



Hewlett Packard
Enterprise

HPE BladeSystem c7000 Enclosure

Setup and Installation Guide

Abstract

This guide describes identification, operations, setup, configuration and utilities, troubleshooting, regulatory notices, specifications, and technical support. This guide is for an experienced service technician. Hewlett Packard Enterprise assumes you are qualified in the servicing of computer equipment, trained in recognizing hazards in products, and are familiar with weight and stability precautions.

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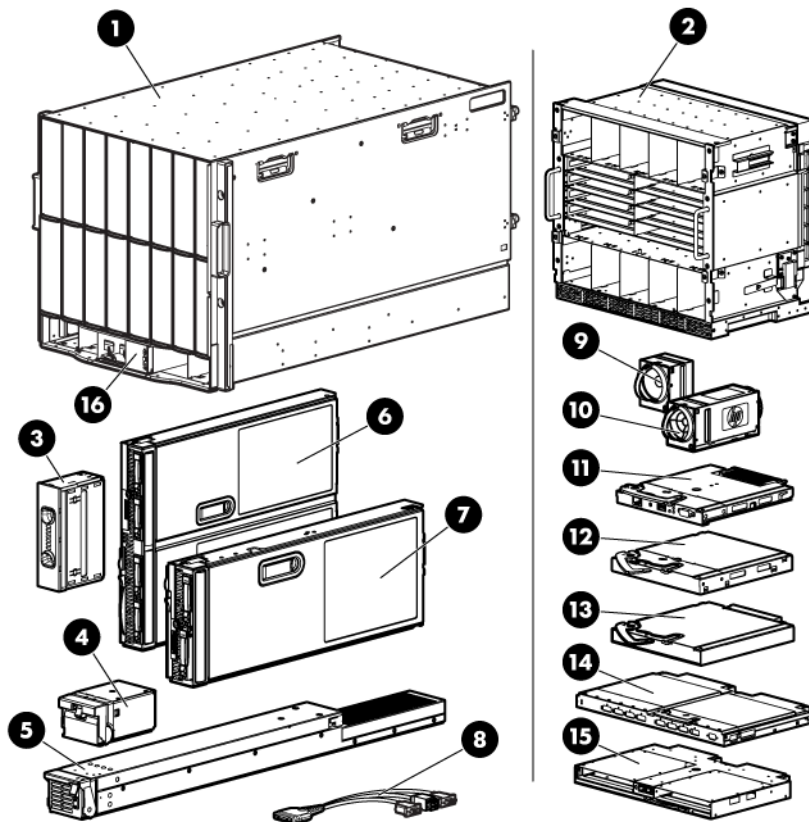
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Planning the installation

Verifying the pallet contents



Item	Name	Description
1	HPE BladeSystem c7000 Enclosure	The HPE BladeSystem enclosure
2	Rear cage	The rear section of the enclosure
3	Device bay blank	A mandatory insert installed in any unused device bay
4	Power supply blank	A mandatory insert installed in any unused power supply bay
5	Enclosure hot-plug power supply (quantity as ordered)	The power supply for the enclosure
6	Full-height device (quantity as ordered)	The full-height server or storage blade
7	Half-height device (quantity as ordered)	The half-height server or storage blade
8	Local I/O cable	A cable with serial, USB, and video connectors that connects to the I/O connector on the front of a blade
9	Fan blank	A mandatory insert installed in any unused fan bay
10	HPE Active Cool 200 Fan (quantity as ordered)	A fan used to cool the components installed in the enclosure
11	Onboard Administrator module	Hot-pluggable enclosure management module. One module is required to manage the components

Item	Name	Description
		installed in the enclosure. To provide redundant enclosure management, you can install an optional second module.
12	Onboard Administrator blank	A mandatory cover installed in any unused Onboard Administrator bay
13	Interconnect blank	A mandatory insert installed in any unused interconnect bay
14	Interconnect module (quantity and type as ordered)	Any of several components, such as pass-thrus or switches that enable communication between the blade and the enclosure
15	Onboard Administrator tray	Hot-pluggable tray that houses up to two Onboard Administrator modules and provides two enclosure link connectors, the rear enclosure UID, LED, and switch.
16	HPE BladeSystem Insight Display	A display that provides information about the health and operation of the enclosure
17*	Power retention ties (single-phase enclosures only)	Tie straps that help prevent single-phase power cables from disconnecting from the power connectors
18*	Documentation CD	A CD containing detailed documentation on using the enclosure
19*	Hard copy installation instructions for blades, options, and interconnects	The printed installation instructions
20*	Installation checklist	A checklist to guide you through installation of the enclosure and components

* Not shown

Rack requirements

The enclosure is compatible with the following racks:

- All HPE 10000 and 10000G2 Series racks except the HPE 10614 rack.

NOTE: The system is optimized for 10000 Series racks.

- Telco racks
- Third-party rack cabinets that meet the following requirements:
 - Width: 48.3 cm (19 in)
 - Depth:
 - 88.9 cm (35 in) maximum clearance between front and rear RETMA rails
 - 62.7 cm (24.7 in) minimum clearance for round-hole racks
 - 63.5 cm (25 in) minimum clearance for square-hole racks
 - Clearance—7.6 cm (3 in) minimum clearance between rear RETMA rails and rear rack door to accommodate system cabling
 - Clearance—4.5 cm (1.75 in) minimum clearance between rack face and inside of front rack door
 - Open area—Minimum of 65 percent open area to provide adequate airflow through any rack front or rear doors
 - Adjustable rack rails are shipped with each enclosure:
 - Minimum rail length: 63.5 cm (25 in)

Rack-free environment requirements

The BladeSystem c7000 Enclosure (referred to as the enclosure) can be used in a rack-free environment. The following conditions must be met when performing a rack-free installation:

- A fully-populated enclosure can weigh up to 217.7 kg (480 lb). The object supporting the enclosure must be able to withstand this weight.
- The enclosure should be supported by a sturdy, flat surface.



WARNING: To reduce the risk of personal injury or damage to the equipment in a rack-free environment:

- Never stack the enclosure on top of another enclosure.
- Never place equipment on top of the enclosure.
- Never place the enclosure on a surface that cannot support up to 217.7 kg (480 lb).

Warning, caution, and important messages



WARNING: To reduce the risk of personal injury or damage to equipment, heed all warnings and cautions throughout the installation instructions.



WARNING: To reduce the risk of personal injury or damage to the equipment, be sure that:

- The leveling jacks are extended to the floor.
- The full weight of the rack rests on the leveling jacks.
- The stabilizing feet are attached to the rack if it is a single-rack installation.
- The racks are coupled together in multiple-rack installations.
- Only one component is extended at a time. A rack may become unstable if more than one component is extended for any reason.



WARNING: To reduce the risk of personal injury or equipment damage when unloading a rack:

- At least two people are needed to safely unload the rack from the pallet. An empty 42U rack can weigh as much as 115 kg (253 lb), can stand more than 2.1 m (7 ft) tall, and might become unstable when being moved on its casters.
- Never stand in front of the rack when it is rolling down the ramp from the pallet. Always handle the rack from both sides.



WARNING: The enclosure is very heavy. To reduce the risk of personal injury or damage to the equipment:

- Observe local occupational health and safety requirements and guidelines for manual material handling.
- Remove all installed enclosure components from their enclosures before installing or moving the enclosures.
- Use caution and get help to lift and stabilize enclosures during installation or removal, especially when the enclosure is not fastened to the rack.



WARNING: To reduce the risk of personal injury or damage to the equipment, you must adequately support enclosures during installation and removal.



WARNING: Always use at least two people to lift an enclosure into the rack. If the enclosure is being loaded into the rack above chest level, a third person must assist with aligning the enclosure with the rails while the other two people support the weight of the enclosure.



WARNING: Before installing an enclosure in the rack, be sure that all hot-plug power supplies, server blades, and interconnects are removed from the enclosure. Blanks can be left in the enclosure.



WARNING: Be sure to install enclosures starting from the bottom of the rack and work your way up the rack.



These symbols, on power supplies or systems, indicate that the equipment is supplied by multiple sources of power.

WARNING: To reduce the risk of injury from electric shock, remove all power cords to completely disconnect power from the system.

Each enclosure has two or more power supply cords. A single rack or cabinet may contain more than one enclosure. Power may be supplied in a redundant fashion. Removing any single source of power does not necessarily remove power from any portion of the system. When performing any service other than hot-plug module replacement, you must completely disconnect all power to that portion of the system. When performing service procedures on enclosures, shut off the circuit breakers to both A and B AC power feeds and then disconnect all power cords from the outlets before servicing.



WARNING: To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.



WARNING: To reduce the risk of electric shock or damage to the equipment, enter enclosures or perform service on system components only as instructed in the user documentation.



WARNING: A risk of electric shock from high leakage current exists. Before connecting the AC supply to the power enclosures, be sure that the electrical outlets are properly grounded (earthed).



CAUTION: Always be sure that equipment is properly grounded and that you follow proper grounding procedures before beginning any installation procedure. Improper grounding can result in ESD damage to electronic components. For more information, refer to "Electrostatic discharge (on page 94)."



CAUTION: When performing non-hot-plug operations, you must power down the server blade and/or the system. Use caution when performing other operations, such as hot-plug installations or troubleshooting.



CAUTION: Protect the equipment from AC power fluctuations and temporary interruptions with a regulating facility UPS device. This device protects the hardware from damage caused by power surges and voltage spikes and keeps the system in operation during a power failure.



IMPORTANT: Data on the dimensions and weights of HPE BladeSystem c-Class components can be found in the *HPE BladeSystem c-Class Maintenance and Service Guide*. The same data can be determined by using the online HPE BladeSystem c-Class Sizing Utility.

Space and airflow requirements

To enable servicing and ensure adequate airflow, observe the following spatial requirements when deciding where to install a Hewlett Packard Enterprise branded, Compaq branded, telco, or third-party rack:

- Leave a minimum clearance of 63.5 cm (25 in) in front of the rack.
- Leave a minimum clearance of 76.2 cm (30 in) in back of the rack.
- Leave a minimum clearance of 121.9 cm (48 in) from the back of the rack to the rear of another rack or row of racks.

HPE BladeSystem servers draw cool air in through the front and expel warm air through the rear of the enclosure. Therefore, the front of the rack enclosure must be adequately ventilated to enable ambient room air to enter the enclosure, and the rear of the enclosure must be adequately ventilated to enable the warm air to escape from the enclosure.



IMPORTANT: Do not block the ventilation openings.

If the front of the rack is not completely filled with components, the remaining gaps between the components can cause changes in the airflow, which can adversely affect cooling within the rack. Cover these gaps with blanking panels.



CAUTION: Always use blanking panels to fill empty vertical spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.

In high density configurations, the HPE 10000 Series Rack Airflow Optimization Kit (AF090A) should be installed to prevent airflow from the rear of the rack to the front the rack via gaps in the rack frame.

HPE 10000 Series and 10000 G2 Series racks provide proper server cooling from flow-through perforations in the front and rear doors that provide 65 percent open area for ventilation.



CAUTION: Always use blanks to fill empty spaces in enclosures. This arrangement ensures proper airflow. Using an enclosure without the proper blanks results in improper cooling that can lead to thermal damage.

Temperature requirements

To ensure continued safe and reliable equipment operation, install or position the rack in a well-ventilated, climate-controlled environment.

The operating temperature inside the rack is always higher than the room temperature and is dependent on the configuration of equipment in the rack. Check the TMRA for each piece of equipment before installation.



CAUTION: To reduce the risk of damage to the equipment when installing third-party options:

- Do not permit optional equipment to impede airflow around the enclosure or to increase the internal rack temperature beyond the maximum allowable limits.
 - Do not exceed the manufacturer's TMRA
-

Power requirements

Installation of this equipment must comply with local and regional electrical regulations governing the installation of IT equipment by licensed electricians. This equipment is designed to operate in installations covered by NFPA 70, 1999 Edition (National Electric Code) and NFPA-75, 1992 (code for Protection of

Electronic Computer/Data Processing Equipment). For electrical power ratings on options, refer to the product rating label or the user documentation supplied with that option.



WARNING: To reduce the risk of personal injury, fire, or damage to the equipment, do not overload the AC supply branch circuit that provides power to the rack. Consult the electrical authority having jurisdiction over wiring and installation requirements of your facility.



CAUTION: Protect the enclosure from power fluctuations and temporary interruptions with a regulating UPS. This device protects the hardware from damage caused by power surges and voltage spikes and keeps the enclosure in operation during a power failure.

Grounding requirements

This equipment must be grounded properly for proper operation and safety. In the United States, you must install the equipment in accordance with NFPA 70, 1999 Edition (National Electric Code), Article 250, as well as any local and regional building codes.

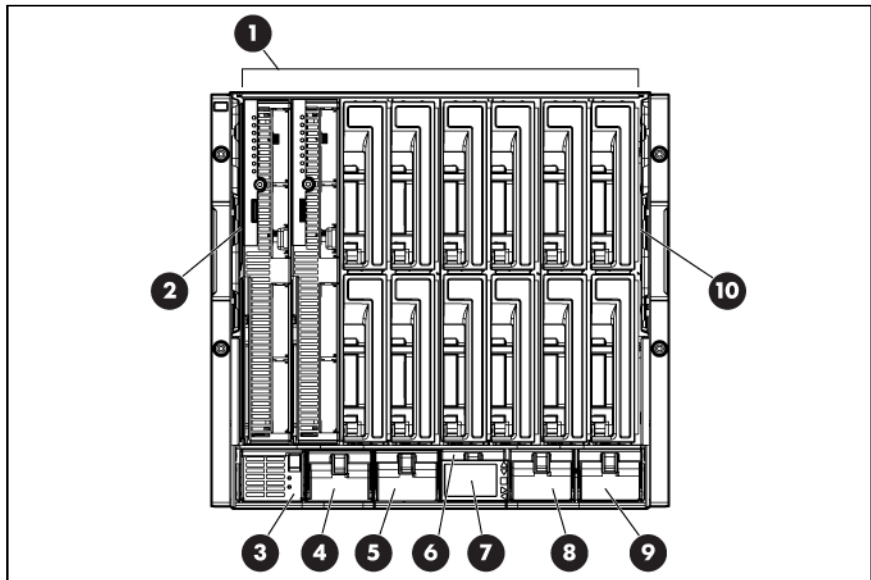
In Canada, you must install the equipment in accordance with Canadian Standards Association, CSA C22.1, Canadian Electrical Code.

In all other countries, you must install the equipment in accordance with any regional or national electrical wiring codes, such as the International Electrotechnical Commission (IEC) Code 364, parts 1 through 7. Furthermore, you must be sure that all power distribution devices used in the installation, such as branch wiring and receptacles, are listed or certified grounding-type devices.

Because of the high ground-leakage currents associated with this equipment, Hewlett Packard Enterprise recommends the use of a PDU that is either permanently wired to the building's branch circuit or includes a nondetachable cord that is wired to an industrial-style plug. NEMA locking-style plugs or those complying with IEC 60309 are considered suitable for this purpose. Using common power outlet strips to supply power to this equipment is not recommended.

