

# **hp Integrity rx4640 SCSI Upgrade Guide**



**Manufacturing Part Number: A9740-96001**  
**October 2003**

U.S.A.

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The CD will autorun when you insert it into a Windows workstation, or, point your browser at the index.htm file located under the **Start** directory of the CD. All users, including Unix/Linux, can access a complete manual set by viewing the directory **manuals**. The manuals are in Acrobat Reader (pdf) format.

In addition, the latest versions of all these documents, and any product updates to these documents, are posted under the appropriate server at <http://docs.hp.com>.

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# 1 About This Document

This document describes how to convert your hp Integrity rx4640 server from SCSI simplex to SCSI duplex.

The document printing date and part number indicate the document's current edition. The printing date will change when a new edition is printed. Minor changes may be made at reprint without changing the printing date. The document part number will change when extensive changes are made.

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## What's in This Document

The *hp Integrity rx4640 SCSI Upgrade Guide* contains these chapters:

- **Chapter 2, “Converting SCSI Configuration from Simplex to Duplex.”** Use this chapter to learn how to convert your hp Integrity rx4640 from SCSI simplex to SCSI duplex.

## Typographical Conventions

This document uses the following conventions.

<i>Title</i>	The title of a document or a CD.
<b>KeyCap</b>	The name of a keyboard key. Note that <b>Return</b> and <b>Enter</b> both refer to the same key.
<i>Emphasis</i>	Text that is emphasized.
<b>Bold</b>	Text that is strongly emphasized, such as the summary text in bulleted paragraphs.
ComputerOut	Text displayed by the computer.
<b>UserInput</b>	Commands and other text that you type.
Command	A command name or qualified command phrase.

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## Related Documents

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## 2 Converting SCSI Configuration from Simplex to Duplex

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### Safety Information

Follow the procedures listed below to ensure safe handling of components and to prevent harm to both you and the HP Server:

- Use an antistatic wrist strap and a grounding mat, such as those included in the Electrically Conductive Field Service Grounding Kit (HP 9300-1155).
- Handle accessory boards and components by the edges only. Do not touch any metal-edge connectors or any electrical components on accessory boards.
- Do not wear clothing subject to static charge build-up, such as wool or synthetic materials.

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**WARNING** Hazardous voltages are present inside the HP Server. Always remove AC power from the server and associated assemblies while working inside the unit. Serious injury may result if this warning is not observed.

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### Service Tools Required

Service of this product may require one or more of the following tools:

- Electrically Conductive Field Service Kit (P/N 9300-1155)
- 1/4 inch Flat Blade Screwdriver
- ACX-15 Torx® Screwdriver

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### Accessing a Rack Mounted Server

The hp Integrity rx4640 server is designed to be rack mounted. The following procedure explains how to gain access to an hp Integrity rx4640 server that is mounted in an approved rack. For rack installation instructions, review the document titled *hp Integrity rx4640 Server Rack Installation Guide*.

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**WARNING** Ensure that all anti-tip features (front and rear anti-tip feet installed; adequate ballast properly placed, etc.) are employed prior to extending the server.

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## Extend the Server from the Rack

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**NOTE** Ensure that there is enough area (Approximately 1.5 meters [4.5 ft.]) to fully extend the server out the front and work on it.

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To extend the server from the rack, perform the following steps:

- Step 1.** Remove the T-25 screws that fasten the server to the rack.
- Step 2.** Flip out the two pull handles at either end of the front bezel and slowly pull the unit forward by the handles. The server is fully extended when the rail clips are locked in place. When fully extended, the front and top covers are fully accessible.

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## Accessing a Pedestal Mounted Server

The hp Integrity rx4640 server is also designed to be pedestal mounted. It is not necessary to remove the server from the pedestal to gain access to internal components. The front bezel, front cover, and top cover may be removed with the pedestal attached to the HP Server.

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**WARNING** Ensure that the HP Server is properly grounded when performing remove and replace procedures. Use an antistatic wrist strap and grounding mat similar to those found in the HP Electrically Conductive Field Service Kit.

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## Removing the Front Bezel

The server does not have to be turned off to remove the front bezel.

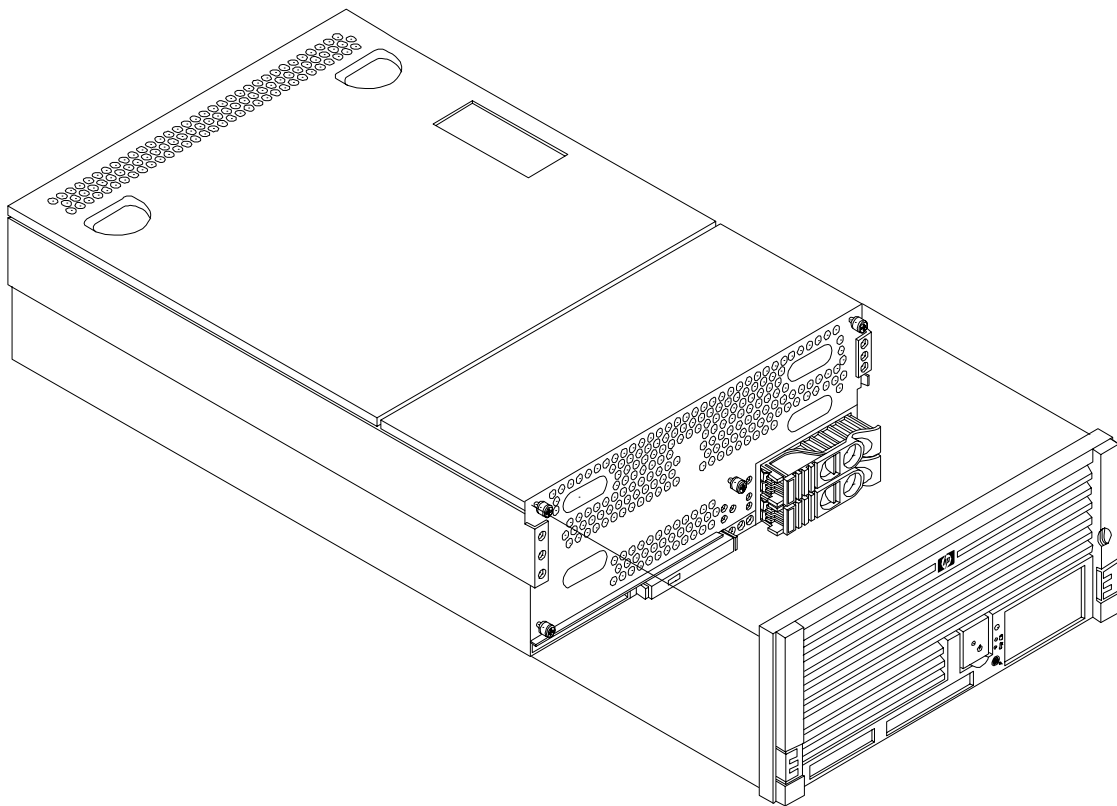
Opening the control panel door provides access to the following components:

