illustration shows the items that you need to install the server in your rack cabinet. If any items are missing or damaged, contact your place of purchase.

Rear rack bracket (2)

UTF adapter items

UTF adapter bracket (4)

Mounting bracket (2)

Left shelf bracket

Cage nut (24)

Clip nut (24)

M6 combination-head screw (12)

Right shelf bracket

M4 flathead x 8 mm screw (8)

M6 thread-forming screw (16)

Note: The illustrations used in this document primarily depict the installation procedure within the 4-post rack cabinet unless otherwise noted.

1

Template

Position the template on the rack so that the edges of the template do not overlap any other devices to be installed. Line up and select the holes on the front and rear of the rack in the locations indicated by the arrows on the attached template.
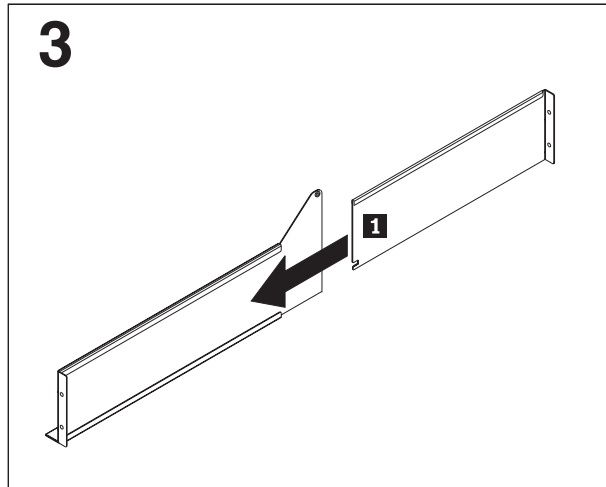
2A

Cage nuts

Clip nuts

2B

4 M6 thread-forming screws per bracket

Note: If you are installing the BladeCenter T unit in the UTF rack, go to step 2B.

If you are installing the BladeCenter T unit in the 4-post rack, install cage nuts or clip nuts as required for your rack cabinet. Use a flat-blade screwdriver to install cage nuts.
Note: For racks with square holes, use the cage nuts. For racks with round holes, use clip nuts.
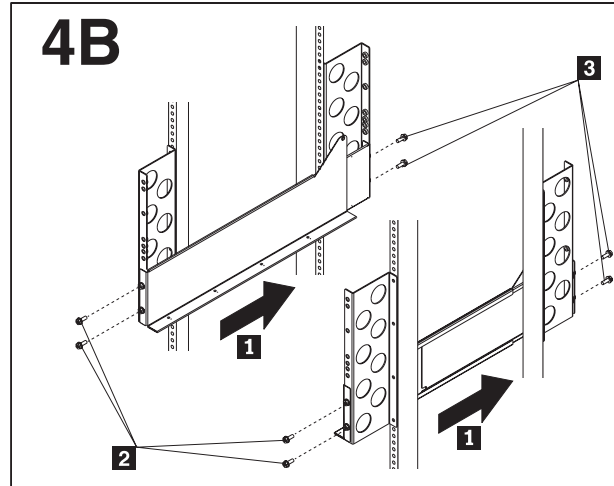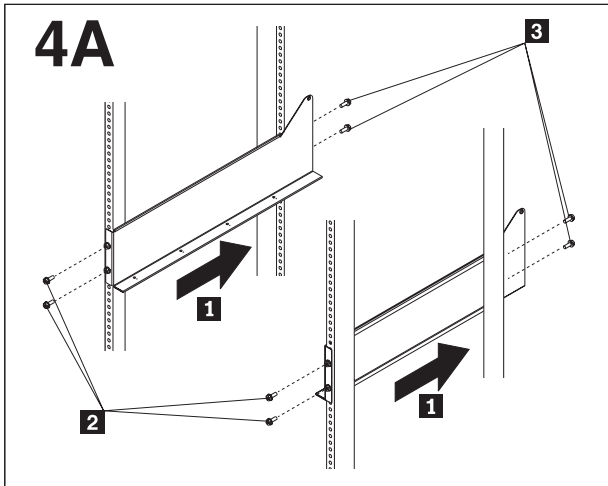
Attach a UTF adapter bracket to the rack flange by installing four M6 thread-forming screws to the rear edge of the bracket, securing the bracket to the flange.

Repeat for the remaining UTF adapter brackets.