Component and LED identification

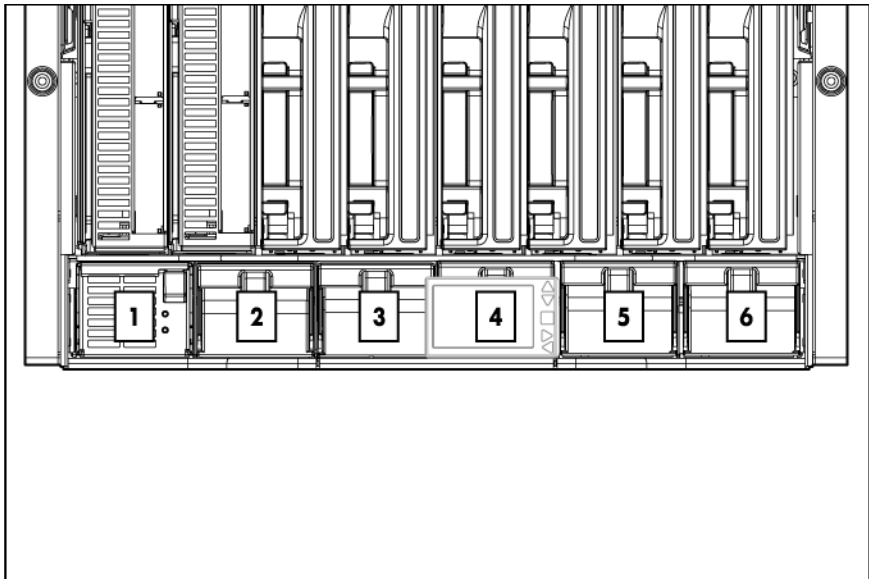
Enclosure front components



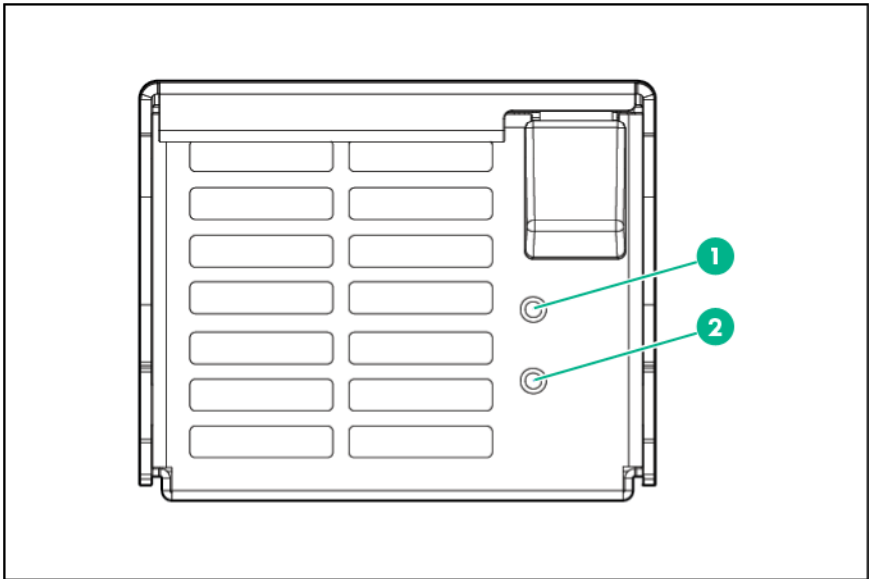
Item	Description
1	Device bays*
2	Air intake slot (Do not block.)
3	Power supply bay 1
4	Power supply bay 2
5	Power supply bay 3
6	Power supply bay 4
7	Insight Display
8	Power supply bay 5
9	Power supply bay 6
10	Air intake slot (Do not block.)

*For more information, see "Device bay numbering (on page 12)."

Power supply bay numbering



Power supply LEDs



Power LED 1 (green)	Fault LED 2 (amber)	Condition
Off	Off	No AC power to the power supply
On	Off	Normal
Off	On	Power supply failure

For power supply configuration information, see Installing a power supply (on page 28).

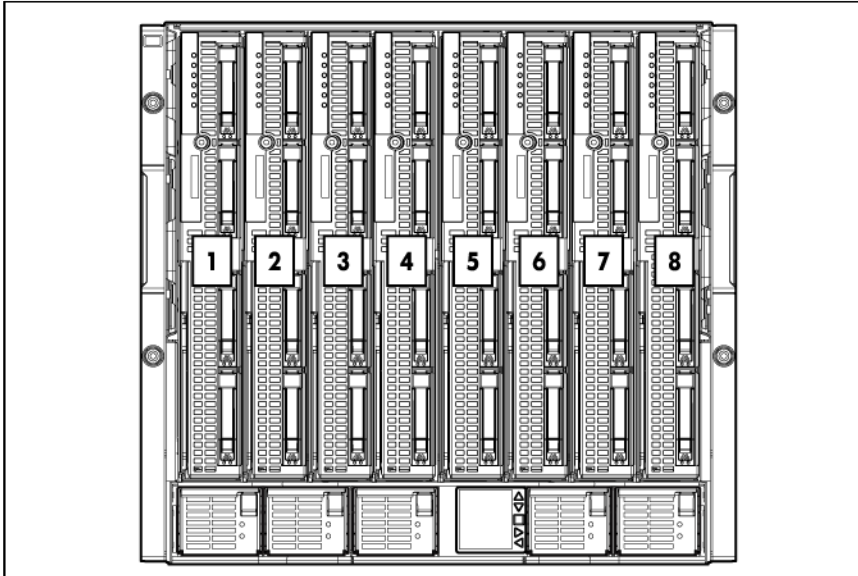
Device bay numbering

Each enclosure requires interconnects to provide network access for data transfer. Interconnects reside in bays located on the rear of the enclosure. Be sure to review device bay numbering to determine which external network connections on the interconnects are active.

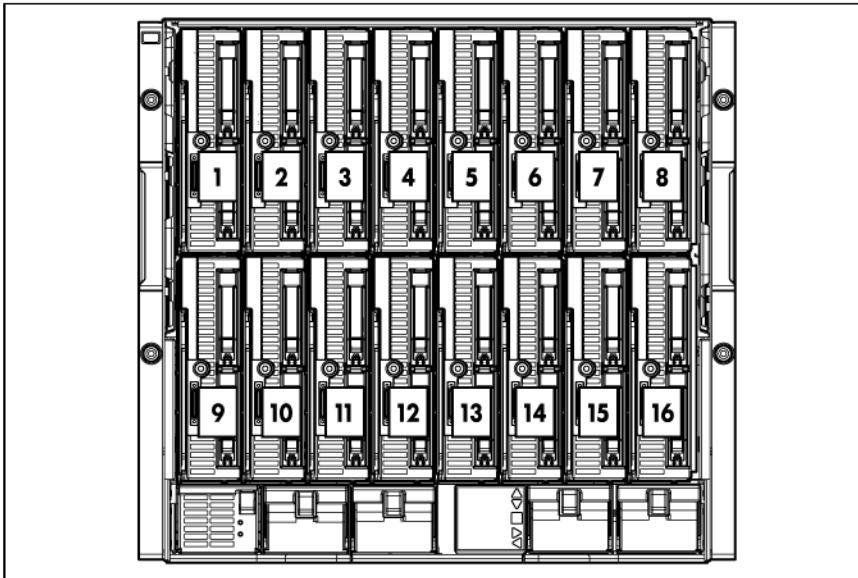


IMPORTANT: When looking at the rear of the enclosure, front device bay numbering is reversed.

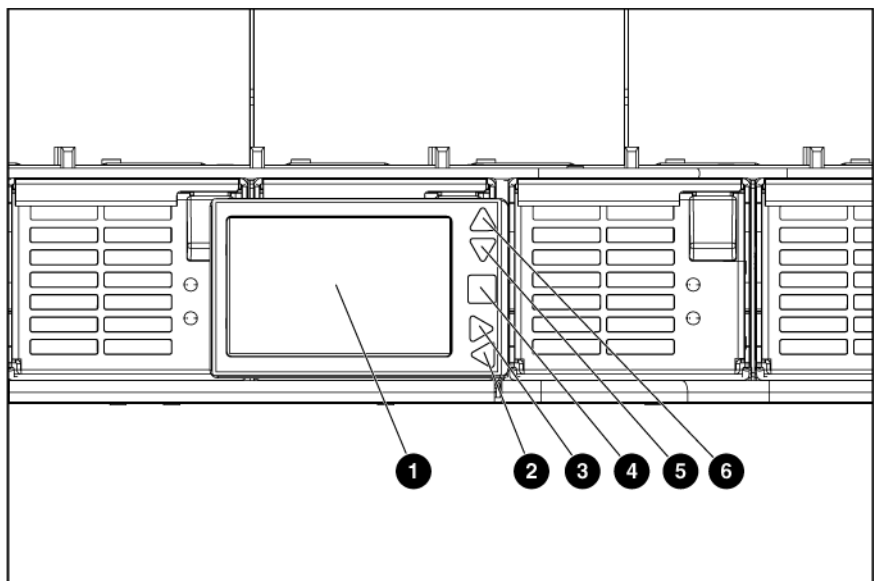
Full-height device bay numbering



Half-height device bay numbering



HPE BladeSystem Insight Display components



Item	Description	Function
1	Insight Display screen	Displays Main Menu error messages and instructions
2	Left arrow button	Moves the menu or navigation bar selection left one position
3	Right arrow button	Moves the menu or navigation bar selection right one position
4	OK button	Accepts the highlighted selection and navigates to the selected menu
5	Down arrow button	Moves the menu selection down one position
6	Up arrow button	Moves the menu selection up one position

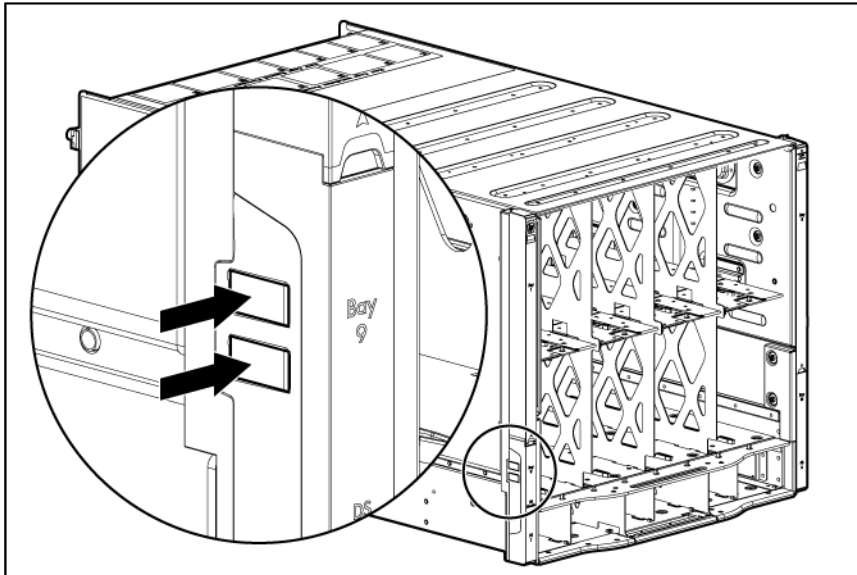
Location Discovery Services

Hewlett Packard Enterprise provides built-in location awareness in the new ProLiant servers, a capability that works hand-in-hand with technology in the HPE 11000 G2 Series racks and HPE Intelligent Series racks. Together these technologies provide the rack identification number and precise U location of the servers. This information is communicated through SIM, ICPM, and Hewlett Packard Enterprise iPDUs.

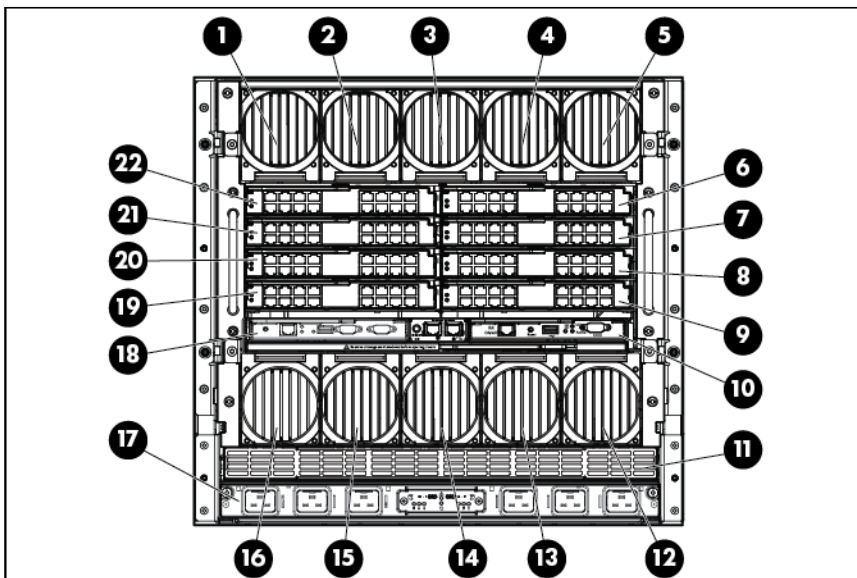
For LDS software requirements, see the QuickSpecs on the Hewlett Packard Enterprise website (<http://www.hpe.com/info/rackandpower>).

This feature is only available on HPE BladeSystem c7000 Platinum Enclosures.

The following figure shows the location of the contacts on the c7000 enclosure that enable use of LDS.



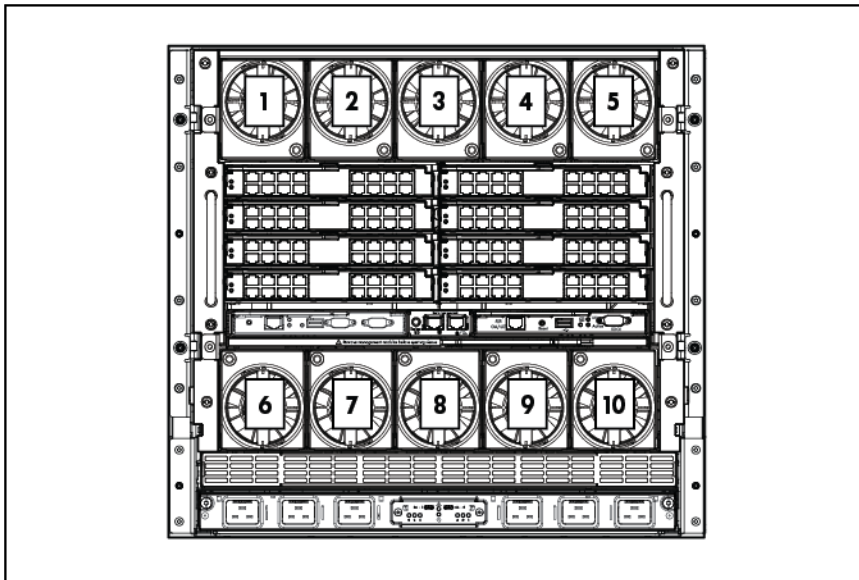
Enclosure rear components



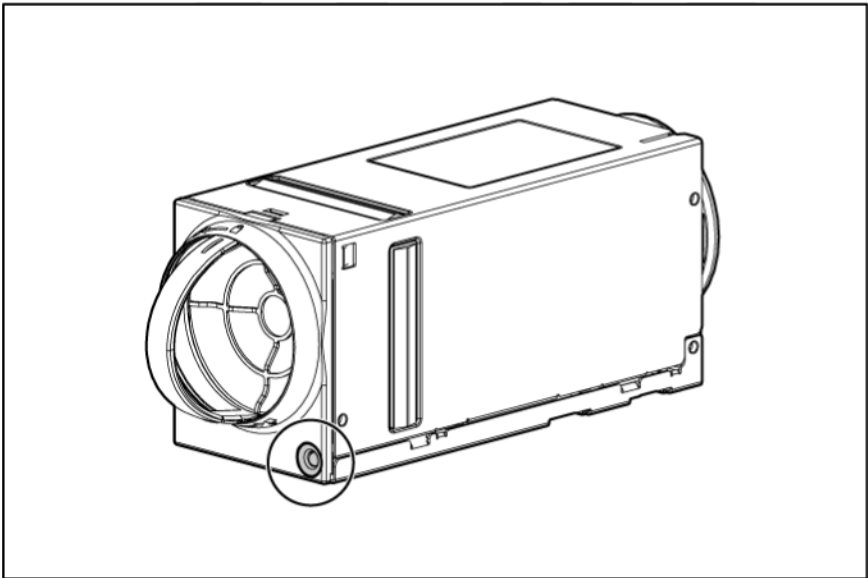
Item	Description
1	Fan bay 1
2	Fan bay 2
3	Fan bay 3
4	Fan bay 4
5	Fan bay 5
6	Interconnect bay 2
7	Interconnect bay 4
8	Interconnect bay 6
9	Interconnect bay 8
10	Onboard Administrator bay 2
11	Power supply exhaust vent (do not block)

Item	Description
12	Fan bay 10
13	Fan bay 9
14	Fan bay 8
15	Fan bay 7
16	Fan bay 6
17	AC power connectors
18	Onboard Administrator bay 1
19	Interconnect bay 7
20	Interconnect bay 5
21	Interconnect bay 3
22	Interconnect bay 1