- Power switch
- System LEDs

To remove the front bezel, perform the following steps:

**Step 1.** Grasp the front bezel at the outer edges and pull straight out.

**Figure 2-1**      **Removing the Front Bezel**



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## Removing the Covers

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**CAUTION** Do not operate your HP Server without the front and top covers in place. Operation of the HP Server without the front and top covers in place will result in EMI susceptibility, overheating problems and/or system failure.

Observe all ESD safety precautions before attempting this procedure. Failure to follow ESD safety precautions could result in damage to the server.

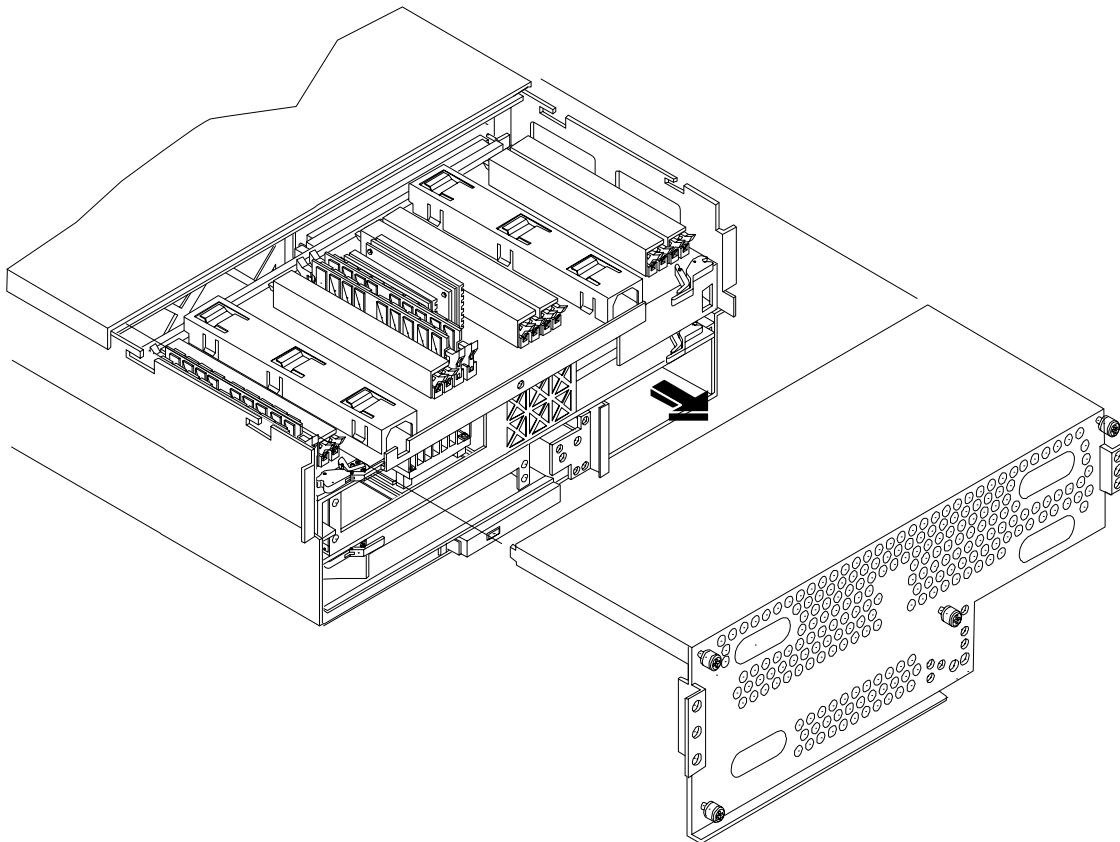
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### Removing the Front Cover

To remove the front cover, perform the following steps:

- Step 1.** Loosen the four captive thumbscrews that hold the front cover in place.
- Step 2.** Raise the cover slightly, and pull the cover toward the front of the server to free the tabs from the slots in the center of the chassis.