3

1

Assemble the shelf bracket by inserting the rear rack bracket into the shelf bracket **1** .
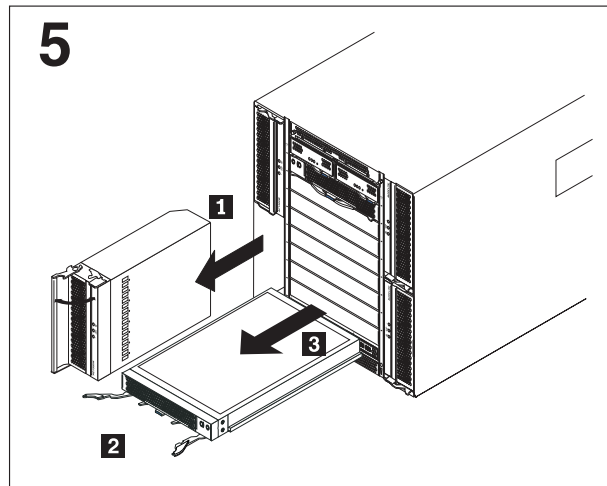
Repeat for the remaining shelf bracket.

Note: If you are installing the BladeCenter T unit in the UTF rack, see the illustration in step 4B.

Align the shelf bracket to the front and rear rack-mounting flanges (step 4A) or, if installing in the UTF rack, adapter brackets (step 4B). Adjust the length of the shelf bracket by pulling out the rear rack bracket **1**.
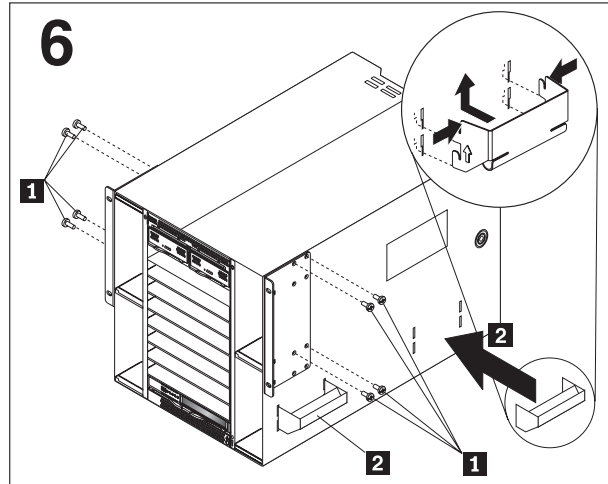
Install two M6 combination-head screws or, if installing in the UTF rack, two M6 thread-forming screws to secure the shelf bracket to the front flange (step 4A) or front adapter bracket (step 4B) **2**.

Vertically align the shelf bracket; then, install two M6 combination-head screws or, if installing in the UTF rack, two M6 thread-forming screws to secure the shelf bracket to the rear flange (step 4A) or adapter bracket (step 4B) **3**. Repeat these steps for the remaining rail.
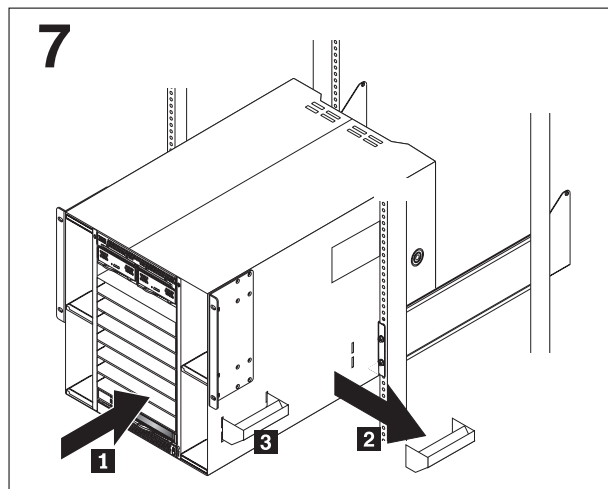

Note: If installing a preconfigured BladeCenter T unit, label the blade servers and BladeCenter T unit bays to ensure that you reinstall the blade servers in the intended bays. Reinstalling a blade server into a bay different from the one from which it was removed could have unintended consequences. Some configuration information and update options are established according to bay number.

Remove the bezel assembly (if not already removed), blade servers, power modules, and blowers from the BladeCenter T unit. (See the *BladeCenter T Types 8720 and 8730 Installation and User's Guide* about removal procedures.) Place the equipment in a safe place.

Attach the two mounting brackets to the sides of the unit by installing eight M4 flathead x 8mm screws 1 .