Fan bay numbering

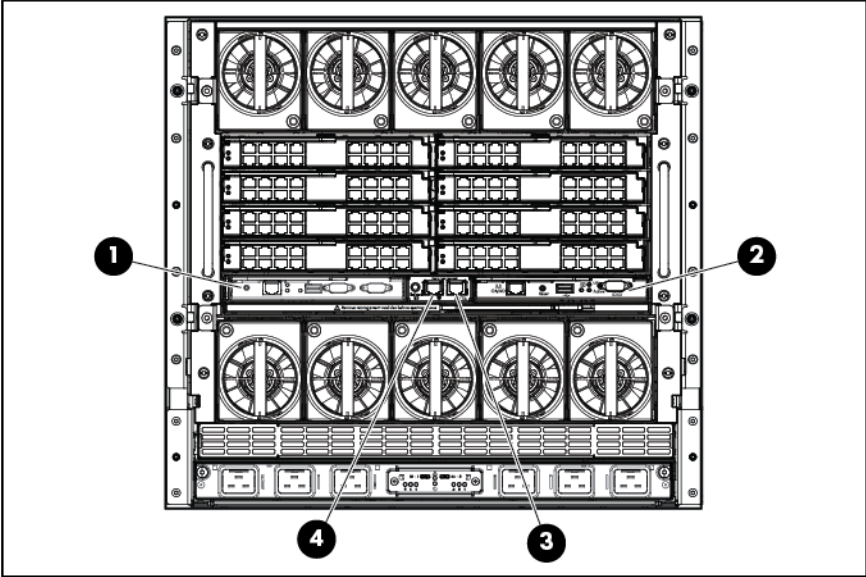


Fan LED



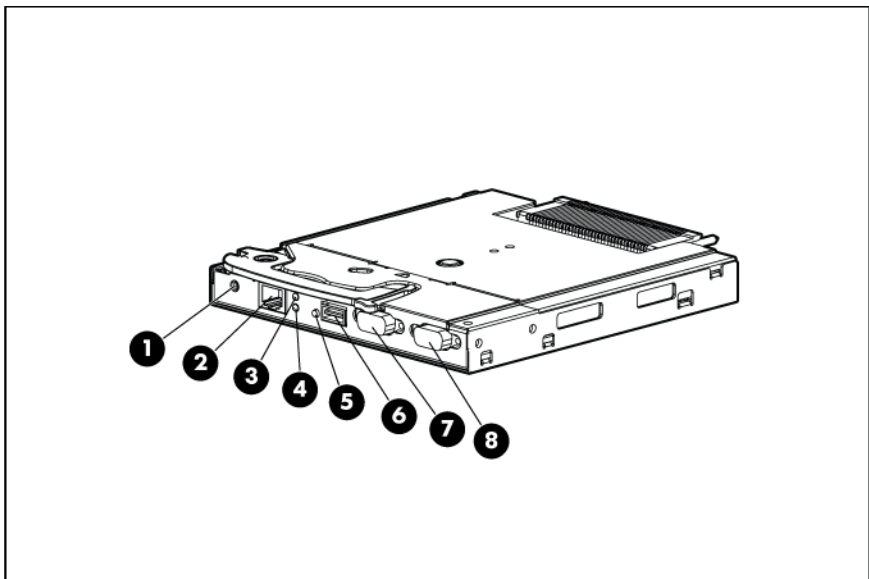
LED color	Fan status
Solid green	The fan is working.
Solid amber	The fan has failed.
Flashing amber	See the Insight Display screen.

Onboard Administrator components



Item	Description
1	Onboard Administrator bay 1
2	Onboard Administrator bay 2 (redundant, if used)
3	Enclosure link-up port
4	Enclosure link-down port

HPE c7000 Onboard Administrator with KVM components

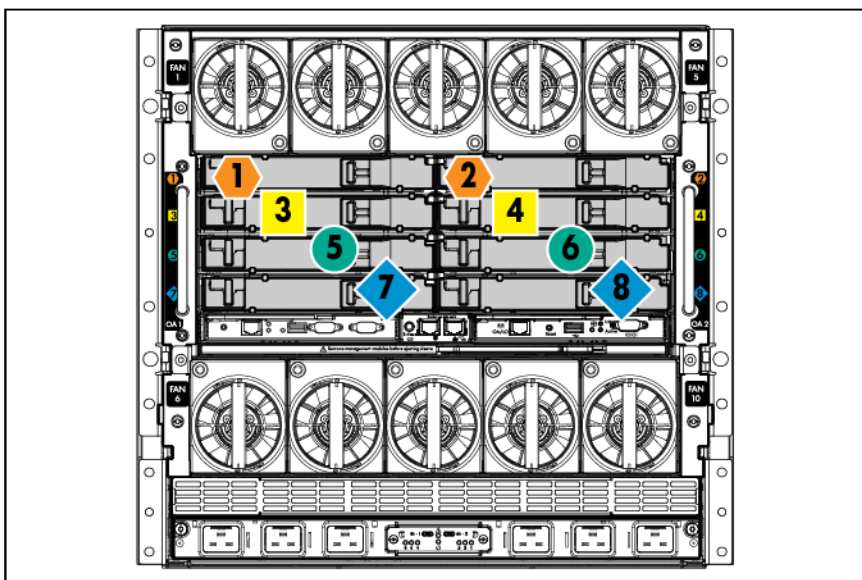


Item	Name	Description
1	Reset button	—
2	OA/iLO management port	Ethernet 100BaseT RJ45 connector, which provides Ethernet access to the Onboard Administrator and the iLO on each blade. Also supports interconnect modules with management processors configured to use the enclosure management network. Also supports GbE.
3	UID LED	Blue = UID on
4	Active Onboard Administrator LED	Indicates which Onboard Administrator is active
5	Health LED	Green = OK Red = Critical error
6	USB	USB 2.0 Type A connector used for connecting supported USB devices such as DVD drives, USB key drives, or a keyboard or mouse for enclosure KVM use. To connect multiple devices, a USB hub (not included) is required.

Item	Name	Description
7	Serial connector	Serial RS232 DB-9 connector with PC standard pinout. Connect a computer with a null-modem serial cable to the Onboard Administrator command line interface (CLI).
8	VGA	VGA DB-15 connector with PC standard pinout. To access the KVM menu or Onboard Administrator CLI, connect a VGA monitor or rack KVM monitor for enclosure KVM.

Interconnect bay numbering

To support network connections for specific signals, install the interconnect module into the appropriate bay.



Server blade signal	Interconnect bay number	Interconnect bay label
NICs 1, 2, 3, and 4 (embedded)	1, 2	Orange hexagon
Mezzanine 1	3, 4	Yellow square
Mezzanine 2	5, 6 and then 7, 8	Green circle and Blue diamond
Mezzanine 3	7, 8 and then 5, 6	Blue diamond and Green circle

For information on the location of LEDs and ports on individual interconnect modules, see the documentation that ships with the interconnect module.

For more information, see "Mapping to interconnect ports (on page 46)."

Installation

Installation overview

To set up and install the enclosure:

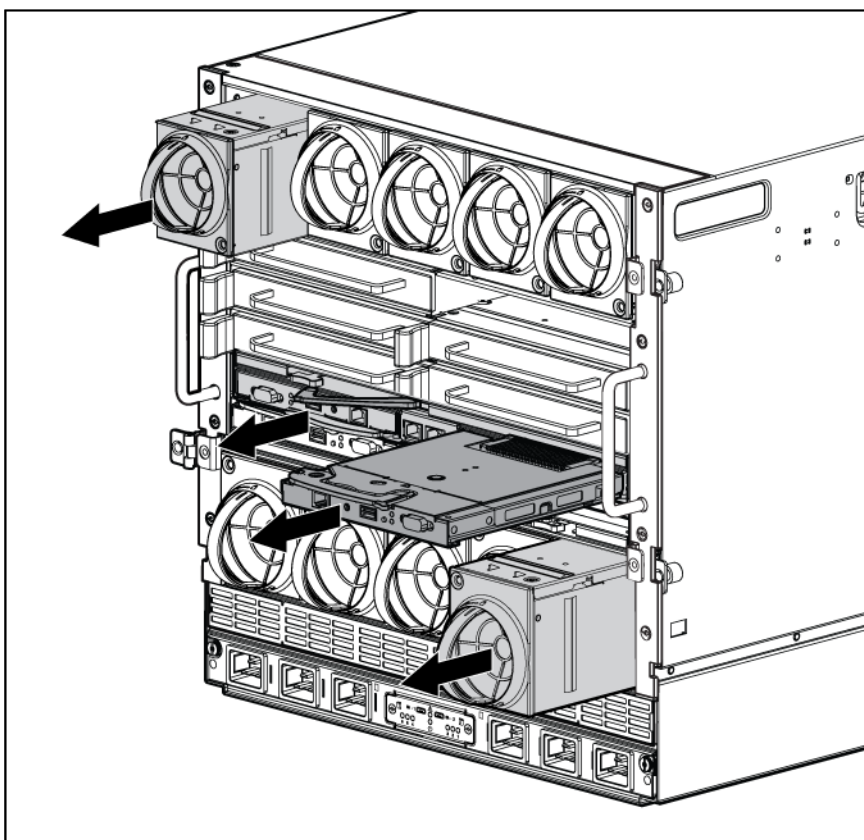
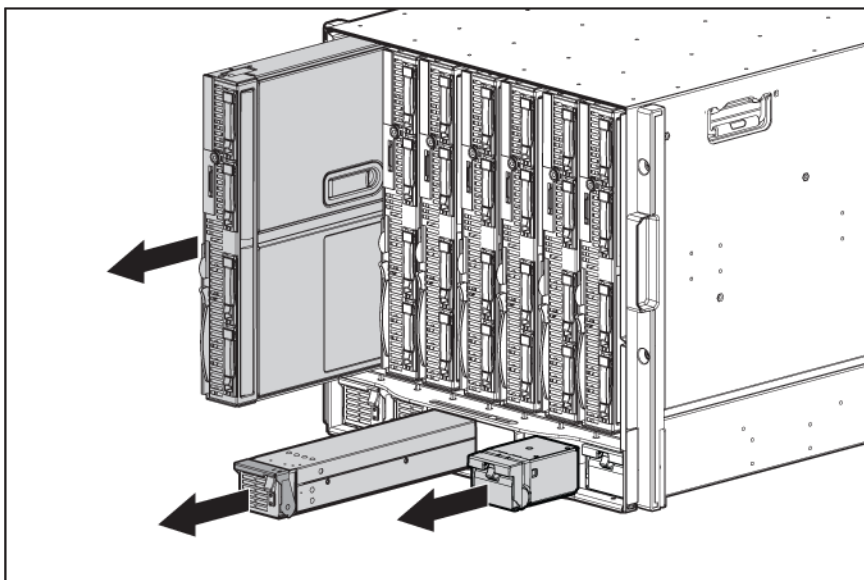
1. Disassemble the enclosure ("[Disassembling the enclosure](#)" on page 20).
2. For rack-free installations ("[Rack-free installation](#)" on page 23), set up the enclosure on an appropriate surface, then install the rear cage and enclosure components.
3. For rack installations, install the enclosure into the rack ("[Installing the enclosure into the rack](#)" on page 25) then reassemble the enclosure.
4. Install the enclosure components ("[Component installation](#)" on page 28) into the enclosure.
5. Connect the enclosure components ("[Cabling and powering up the enclosure](#)" on page 55) in the enclosure.
6. Connect the AC power cables and power up the enclosure ("[Powering up the enclosure](#)" on page 58).
7. Configure the enclosure ("[Running the Insight Display installation steps](#)" on page 64) using the Insight Display.

Disassembling the enclosure

Before installing the enclosure into the rack, you must disassemble the enclosure. Because a fully-populated enclosure can weigh up to 217.7 kg (480 lb), remove the components and the rear cage from the enclosure to make moving and installing the enclosure easier. Two people should work together to remove the rear cage from the enclosure.

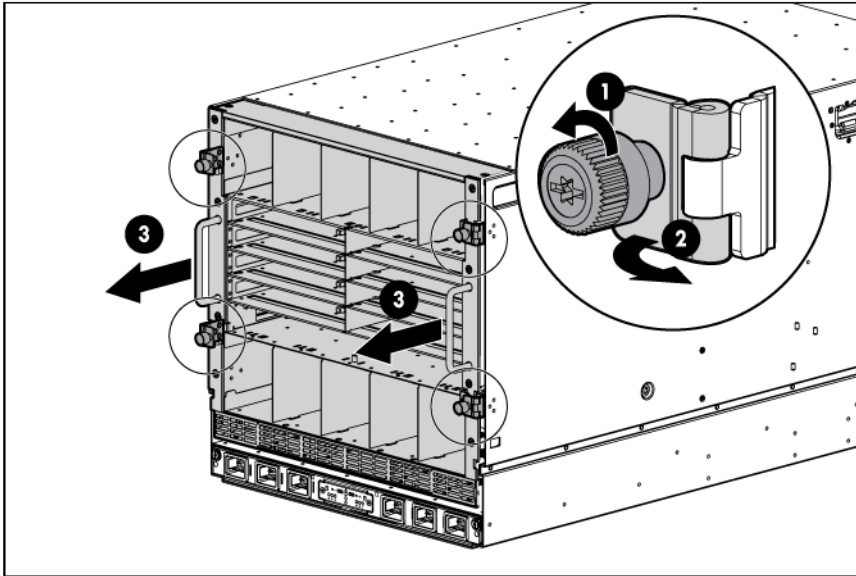
The empty enclosure with the rear cage installed weighs 58.6 kg (129 lb). When the enclosure is disassembled, the empty enclosure without the rear cage installed weighs 35.5 kg (78 lb). The empty rear cage weighs 23.2 kg (51 lb).

1. With the enclosure still on the pallet, remove all components from the front and rear of the enclosure.

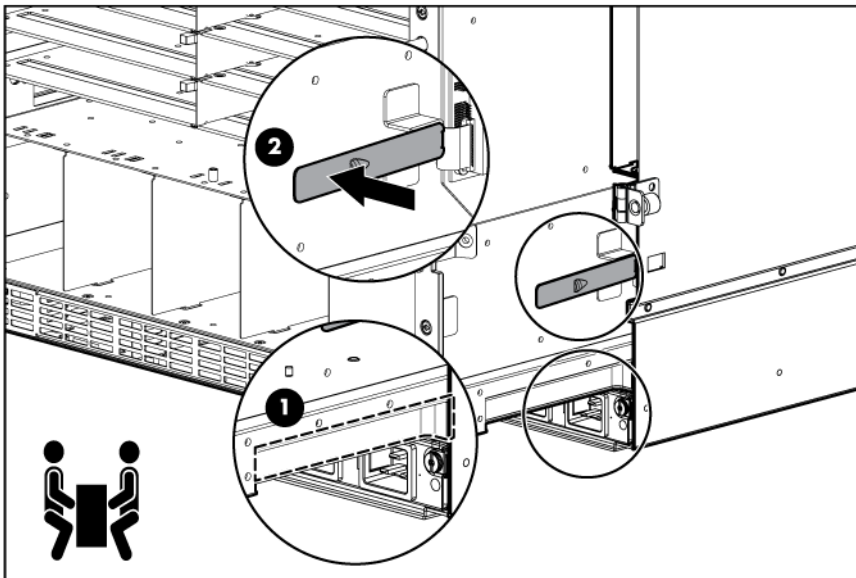


2. Remove the rear cage:
 - a. Loosen the thumbscrews and open the hinges completely.

- b. Use the handles to extend the rear cage until the release levers engage on both sides of the rear cage.

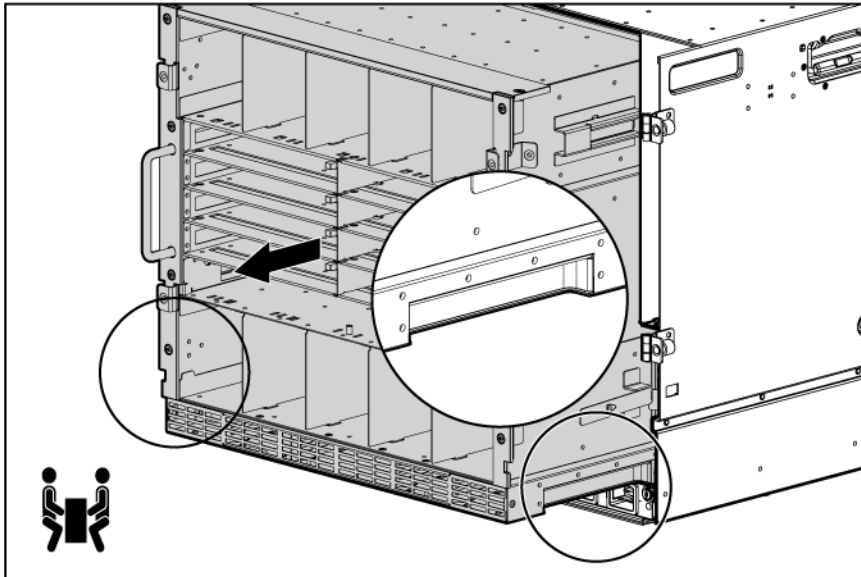


- c. Grasp the handholds below the release levers.
- d. Disengage the release levers on both sides of the rear cage.



- △ **CAUTION:** When removing and lifting the rear cage, always grasp the handholds as far forward as possible. The front end of the rear cage is heavy and the handholds provide a more balanced location to distribute the weight of the cage during lifting.
- △ **CAUTION:** When removing the rear cage and midplane assembly, the connectors on the midplane assembly are susceptible to damage. Use caution to avoid damage to the pins and connectors.