**Figure 2-2** Removing the Front Cover

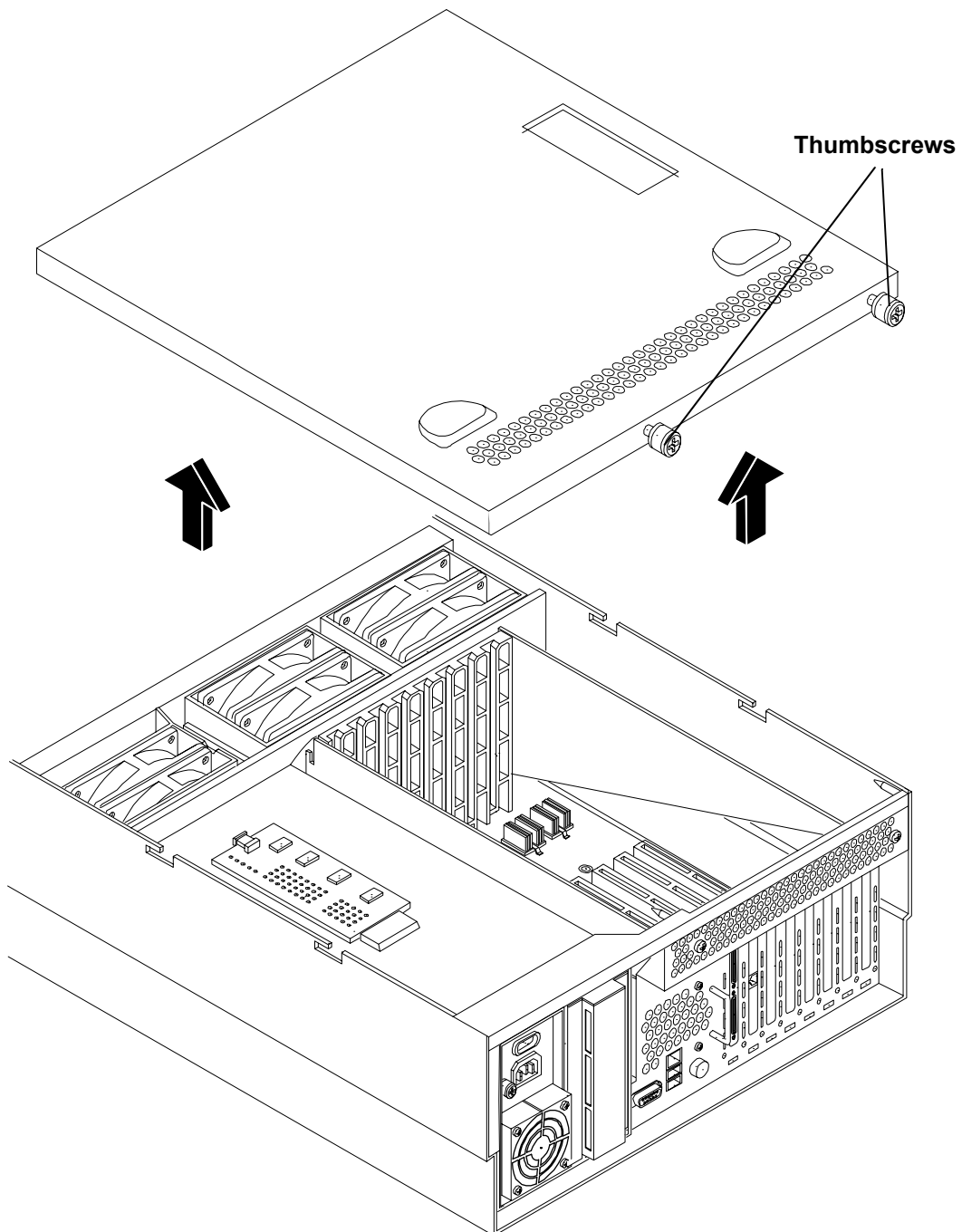


## Removing the Top Cover

To remove the top cover, perform the following steps:

- Step 1.** Loosen the two captive thumbscrews that hold the top cover in place.
- Step 2.** Pull the cover toward the rear of the server to free the tabs from the slots in the center of the chassis and lift it straight up.

**Figure 2-3** Removing the Top Cover



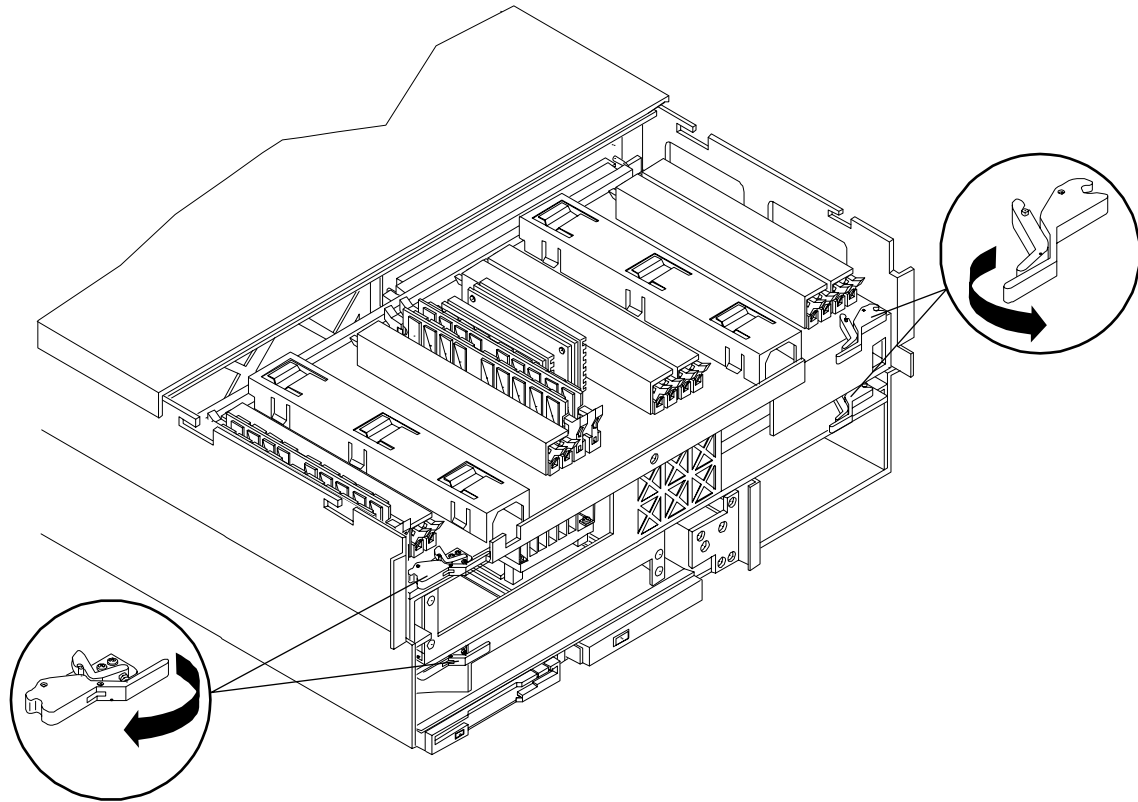
## Removing the Memory Extender Board

The memory extender board is located directly under the top cover of the chassis. The standard memory extender board can hold up to 16 DIMMs. The high capacity memory extender board can hold up to 32 DIMMs.