Insert the four lift handles into the slots in the BladeCenter T unit, located on the bottom half of each side 2 .
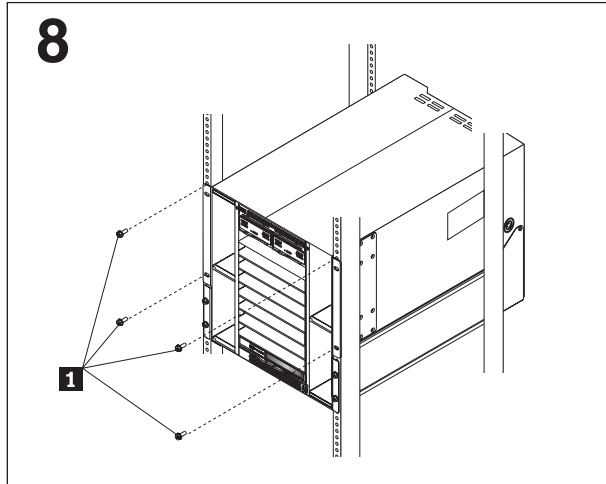

Carefully lift and place the rear edge of the unit on the front of the shelf brackets. Slide the unit along the shelf brackets until the rear lift handles are close to the front flanges 1 .
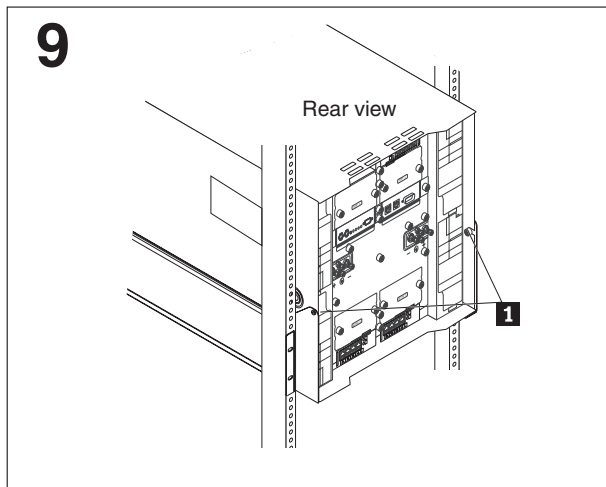
With the unit properly seated on the shelf brackets, securely hold the front of the unit and remove the rear set of lift handles 2 .

Continue to slide the unit into the rack until the front lift handles reach the front flanges. Remove the front lift handles from the unit 3 .
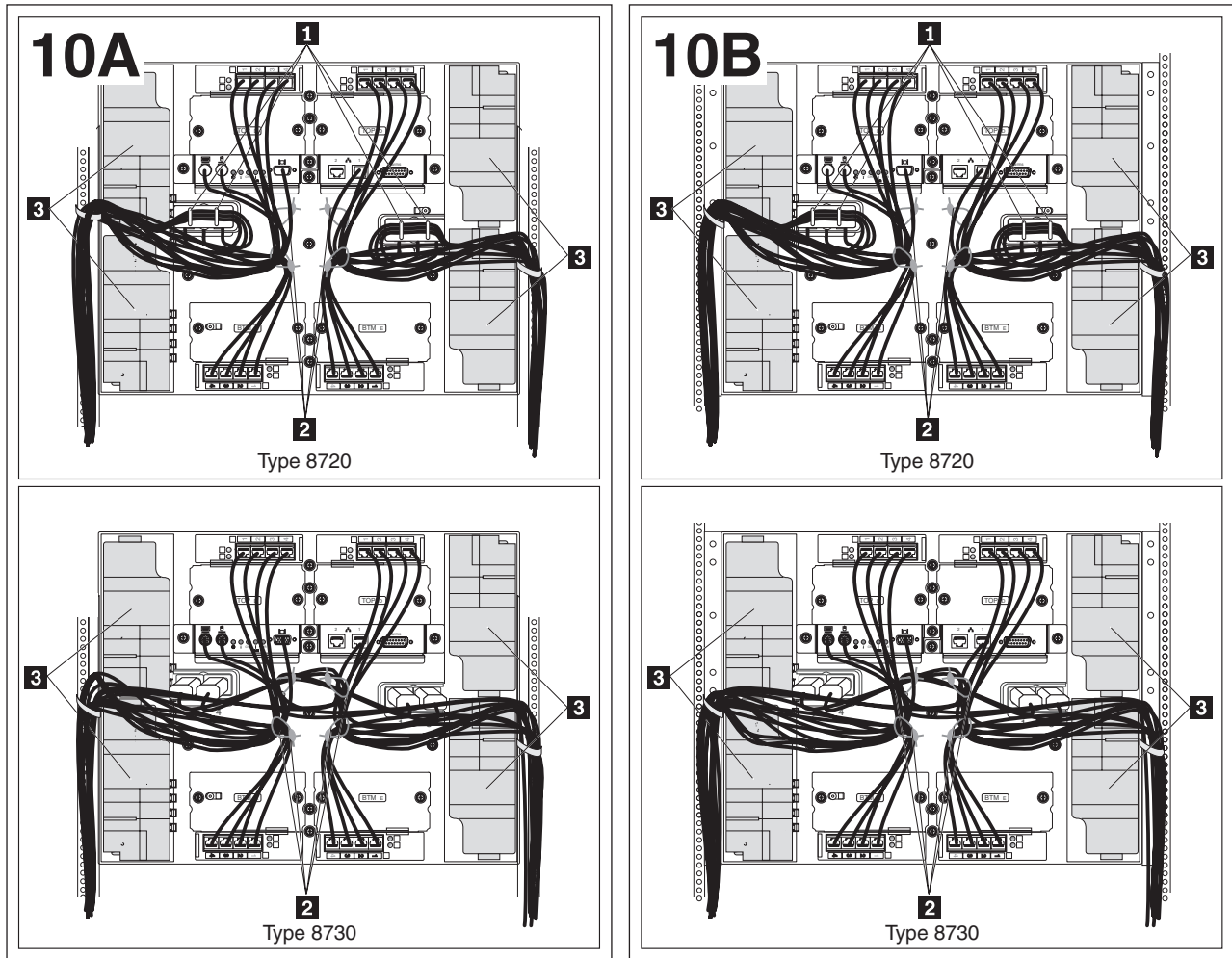
Completely slide the unit into the rack.