- e. Use the handholds to extend and remove the rear cage from the enclosure.



Rack-free installation



WARNING: To reduce the risk of personal injury or damage to the equipment in a rack-free environment:

- Never stack the enclosure on top of another enclosure.
- Never place equipment on top of the enclosure.
- Never place the enclosure on a surface that cannot support up to 217.7 kg (480 lb).

To set up the enclosure in a rack-free environment:

1. Select the location for the enclosure. For more information, see "Rack-free environment requirements (on page 7)."
2. Disassemble the enclosure ("[Disassembling the enclosure](#)" on page 20).
3. Place the enclosure on a flat, sturdy surface to support the enclosure.
4. Install the rear cage into the enclosure.

Rack installation



CAUTION: Always plan the rack installation so that the heaviest item is on the bottom of the rack. Install the heaviest item first, and continue to populate the rack from the bottom to the top.

NOTE: Up to four 10U enclosures can be installed in a 42U rack. If you are installing more than one enclosure, install the first enclosure in the bottom of the rack, and then install additional enclosures by moving up the rack with each subsequent enclosure. Plan rack installation carefully because it is difficult to change the location of components after they are installed.

To install an enclosure into the rack:

1. Disassemble the enclosure ("[Disassembling the enclosure](#)" on page 20).
2. Use the rack template ("[Measuring with the rack template](#)" on page 24) to mark the locations for the rack rails.

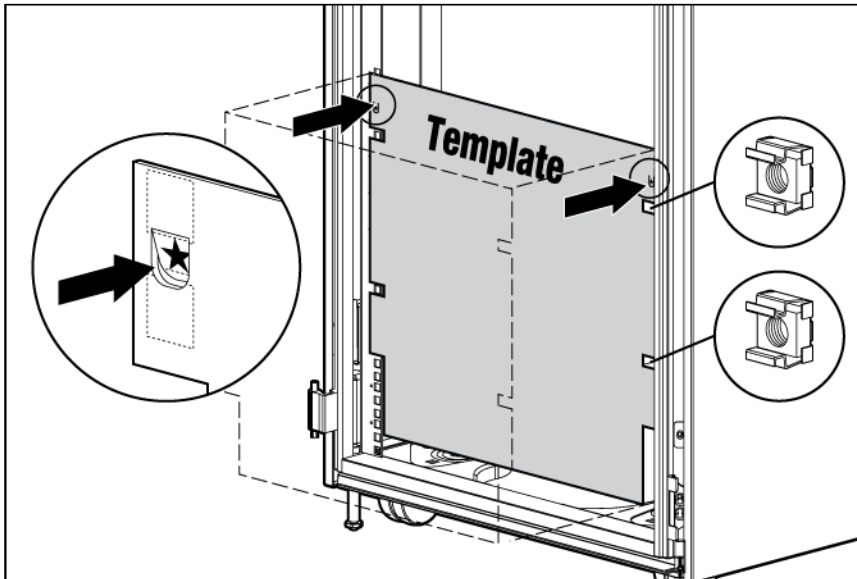
3. Install the rack rails ("Installing the rack rails" on page 24) for each enclosure.
4. Install the enclosure into the rack ("Installing the enclosure into the rack" on page 25).

Measuring with the rack template

The rack template ships with the rack rail kit and provides detailed instructions on where to position the enclosure rack rails and where to install the four cage or clip nuts. Each enclosure kit includes the rack rails recommended for that enclosure.

NOTE: Four cage nuts and four clip nuts are included with the enclosure. Cage nuts should be used in racks with square holes. Clip nuts should be used in racks with round holes.

When installing multiple enclosures, install the rack rails and cage or clip nuts for one enclosure, and then install the enclosure. Repeat for each additional enclosure.



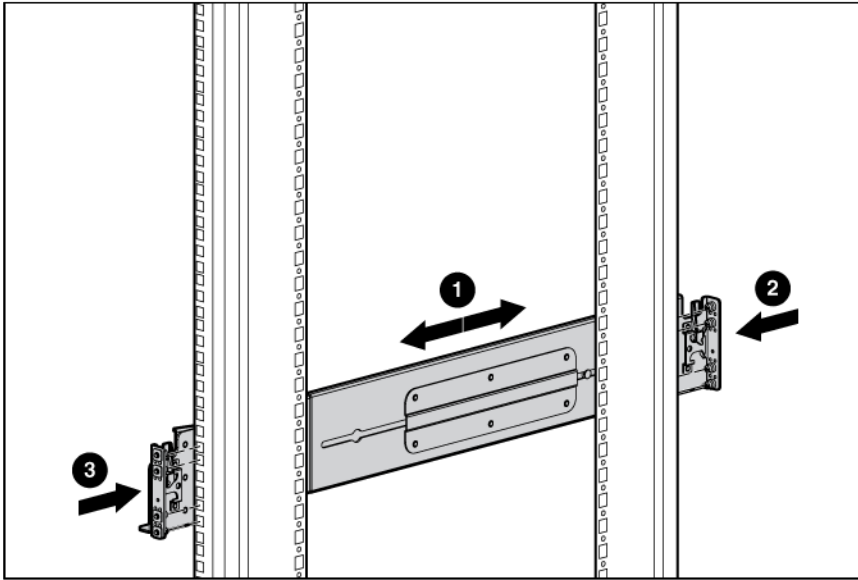
Installing the rack rails

The rack rails are marked for easy identification. The left rack rail is marked "L" and the right rack rail is marked "R."

To install the rack rails:

1. Begin with the left rack rail. Align the end of the rail with the rear rack column.
2. Slide the rack rail closed until the end of the rail is locked in place, wrapping behind the rear rack column.

3. Slide the front end of the rail to the rack front column. When fully seated, the rack rail will lock into place.



4. Repeat the procedure for the right rack rail.

Installing the enclosure into the rack

The empty enclosure with the rear cage installed weighs 58.6 kg (129 lb). When the enclosure is disassembled, the empty enclosure without the rear cage installed weighs 35.5 kg (78 lb). The empty rear cage weighs 23.2 kg (51 lb).



WARNING: Always use at least two people to lift an enclosure into the rack. If the enclosure is being loaded into the rack above chest level, a third person must assist with aligning the enclosure with the rails while the other two people support the weight of the enclosure.

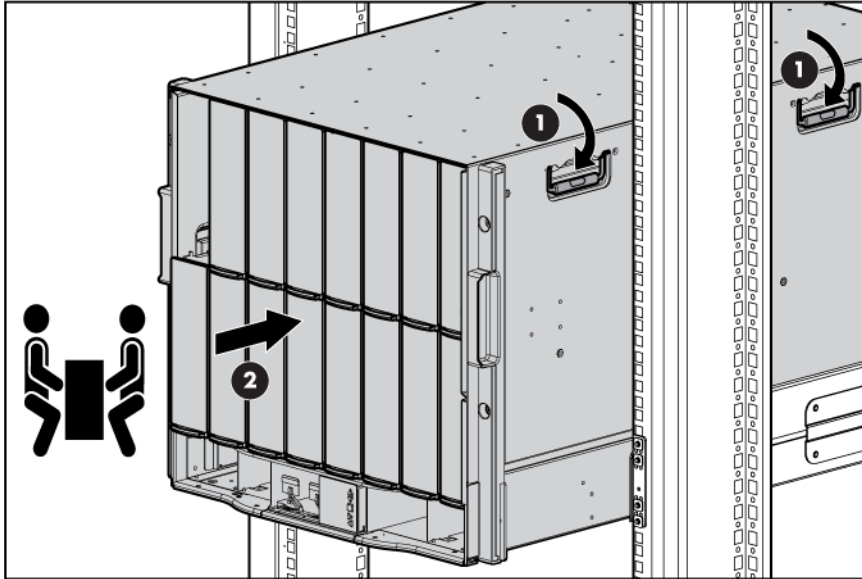
To install the enclosure into the rack:

1. At the front of the rack, lift and align the enclosure guiding fins with the guiding groove in the rack rails.

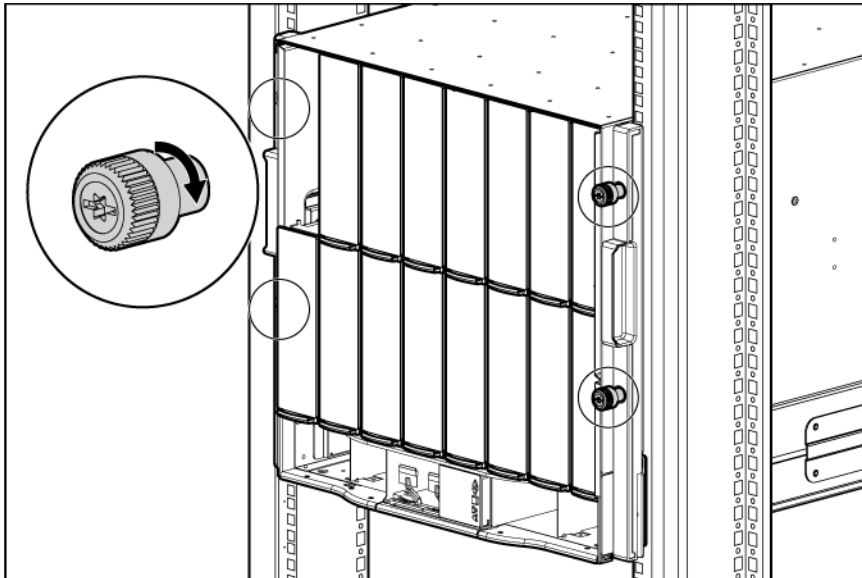


IMPORTANT: Be sure that the guiding fins on the enclosure seat properly in the guiding groove on the rack rail.

2. Push the handles down on each side of the enclosure, and slide the enclosure fully into the rack.



3. Tighten the thumbscrews to secure the enclosure to the rack.

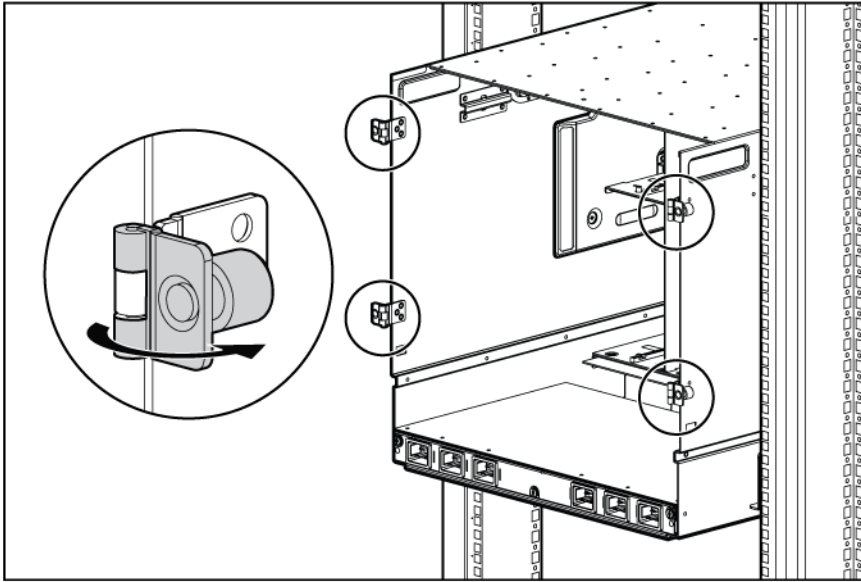


4. Install the rear cage into the enclosure.
5. Repeat the procedure for the remaining enclosures.

NOTE: Up to four 10U enclosures can be installed in a 42U rack. If you are installing more than one enclosure, install the first enclosure in the bottom of the rack, and then install additional enclosures by moving up the rack with each subsequent enclosure. Plan rack installation carefully because it is difficult to change the location of components after they are installed.

Installing the rear cage into the enclosure

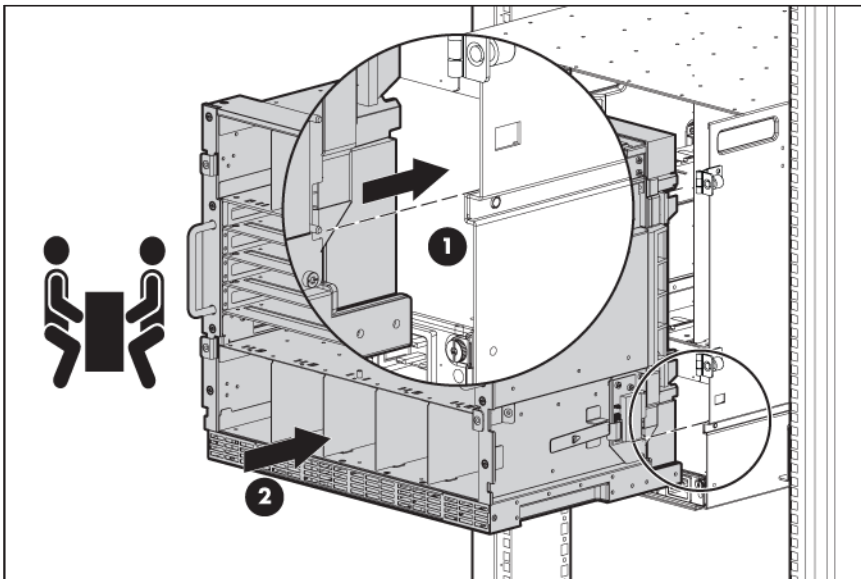
1. Open all hinges completely.



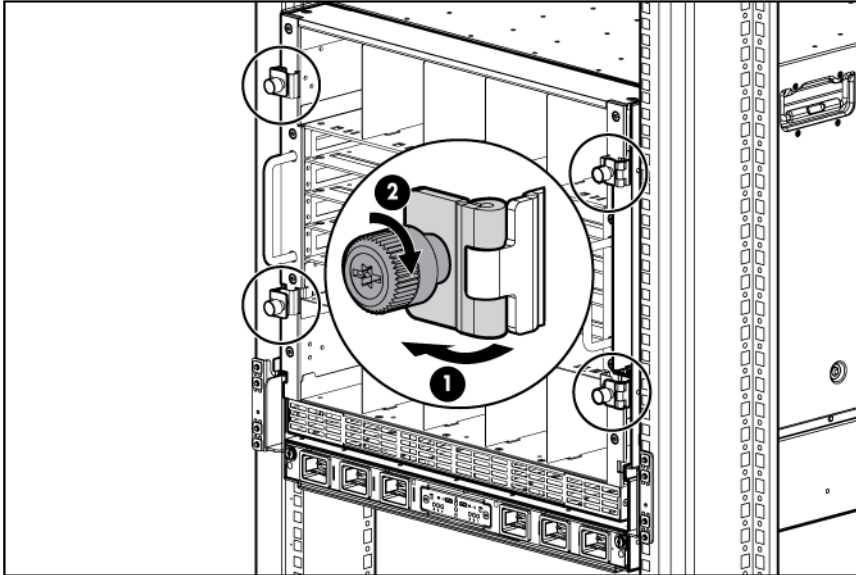
2. Position the rear cage at the rear of the enclosure, and align the rear cage guiding fins with the guiding groove in the rack rails.
3. Slide the rear cage fully into the enclosure.



CAUTION: Do not touch or bump rear cage connector pins when installing the rear cage into the enclosure.



4. Close the hinges, and tighten the thumbscrews to secure the rear cage.



Component installation

The following sections contain installation instructions for the individual enclosure components. All components must be installed and cabled before you power up the enclosure. There is no specific installation order requirement for the enclosure components.

Installing a power supply

See "Running the Insight Display installation steps (on page 64)" for information on the types of power configurations available and how to set them up.

If your BladeSystem c7000 Enclosure is equipped with a three-phase power configuration, six power supplies are required. Single-phase configurations can have fewer than six power supplies.

Install the power supplies based on the total number of supplies needed:

- Two power supplies: Bays 1 and 4
- Three power supplies: Bays 1, 2, and 4
- Four power supplies: Bays 1, 2, 4, and 5
- Five power supplies: Bays 1, 2, 3, 4, and 5
- Six power supplies: All bays

Install power supply blanks in any unused power supply bays.

Power supplies are installed in this manner to provide maximum flexibility for redundancy in three-phase configuration options.