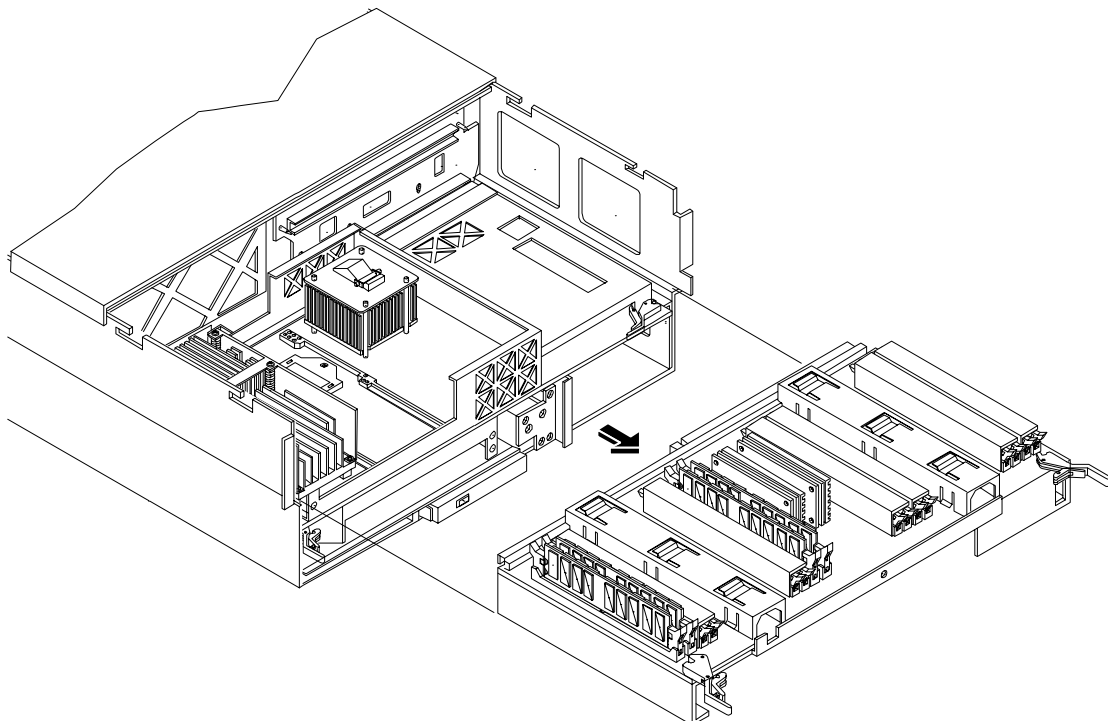
To remove a memory extender board, perform the following steps:

- Step 1.** Press each latch on the two extraction levers located on each side of the memory extender board.
- Step 2.** Pull on the extraction levers to unplug the memory extender board from the socket located on the midplane riser board and remove the memory extender board from the chassis.

**Figure 2-4**      **Opening the Memory Extender Board Latches**



**Figure 2-5**      **Removing the Memory Extender Board**



## **Removing the Processor Extender Board**

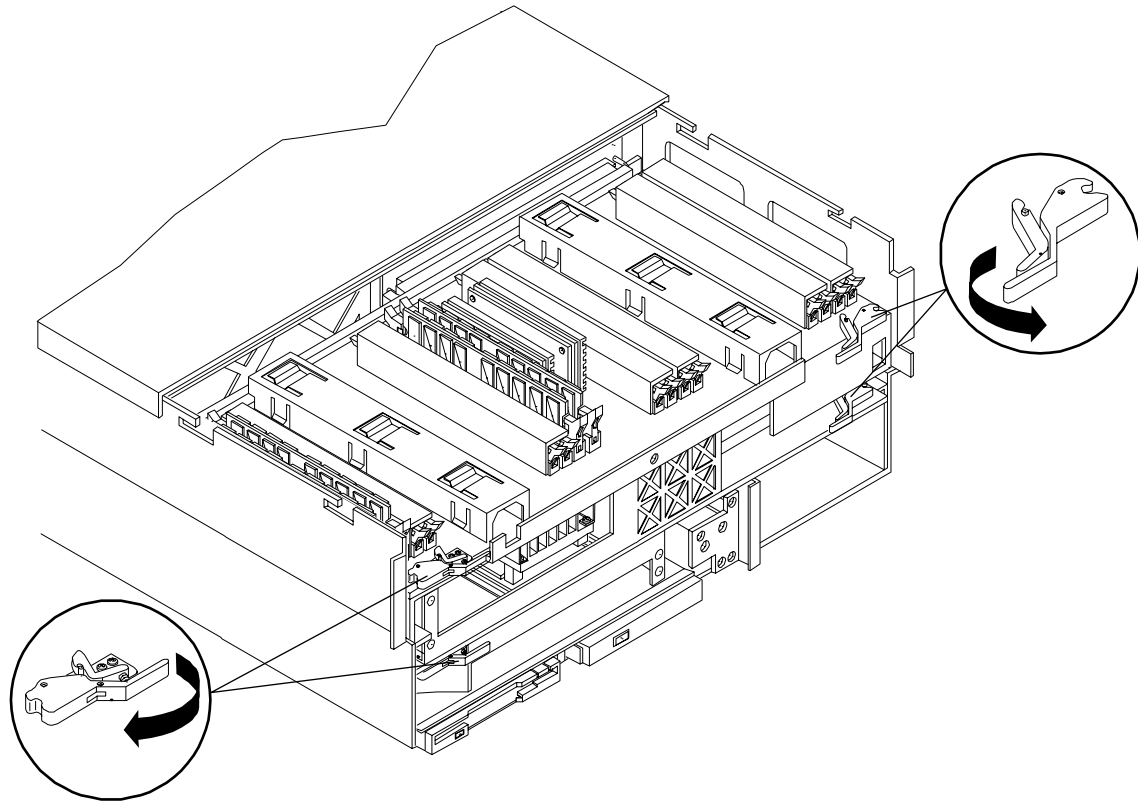
The processor extender board is located directly under the memory extender board. The processor extender board can hold between one and four processors.