Install two M6 combination-head screws into each mounting bracket to secure the unit to the rack **1** .

From the rear of the rack, secure the two captive screws, located in each blower bay, to the shelf brackets **1** . Reinstall the blowers in the BladeCenter T unit. (See the *BladeCenter T Types 8720 and 8730 Installation and User's Guide* for installation procedures.)

Type 8720

Type 8720

Type 8730

Type 8730

Note: If you are installing the BladeCenter T unit in the UTF rack, see the illustration in step 10B.

Attach the power cords and other cables to the rear of the BladeCenter T unit. (For details about connecting the dc-power cables, see the *BladeCenter T Types 8720 and 8730 Installation and User's Guide*.) If installing Type 8720, route the power cables through the cable ties on the dc-power cover **1** ; then, route all the cables as shown in the illustration.

Use the cable ties on the rear of the chassis **2** and any additional cable ties and cable straps to secure the cables together and to the rack cabinet flanges (step 10A) or adapter brackets (step 10B).
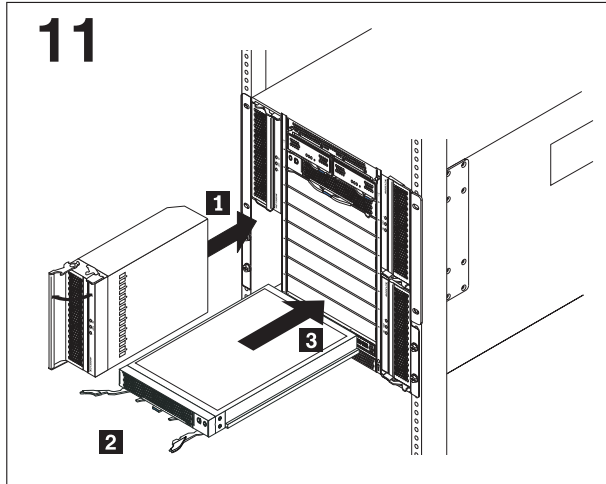
Notes:

1. Allow slack in all cables to avoid tension in the cables and to allow you to remove adjacent modules without uncabling the BladeCenter T unit.
2. As you route the cables to the rack flanges or adapter brackets, avoid covering or shielding the blowers' airflow exhaust areas **3** .

System power redundancy: To maintain power redundancy at the system level, connect the power modules as follows:
Note: See "Rack Safety Information, Statement 9" prior to connecting the power module power cords to power sources.
- Connect the power modules in bay 1 (and bay 3 if applicable) to one building power source or service entrance.
- Connect the power modules in bay 2 (and bay 4 if applicable) to a separate building power source or service entrance.

Carefully reinstall the power modules **1** , blade servers **3** , and bezel assembly in the BladeCenter T unit. (See the *BladeCenter T Types 8720 and 8730 Installation and User's Guide* for installation procedures.)

Notes:

1. Make sure the release levers on the blade servers are in the open position **2** before you slide them into the BladeCenter T unit.
2. If the unit was preconfigured, make sure to reinstall each blade server into the same bay from which it was removed.

To remove the BladeCenter T unit from the rack, reverse these instructions. Store this information with your BladeCenter T documentation for future use.

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