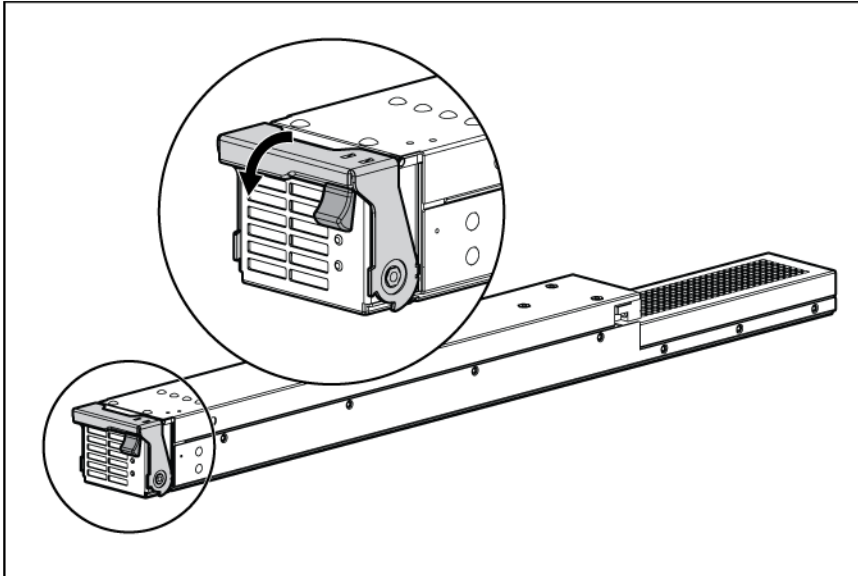


CAUTION: Do not mix HPE 2250W, HPE 2400W High Efficiency, HPE BL7000 2400W Platinum, or HPE -48vDC power supplies in one enclosure. Install only one type of power supply in a single enclosure.

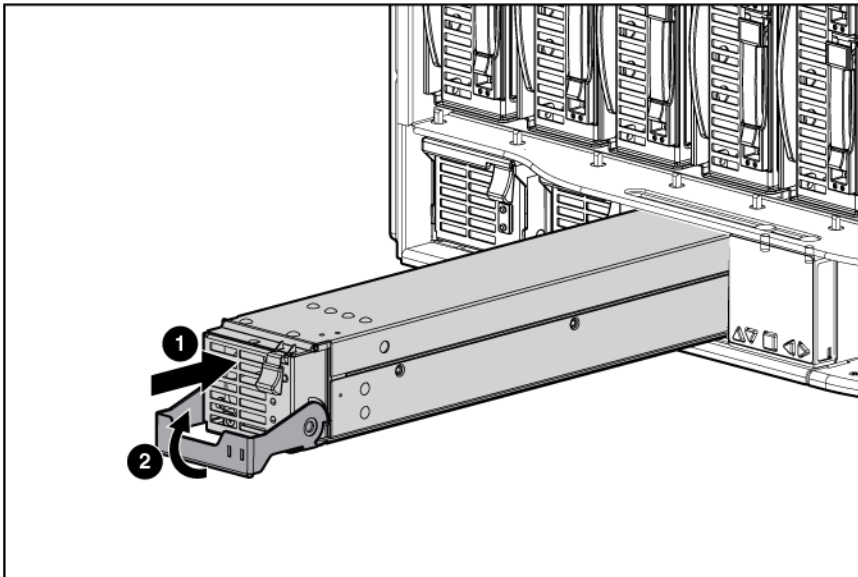
NOTE: This document discusses installation of AC power supplies only. For information on configuring DC power supplies or HPE Carrier Grade Solutions, see the documentation that came with your power supply.

To install a power supply:

1. Slide the HPE BladeSystem Insight Display to the right or left to gain access to all power supply bays.
2. Open the power supply bracket.



3. Insert the power supply into the enclosure, and then close the bracket.



Check the power supply LEDs (on page 12) to determine the status of the power supply.

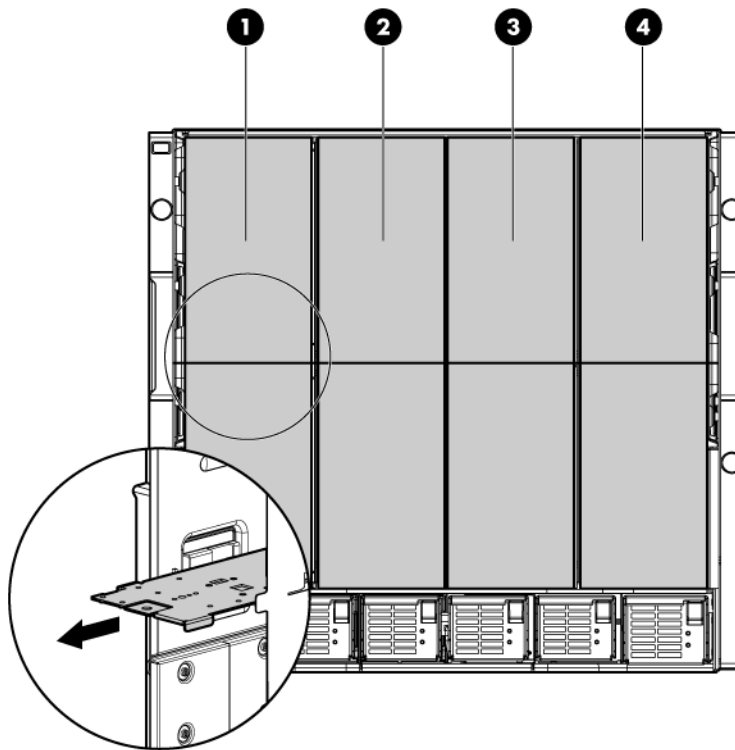
To calculate how many power supplies are needed, see the HPE BladeSystem Power Sizer (<http://www.hpe.com/info/bladeSystem/powercalculator>).

Installing blades

The c7000 enclosure is divided into four quadrants by the vertical support metal work. Within each quadrant, a removable divider supports half-height blades. To install a full-height blade in any quadrant, this divider must be removed. Therefore, a quadrant can only contain either full-height blades or half-height blades.



CAUTION: Failure to install the divider in a quadrant when installing half-height blades can result in damage to the connectors on the server blades.



Item	Description
1	Blade Zone 1
2	Blade Zone 2
3	Blade Zone 3
4	Blade Zone 4

Storage blades and tape blades can be installed in the same quadrant as both full-height and half-height blades. A bracket ships with each SB40c Storage Blade that allows a half-height blade to be mounted on top of the storage blade.

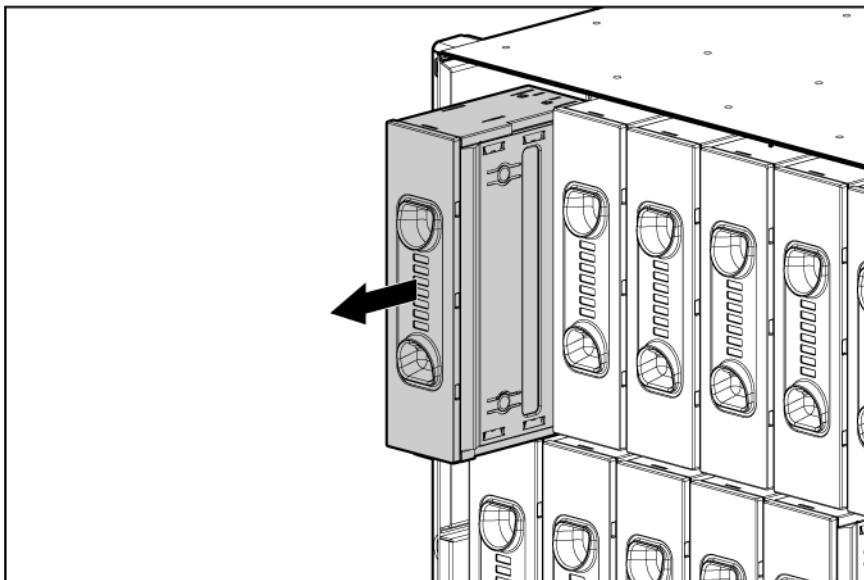
The lower tape or storage blade cannot be removed without first removing the upper half-height blade.

Installing a full-height blade

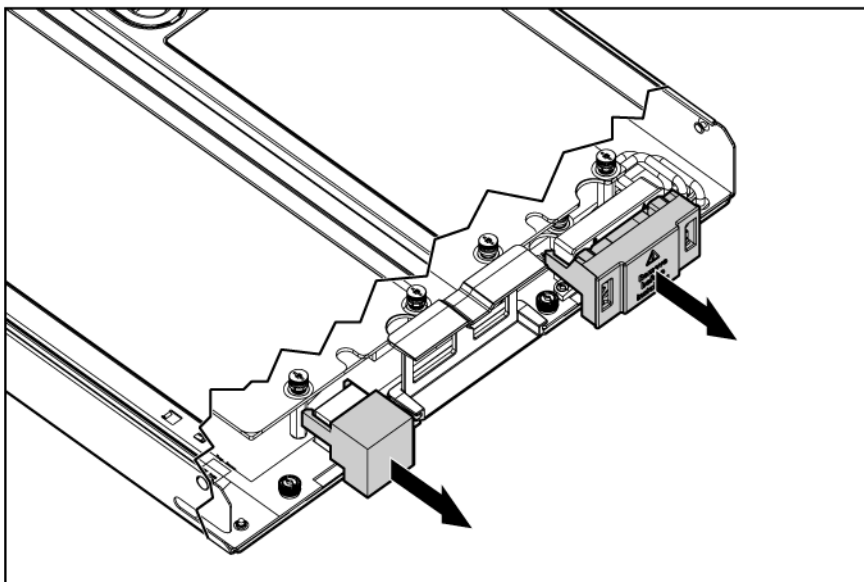
The BladeSystem c7000 Enclosure ships with four device bay shelves to support half-height devices. To install a full-height device, remove the device bay shelf and the corresponding blanks.

To install a blade:

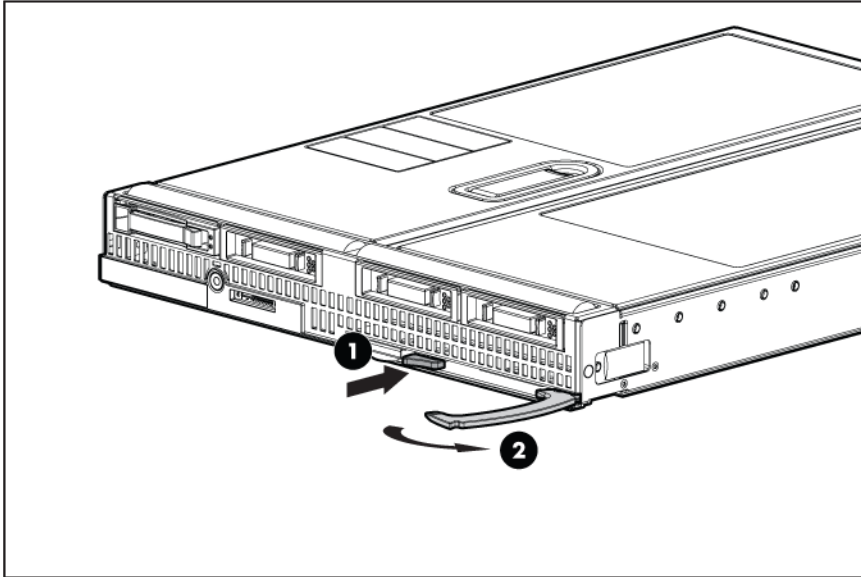
1. Remove the blank.



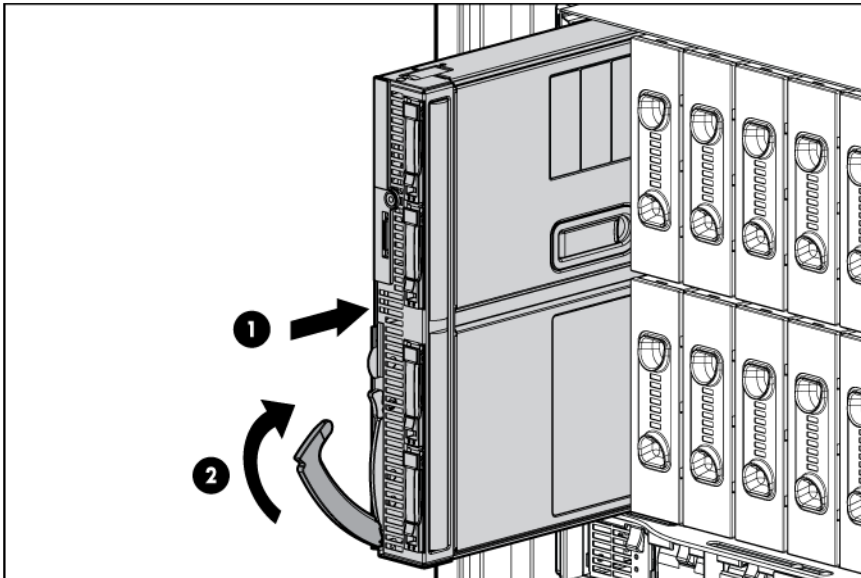
2. Remove the three adjacent blanks.
3. Remove the device bay shelf ("[Removing a device bay shelf](#)" on page 33).
4. Remove the connector covers.



5. Prepare the blade for installation.



6. Install the blade.

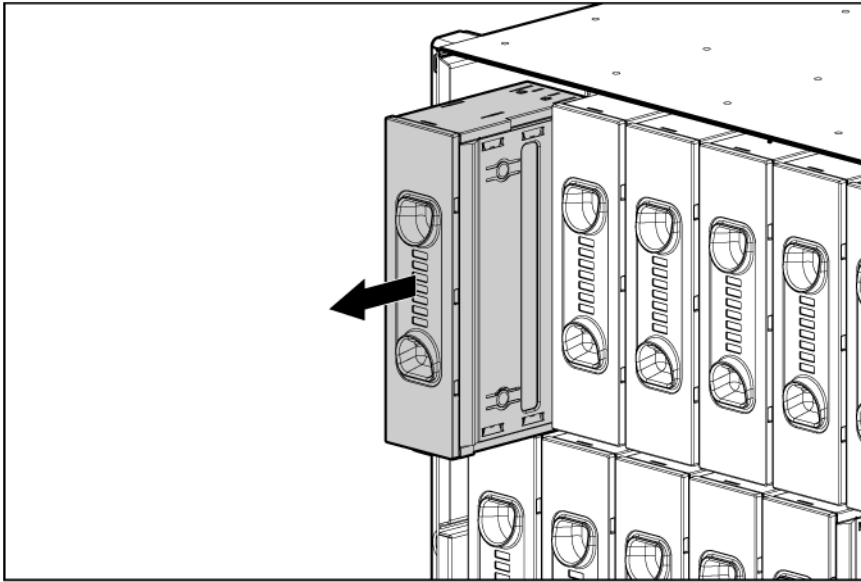


CAUTION: To prevent improper cooling and thermal damage, do not operate the blade or the enclosure unless all drive and device bays are populated with either a component or a blank.

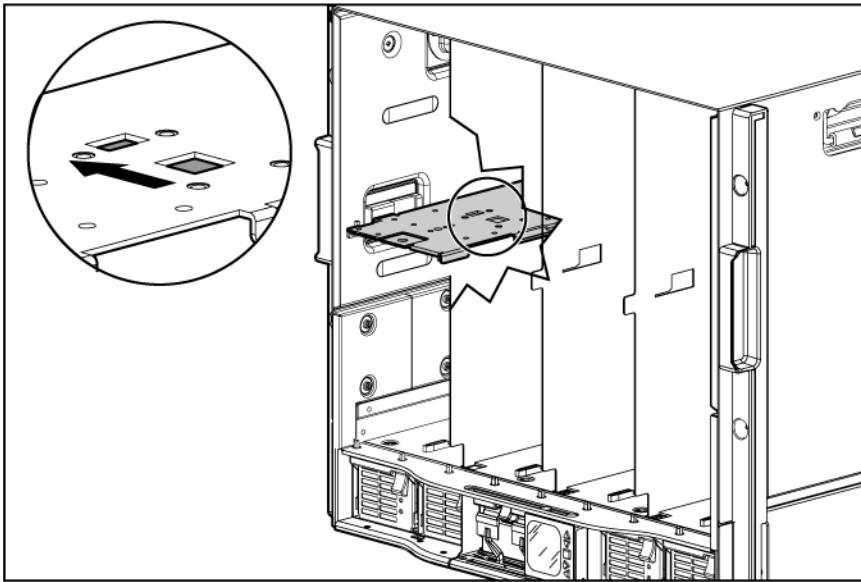
7. Install blanks in any empty bays.