To remove the processor extender board, perform the following steps:

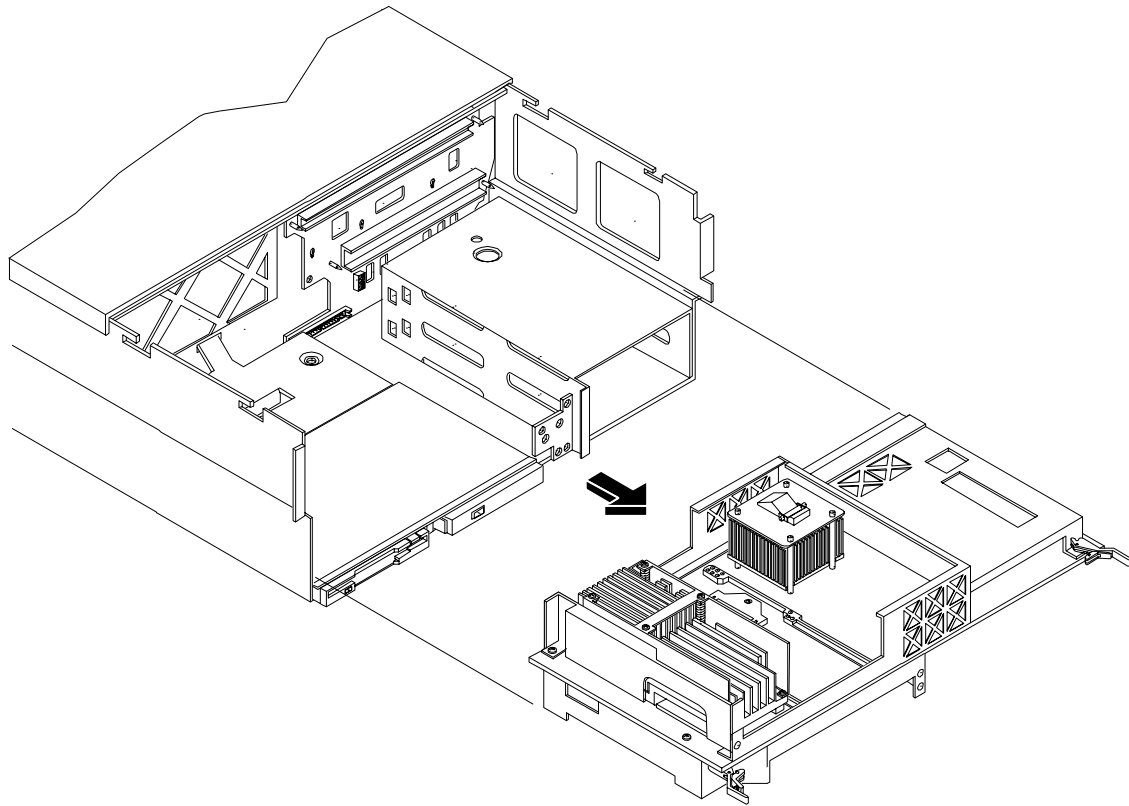
- Step 1.** Press the latch on the extraction levers located on each side of the processor extender board.
- Step 2.** Pull up on the extraction levers to unplug the processor extender board from the socket located on the midplane riser board.