Removing a device bay shelf

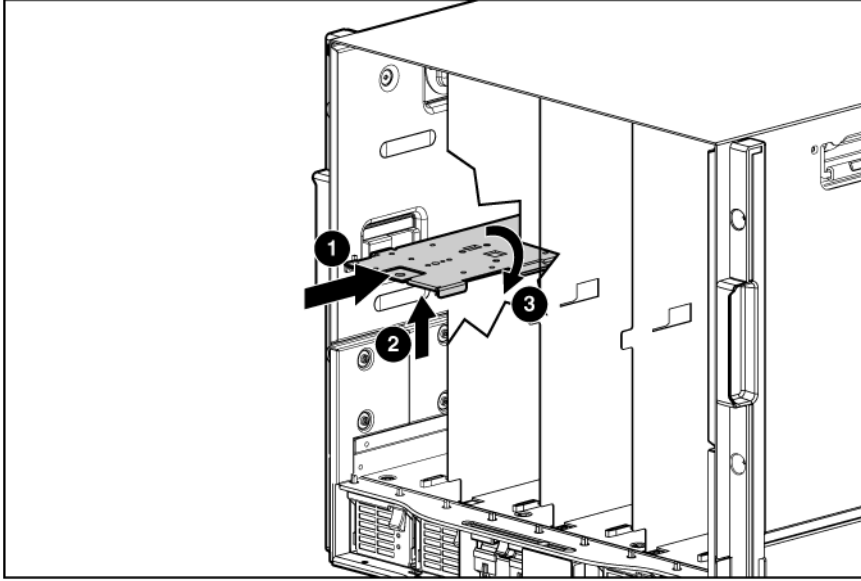
1. Remove the blank.



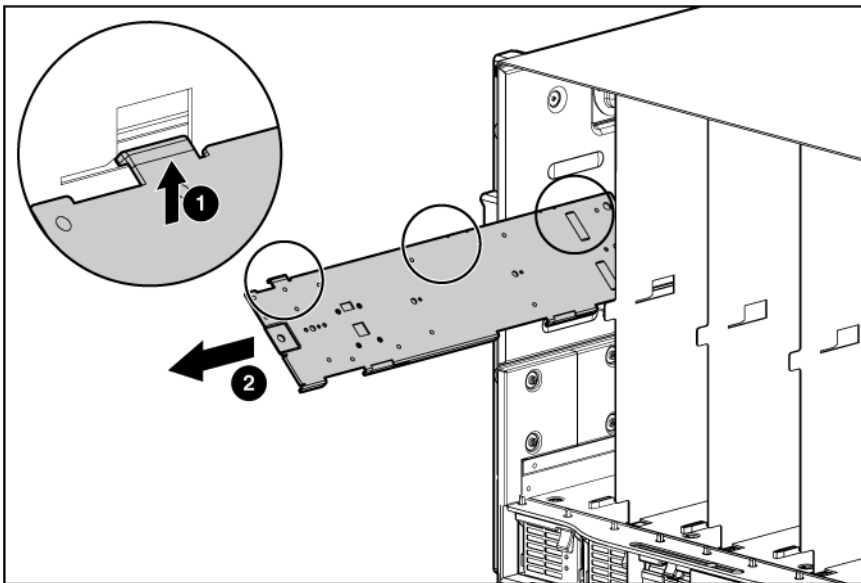
2. Slide the device bay shelf locking tab to the left to open it.



3. Push the device bay shelf back until it stops, lift the right side slightly to disengage the two tabs from the divider wall, and then rotate the right edge downward (clockwise).



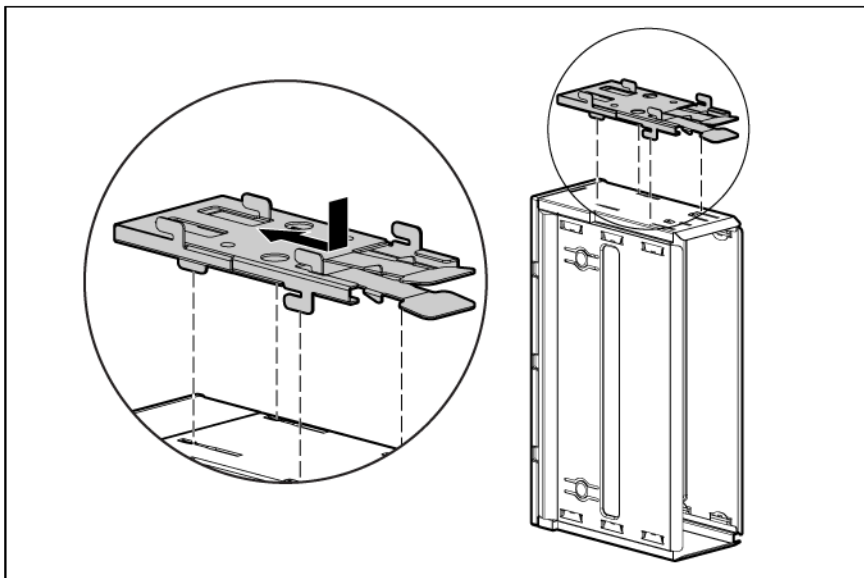
4. Lift the left side of the device bay shelf to disengage the three tabs from the divider wall, and then remove it from the enclosure.



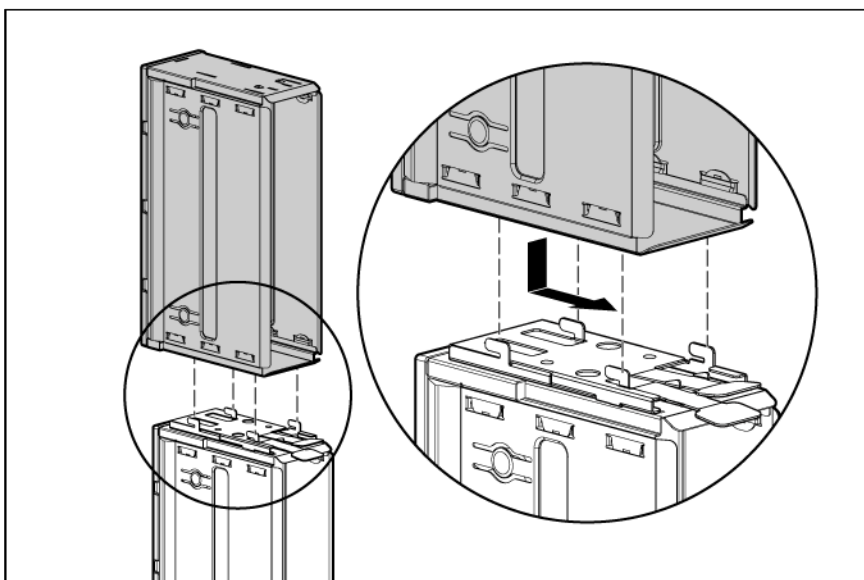
Creating a full-height device bay blank

1. Obtain the coupler plate:
 - If you are using a device bay blank that came with the enclosure, the coupler plate can be found with the contents of the full-height device shipping box.
 - If you are using a device bay blank that you purchased as an option, remove the coupler plate from inside the blank.

2. Fit the coupler plate into the slots on top of the blank, and then slide the coupler plate back until it snaps into place.



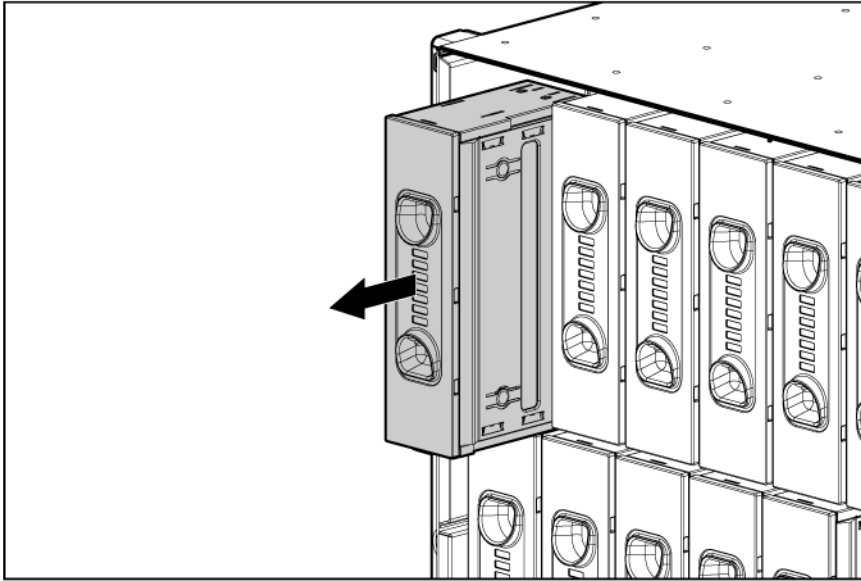
3. Fit the slots on the bottom of the second blank on to the tabs on the coupler plate, and then slide the second blank forward until it snaps in place.



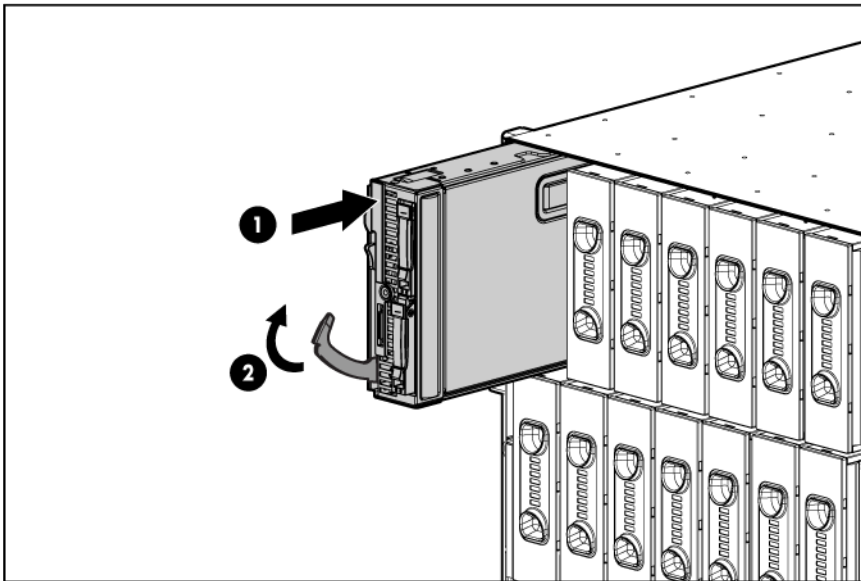
4. Install the full-height blank into the device bay.

Installing a half-height blade

1. Remove the blank.



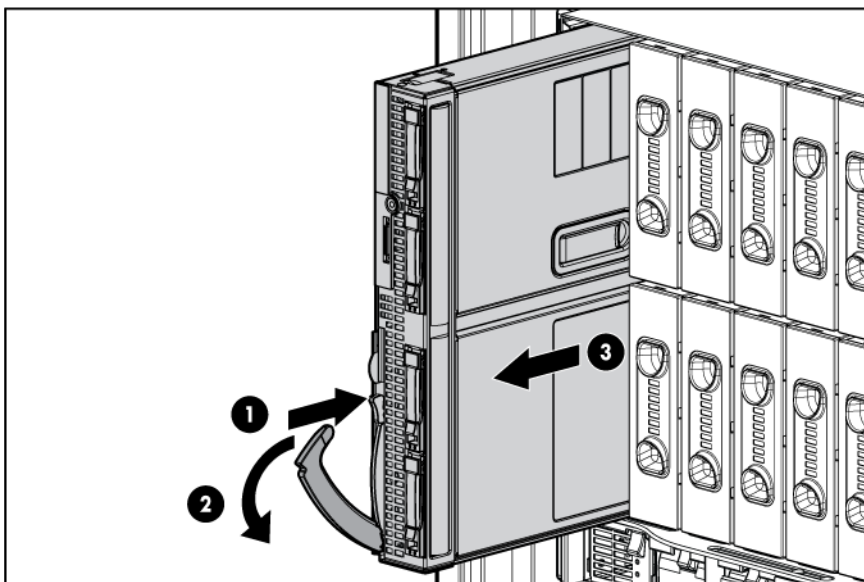
2. Install the device bay shelf, if applicable.
3. Install the blade in the empty bay.



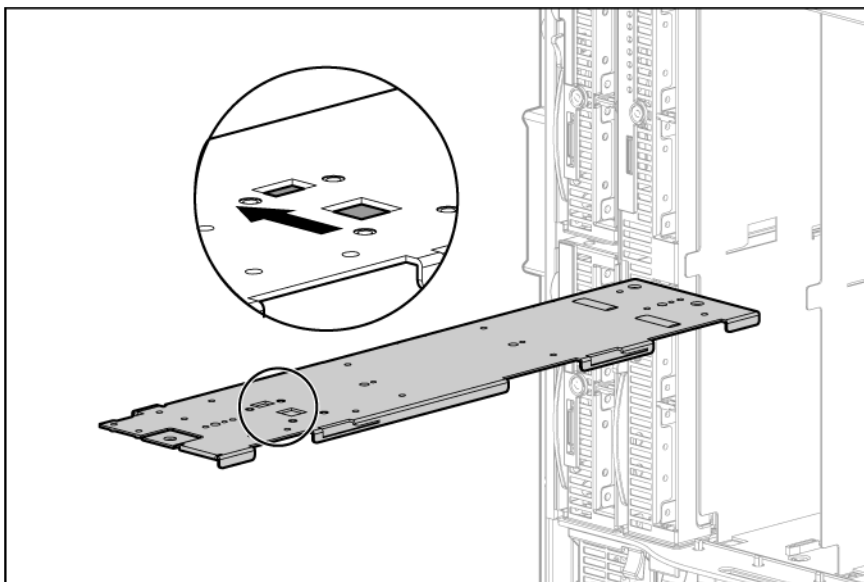
Installing a device bay shelf

You must install the device bay shelf to support half-height devices. To install the device bay shelf:

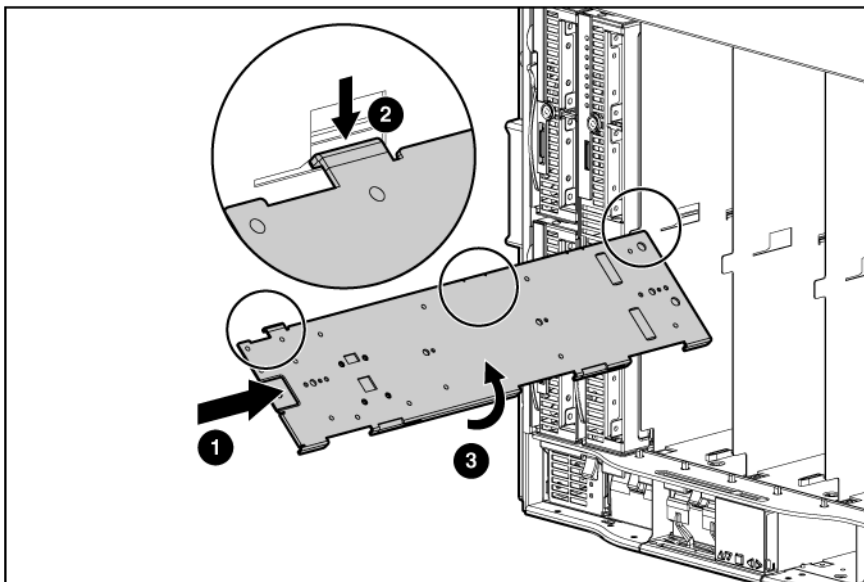
1. Remove the full-height blade, storage blade, or device bay blank.



2. To unlock device bay shelf locking tab, slide it to the left.

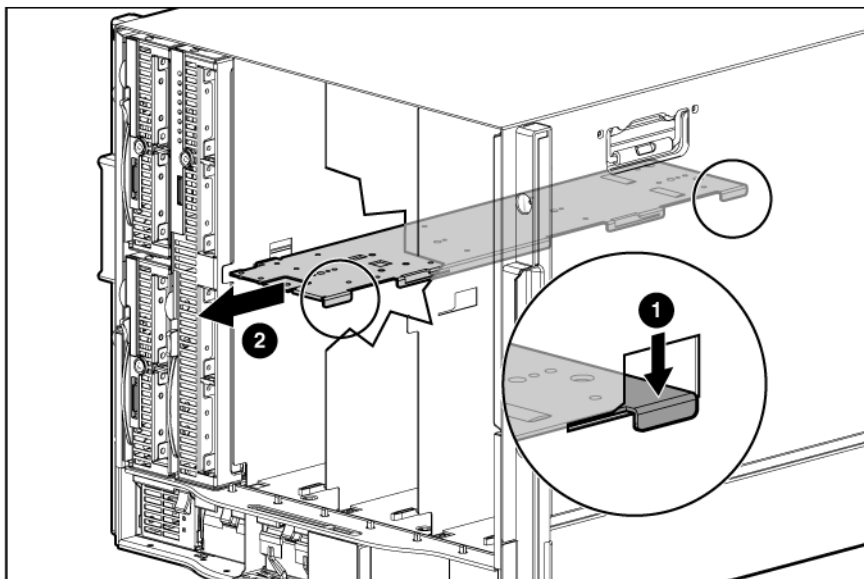


3. Tilt the shelf at an angle with the left edge up. Align the three tabs on the left edge of the shelf with the openings in the enclosure, and then push the device bay shelf up.

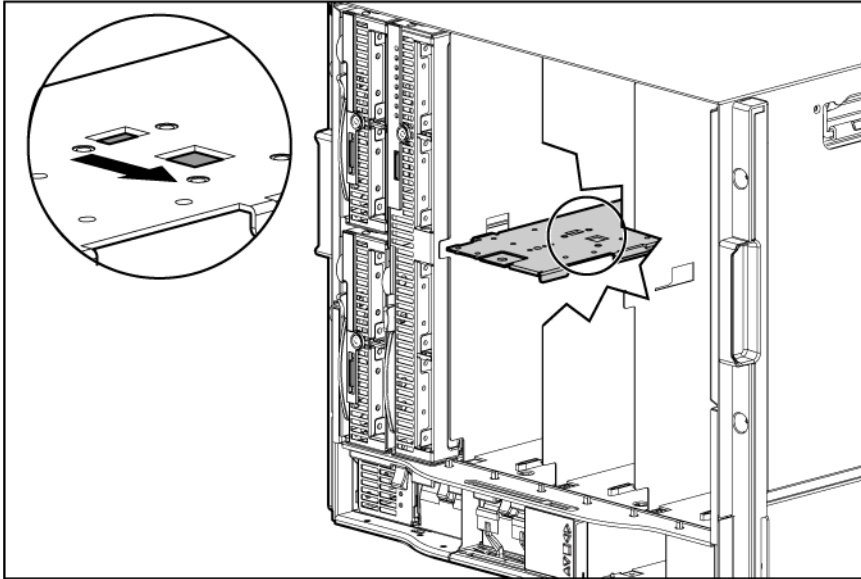


△ CAUTION: Be sure that all five tabs (three on the left side of the shelf and two on the right side of the shelf) are fully engaged before sliding the shelf forward to complete the installation. Failure to do so can cause damage to server blade connectors during installation

4. Align the two tabs on the right edge of the device bay shelf with the openings in the enclosure, and slide the device bay shelf into the enclosure to lock it.



5. To lock device bay shelf locking tab, slide it to the right.



Connecting locally to a server blade with video and USB devices

Use the local I/O cable to connect a monitor and any of the following USB devices:

- USB hub
- USB keyboard
- USB mouse
- USB CD/DVD-ROM drive
- USB diskette drive

Numerous configurations are possible. This section offers two possible configurations.

Accessing a server blade with local KVM

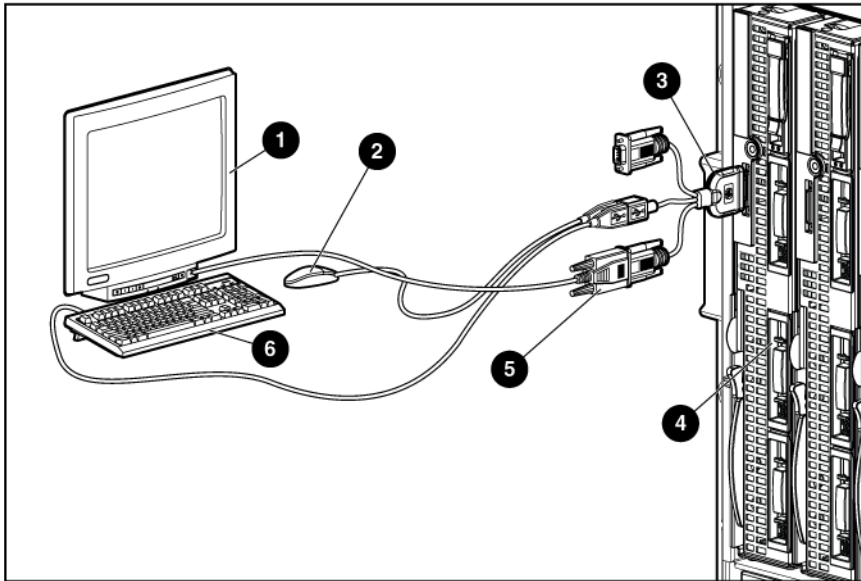
For this configuration, a USB hub is not necessary. To connect additional devices, use a USB hub.



CAUTION: Before disconnecting the SUV cable from the connector, always squeeze the release buttons on the sides of the connector. Failure to do so can result in damage to the equipment.

1. Connect the SUV cable to the blade.
2. Connect the video connector to a monitor.
3. Connect a USB mouse to one USB connector.

4. Connect a USB keyboard to the second USB connector.



Item	Description
1	Monitor
2	USB mouse
3	HPE c-Class Blade SUV cable
4	Server blade
5	Video connector
6	USB keyboard

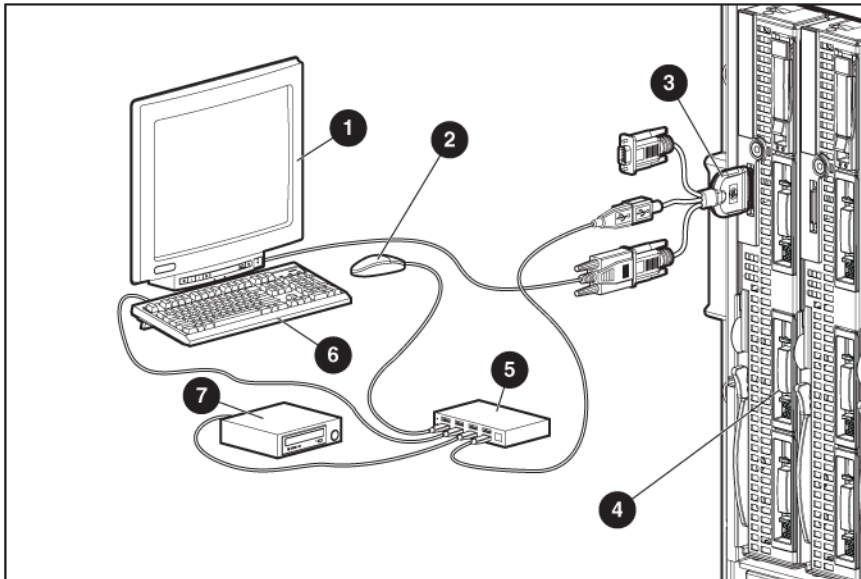
Accessing local media devices

Use a USB hub when connecting a USB diskette drive and/or USB CD-ROM drive to the blade. The USB hub provides additional connections.

Use the following configuration when configuring a blade or loading software updates and patches from a USB CD/DVD-ROM or a USB diskette drive.

1. Connect the HPE c-Class Blade SUV cable to the blade.
2. Connect the video connector to a monitor.
3. Connect a USB hub to one USB connector.
4. Connect the following to the USB hub:
 - o USB CD/DVD-ROM drive
 - o USB keyboard
 - o USB mouse

- o USB diskette drive



Item	Description
1	Monitor
2	USB mouse
3	HPE c-Class Blade SUV cable
4	Server blade
5	USB hub
6	USB keyboard
7	USB CD/DVD-ROM drive or diskette drive

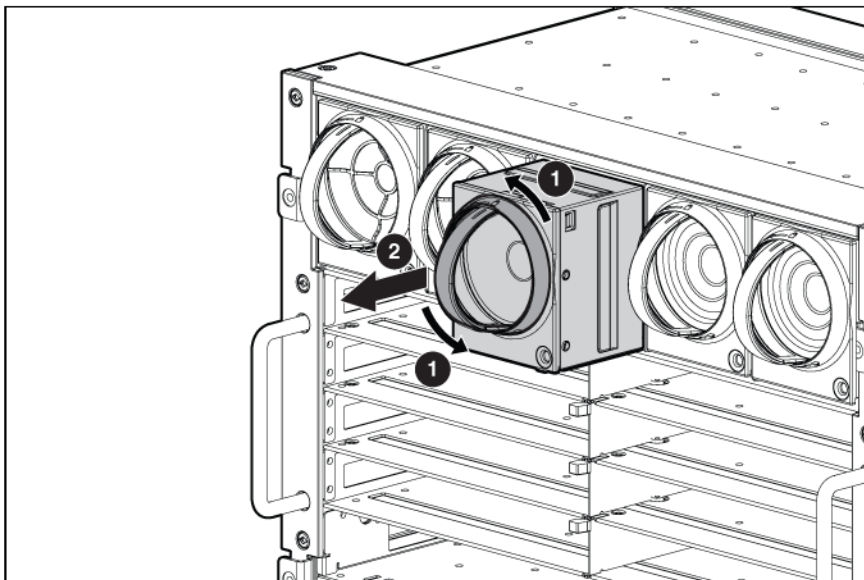
Installing fans

The BladeSystem c7000 Enclosure ships with four HPE Active Cool 200 Fans and supports up to 10 fans. Install fans in even-numbered groups, based on the total number of blades installed in the enclosure.

- Four fan configuration—Fan bays 4, 5, 9, and 10 are used to support a maximum of two devices located in device bays 1, 2, 9, or 10. Only two device bays can be used with four fans.
- Six fan configuration—Fan bays 3, 4, 5, 8, 9, and 10 are used to support devices in device bays 1, 2, 3, 4, 9, 10, 11, or 12.
- Eight fan configuration—Fan bays 1, 2, 4, 5, 6, 7, 9, and 10 are used to support devices in all device bays.
- Ten fan configuration—All fan bays are used to support devices in all device bays.
- Install fan blanks in any unused fan bays.

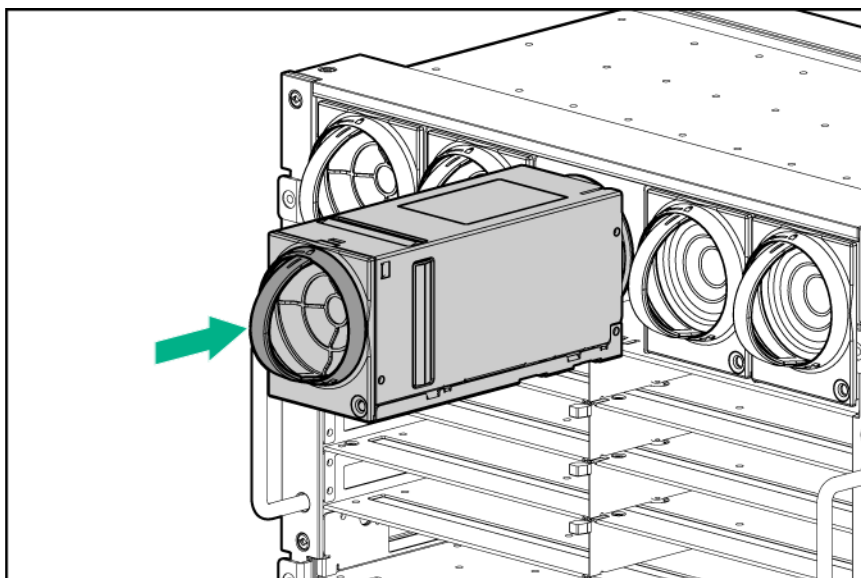
To install a fan:

1. Turn the handle counterclockwise to the unlock position, and pull the fan or fan blank from the enclosure.

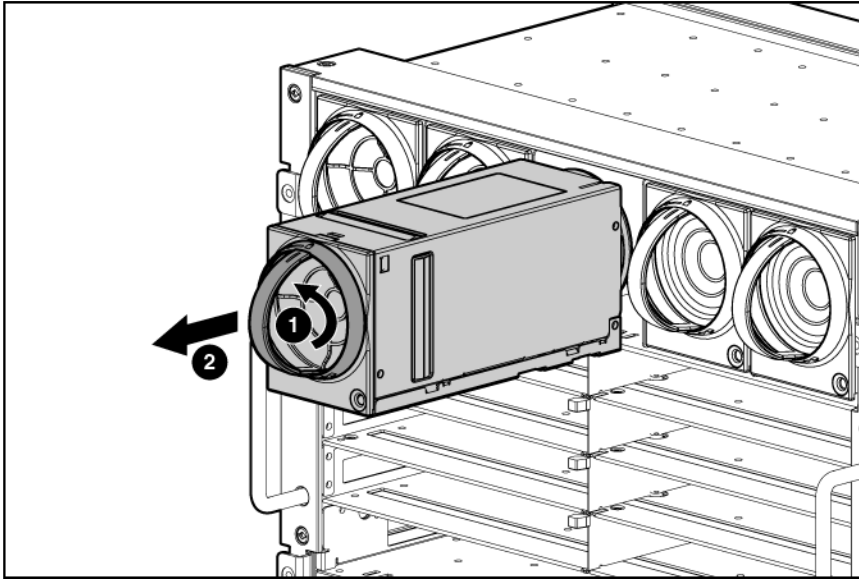


2. Slide the fan into the enclosure until it locks in place.

NOTE: When installing a fan in the top row of fan bays, orient the fan so that the LED is in the lower right corner. When installing a fan in the bottom row of fan bays, orient the fan so the LED is in the upper left corner.



To remove a fan, turn the handle counterclockwise to the unlock position, and pull the fan out of the enclosure.



Installing Onboard Administrator modules

The BladeSystem c7000 Enclosure is shipped with one HPE BladeSystem Onboard Administrator with KVM module installed and can support up to two Onboard Administrator modules. Install Onboard Administrator modules based on the total number ordered:

- One Onboard Administrator module: Bay 1
- Two Onboard Administrator modules: Bays 1 and 2

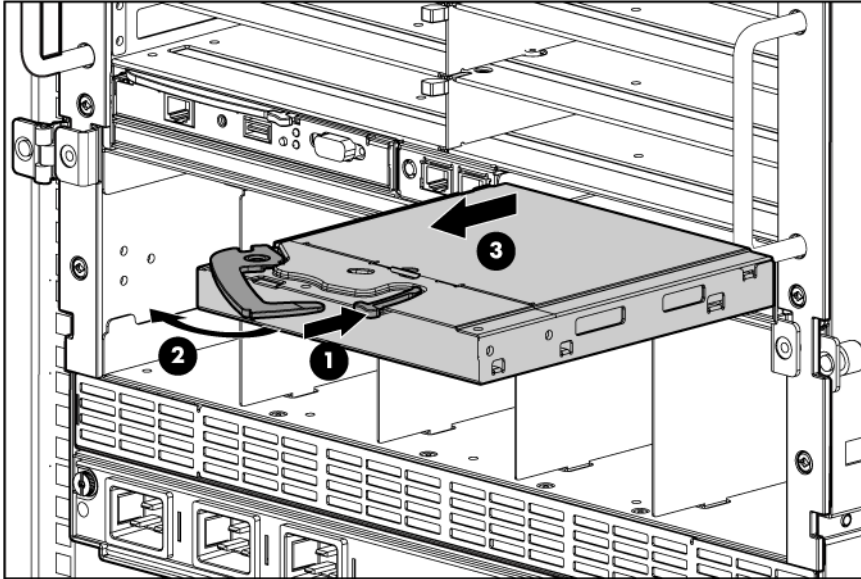
Install an Onboard Administrator blank in an unused Onboard Administrator bay.

NOTE: When two Onboard Administrator modules are installed, the module installed in Bay 1 is active and the module installed in Bay 2 is redundant.

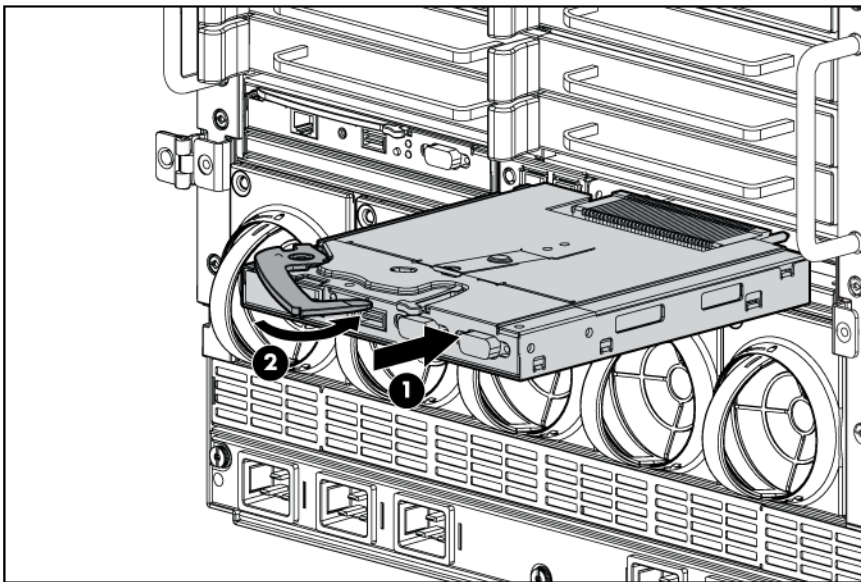
To install an Onboard Administrator module:

1. Remove the Onboard Administrator blank, if present.
 - a. Press the button on the front of the blank to release the handle.