**Figure 2-6**      **Opening the Processor Extender Board Latches**



**Figure 2-7**      **Removing the Processor Extender Board**

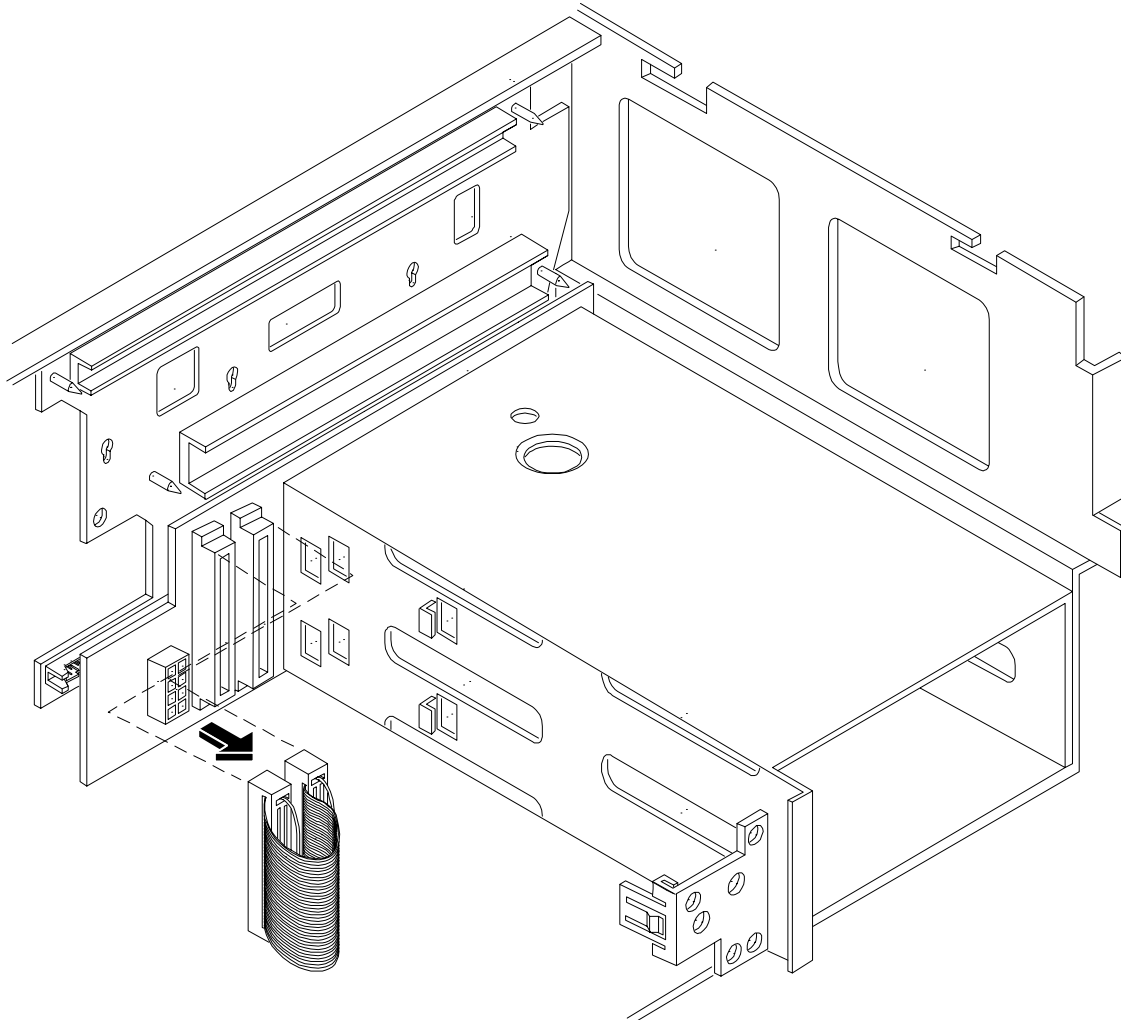


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## Removing the SCSI Jumper Cable

A SCSI jumper cable bridges the two SCSI connectors on the SCSI backplane when the server is configured for simplex operation. This jumper must be removed in order to install the duplex board and to connect the SCSI B cable.

**Figure 2-8**      **Removing the SCSI Jumper Cable**



## Installing the Duplex Board

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**NOTE** In simplex mode, both hard disk drives, slot 0 and slot 1, are driven by SCSI channel A. When the duplex board is installed, slot 1 hard disk drive is now driven by SCSI channel B. If HP-UX was previously installed and “whole disk vxfs” was not used, the system will no longer boot. Refer to the *HP-UX Installation Guide* for further information.

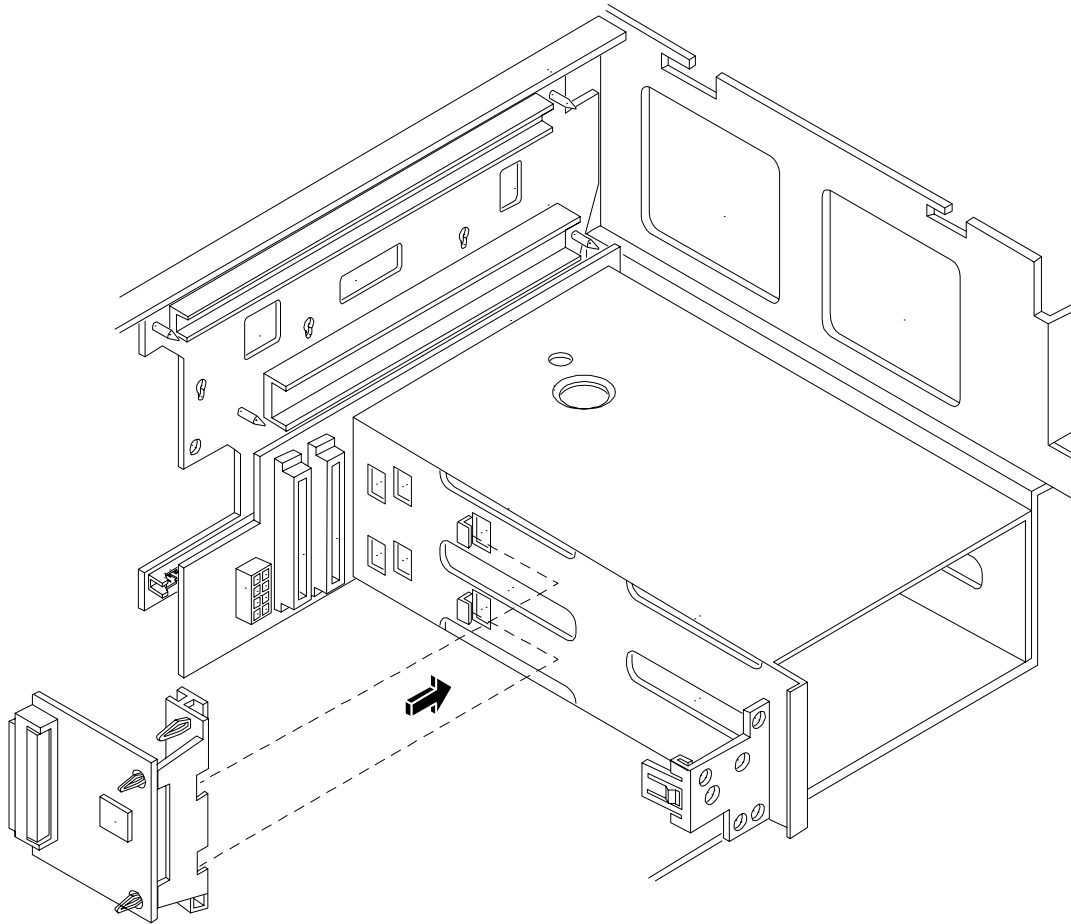
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The duplex board is installed in the SCSI connector located nearest to the disk drive cage. The duplex board is shipped with the duplex board bracket attached. When the duplex board is properly installed, the board is secured to the disk drive cage by the duplex board bracket and the SCSI connector of the SCSI backplane. SCSI B cable is connected to the connector at the immediate left of the duplex board.

- Step 1.** Align the bracket tabs with the slots on the side of the disk drive cage.
- Step 2.** Press the bracket against the disk drive cage until the bracket locks into place.
- Step 3.** Align the connector of the duplex board with the connector on the SCSI backplane.

**Step 4.** Press the board connector into the backplane connector.

**Figure 2-9** Installing the Duplex Board



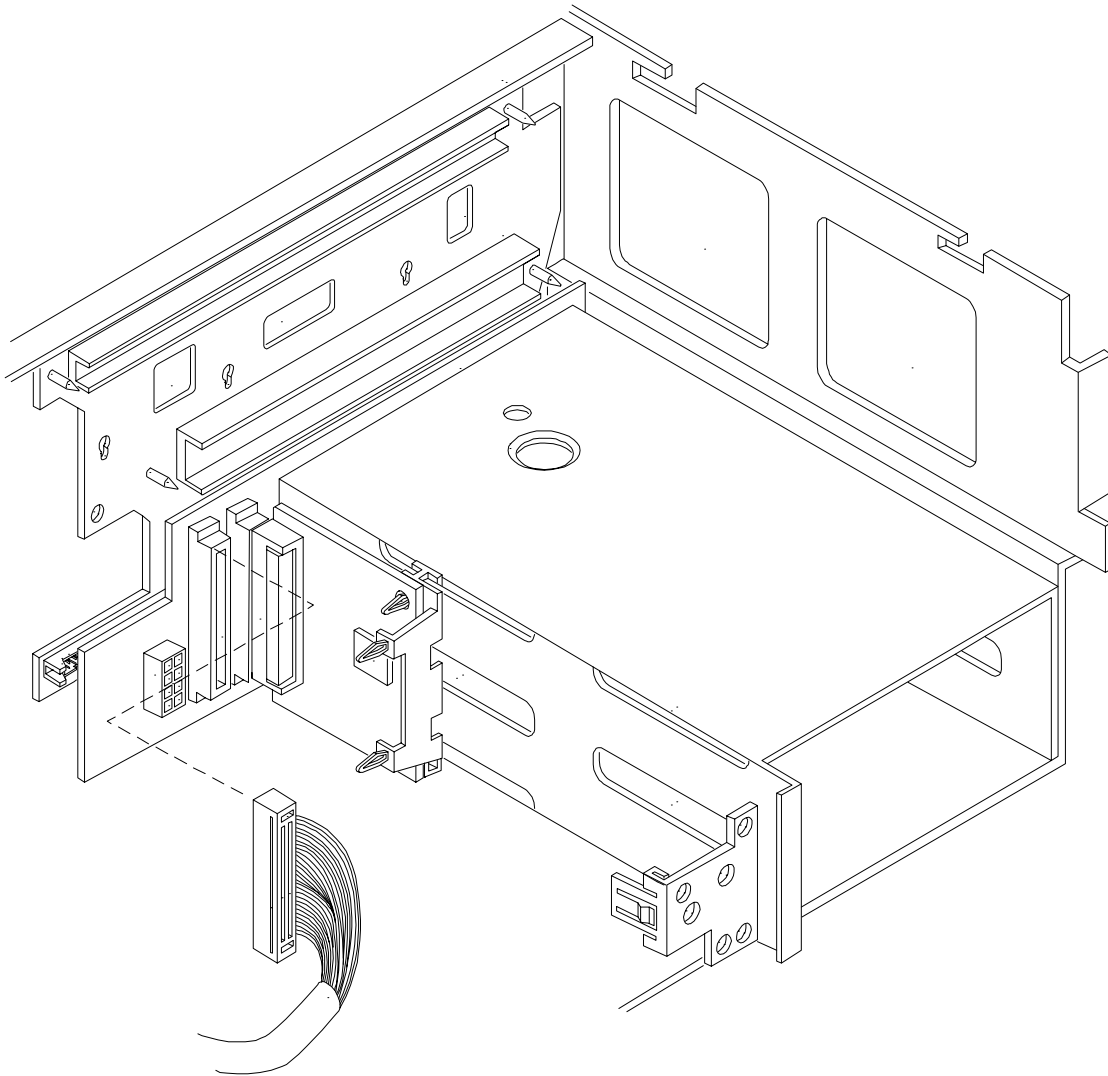
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## Installing SCSI Cable B to the SCSI Backplane

To connect the SCSI cable B to the SCSI backplane, perform the following steps:

- Step 1.** Release SCSI cable B from its stowed position within the chassis.
- Step 2.** Plug the SCSI cable B connector into the SCSI connector located on the backplane next to the duplex board installed in the previous step.

**Figure 2-10**      **Installing SCSI Cable B to the SCSI Backplane**



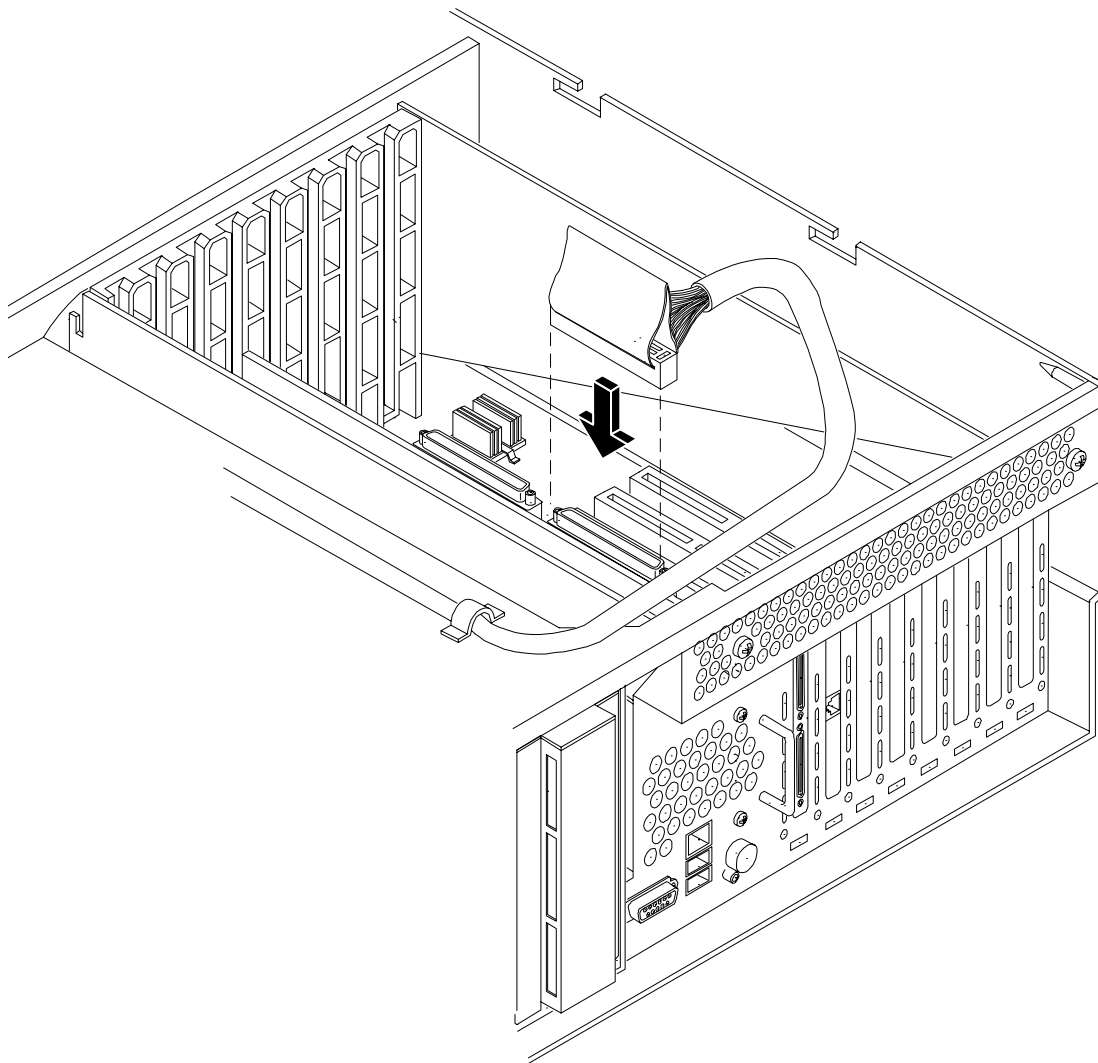
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## Installing SCSI B Cable to the SCSI Adapter Board

The SCSI duplex configuration is completed by connecting the other end of SCSI cable B to the SCSI B channel of the SCSI Adapter board located in the PCI board section of the server.

- Step 1.** Release SCSI cable B from its stowed position within the chassis.
- Step 2.** Plug the SCSI cable B connector into the SCSI B channel connector located at the rear of the board. See Figure 1-12.
- Step 3.** Place a SCSI port cover over the external SCSI B connector.

**Figure 2-11** Installing SCSI Cable B to the SCSI Adapter Board



## Replacing the Removed Modules

To return the server to operational configuration, perform the following steps:

1. Replace the processor extender board.
2. Replace the memory extender board.
3. Replace the front and top covers.
4. Replace the front bezel.
5. If rack mounted, slide the HP Server back into the rack until it stops.

### Replacing the Processor Extender Board

To replace the processor extender board, perform the following steps:

- Step 1.** Ensure the extraction levers are positioned in the outward, unlocked position.
- Step 2.** Align the processor extender board with the front and rear card guides.
- Step 3.** Slide the processor extender board down until it begins to seat in the socket located on the system I/O board.
- Step 4.** Push the extraction levers inward to the locked position in order to fully seat the processor extender board into the socket on the midplane riser board.

### Replacing the Memory Extender Board

To replace the memory extender board, perform the following steps:

- Step 1.** Ensure the extraction levers are positioned in the outward, unlocked position.
- Step 2.** Align the memory extender board with the front and rear chassis guide slots.
- Step 3.** Slide the memory extender board in until it begins to seat in the socket located on the midplane riser board.
- Step 4.** Push the extraction levers inward to the locked position in order to plug in the memory extender board into the midplane riser board.

### Replacing the Top Cover

To replace the top cover, perform the following steps:

- Step 1.** Align the tabs at the rear of the top cover with the corresponding slots in the chassis and fully seat the tabs into the slots and push forward until it seats.
- Step 2.** Tighten the two thumbscrews securely.



## Replacing the Front Cover

To replace the front cover, perform the following steps:

- Step 1.** Align the tabs at the rear of the front cover with the corresponding slots in the chassis and fully seat the tabs into the slots.
- Step 2.** Tighten the two thumbscrews securely.

## Replacing the Front Bezel

To replace the front bezel, push the front bezel straight into the chassis until it snaps into place.

## Inserting the Server into the Rack

To insert the server into the rack, perform the following step:

- Step 1.** Press the rail clips on either side of the server inward and push the server into the rack until it stops.
- Step 2.** Replace the T-25 screws that fasten the server to the rack.