- b. Pull the handle, and slide the Onboard Administrator blank out of the Onboard Administrator tray.



2. Slide the Onboard Administrator module into the Onboard Administrator tray, and close the handle. When the Onboard Administrator module is fully inserted, it locks into place.

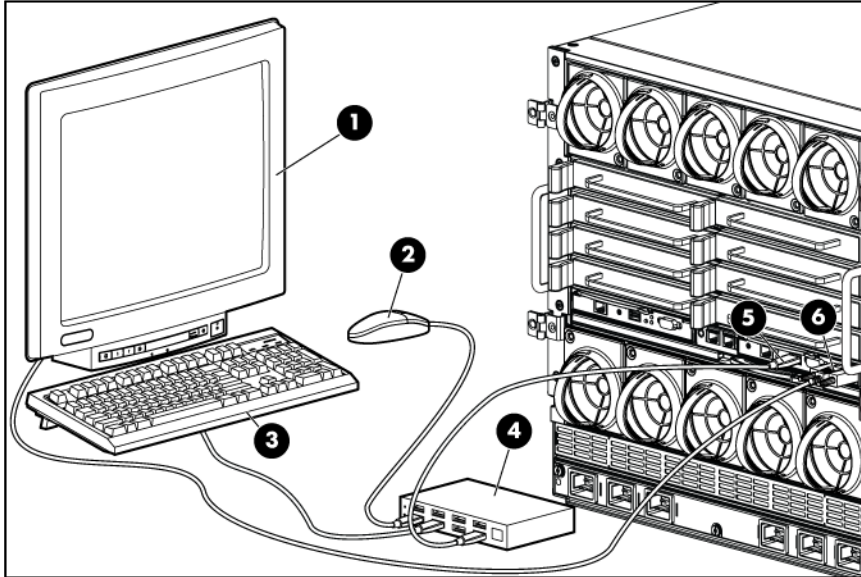


Attaching components to the HPE c7000 Onboard Administrator with KVM

For local access to the enclosure:

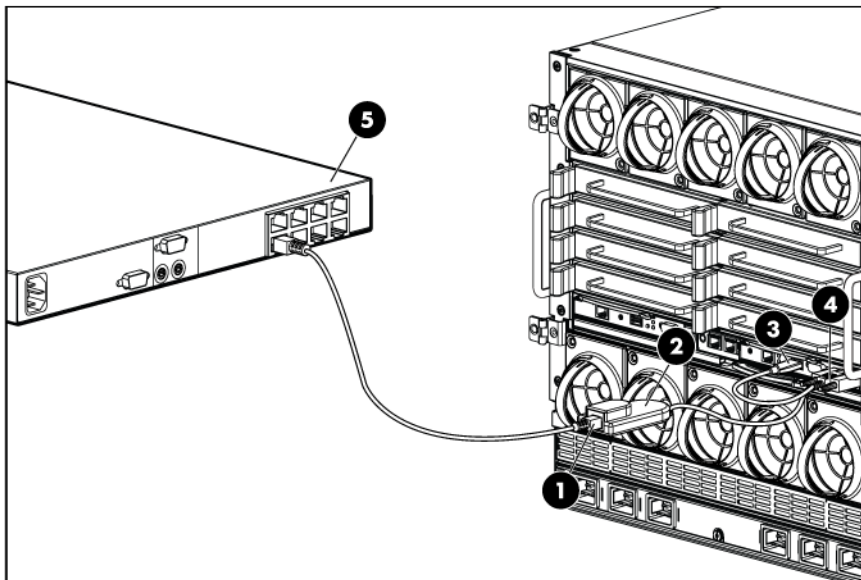
1. Connect a monitor (1) to the VGA connector (6) on the HPE Onboard Administrator with KVM.
2. Connect a USB hub (4) to the USB connector (5) on the HPE Onboard Administrator with KVM.

3. Connect a USB mouse (2) and keyboard (3) to the USB hub (4).



To connect the HPE Onboard Administrator with KVM to an HPE Server Console Switch or an IP Console Switch:

1. Connect the KVM interface adapter (2) to the VGA connector (4) and the USB connector (3) on the HPE Onboard Administrator with KVM.
2. Connect a CAT5 cable (1) to the KVM interface adapter (2) and an optional HPE Console Switch (5).



Installing interconnect modules

There are eight single-wide interconnect bays in the enclosure. Interconnect bays 1 and 2 are reserved for Ethernet switches. Installation into the remaining interconnect bays depends on the type of mezzanine card installed in the server and in which mezzanine slot the mezzanine card was installed.

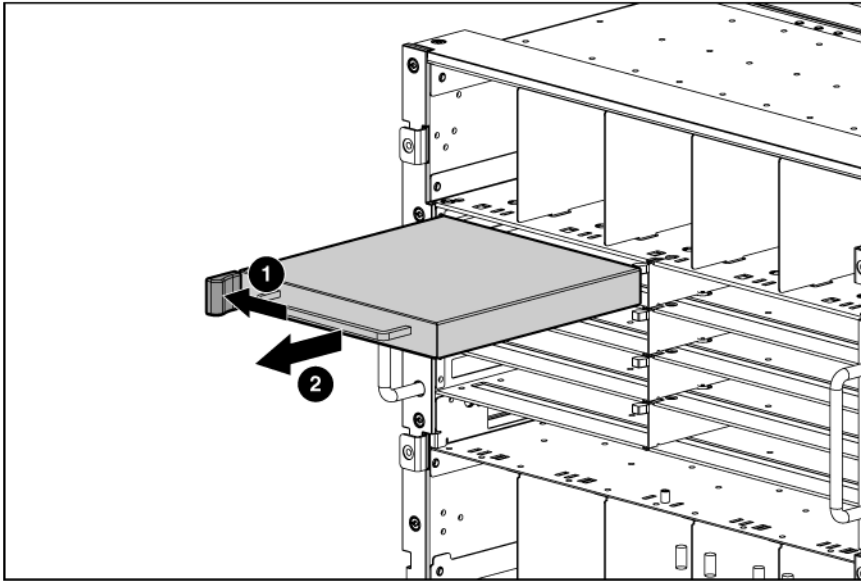


IMPORTANT: If the mezzanine card is not installed properly or the interconnect module installation does not coincide with the mezzanine card installation, the ports on the interconnect module will not function.

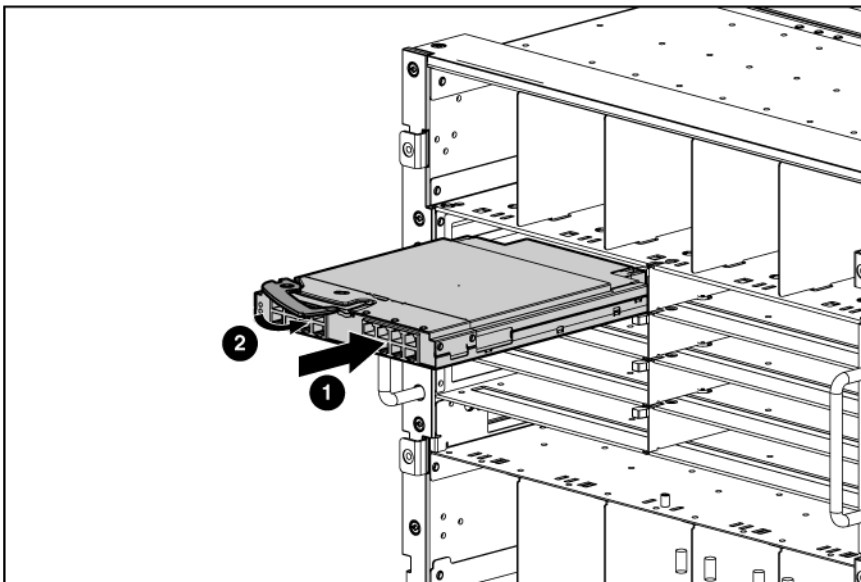
NOTE: For more information on how and where to install mezzanine cards, see the server-specific user guide.

To install an interconnect module:

1. Remove the interconnect blank, if applicable.



2. If you are installing a double-wide interconnect module, remove the interconnect bay dividers ("Removing interconnect bay dividers" on page 54).
3. Install the interconnect module, and close the release lever.



Mapping to interconnect ports

Several port types are referenced in the following tables.

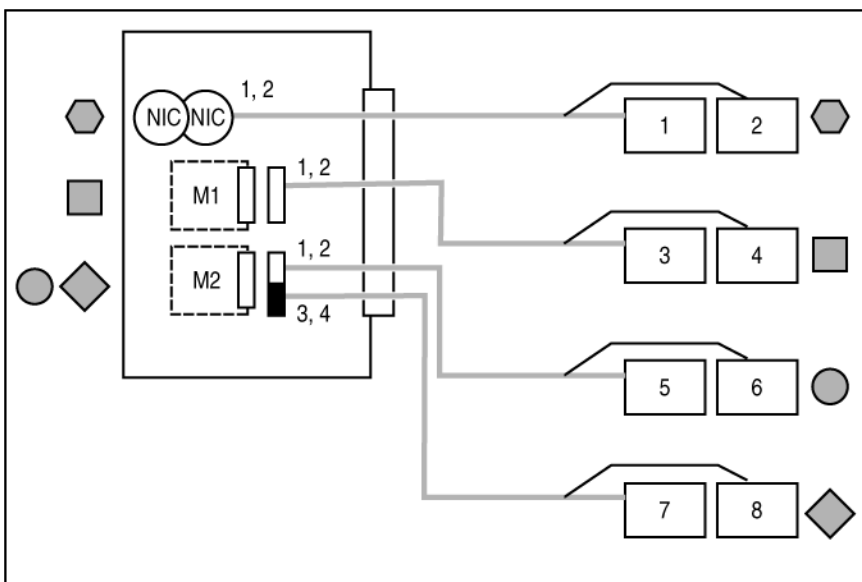
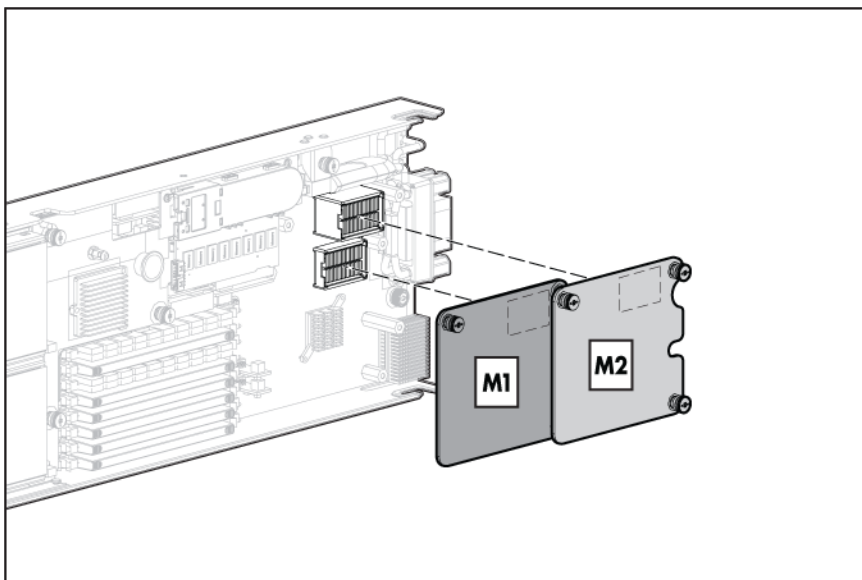
- Examples of 1x ports are 1-Gb Ethernet (1 GbE) switch modules and Fibre Channel interconnect modules.
- An example of a 2x port is a Serial Attached SCSI (SAS) interconnect module. (Reserved for future use.)

- Examples of 4x ports are 10-Gb Ethernet (10 GbE) interconnect modules.
- Gen8 servers have FlexibleLOM adapters that have the same port mapping as the previous generation server blade Embedded NICs.

NOTE: 1x and 2x port mezzanine cards interface with single-wide interconnect modules. 4x port mezzanine cards interface with double-wide interconnect modules.

The term "1x/2x" refers to the number of interconnect lanes per port provided by the controller. The more lanes provided per port, the higher the data transmission rate coming from that port.

Mapping half-height blades

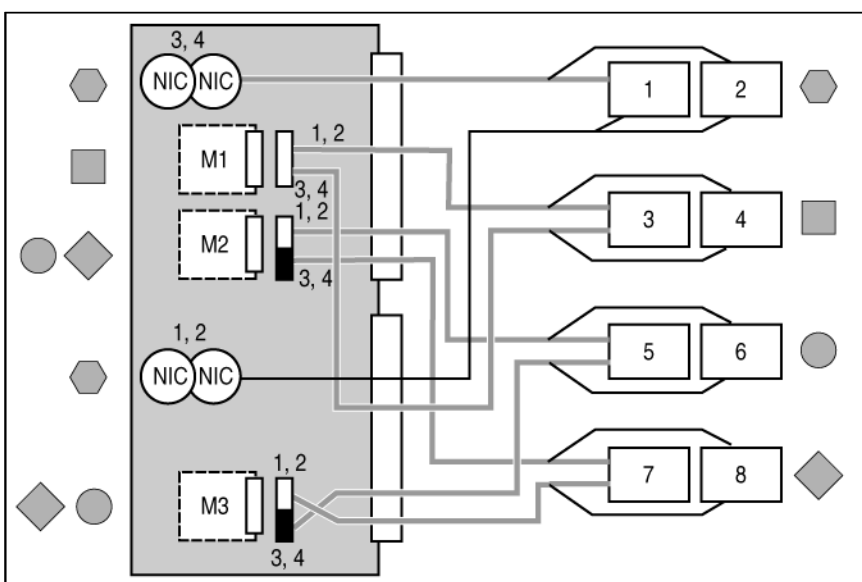
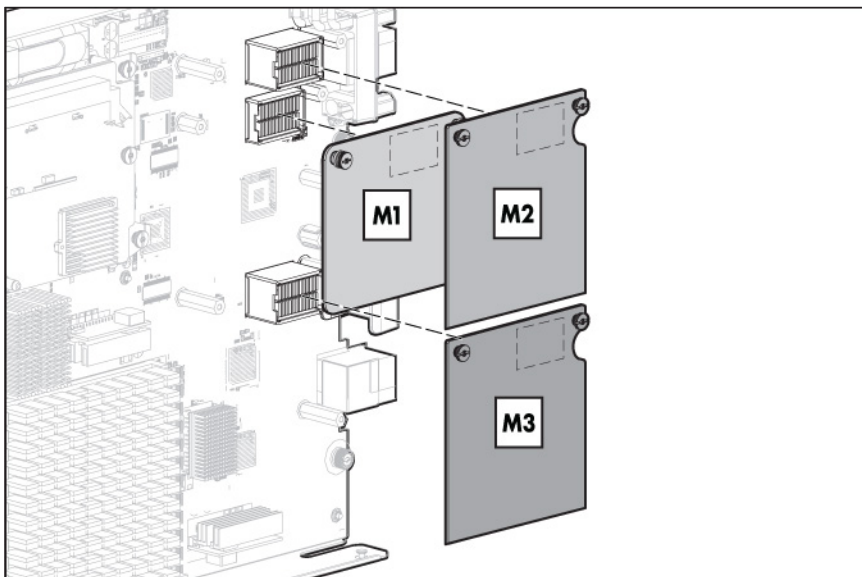


The following table lists the available configurations for half-height devices installed in device bay N (1–16).

Connection	Port number	Connects to interconnect bay/port	Comments
Embedded NIC	NIC 1 NIC 2	1/Port N 2/Port N	One or two single-wide Ethernet interconnect modules
Mezzanine slot 1—1x or 2x cards	1x/2x port 1 1x/2x port 2	3/Port N 4/Port N	- One single-wide interconnect module - Four port cards will only connect the first two ports.
Mezzanine slot 1—4x cards	4x port 1	3/Port N	- One double-wide interconnect module - Only port 1 of a two port card will be connected.
Mezzanine slot 2—1x or 2x cards	1x/2x port 1 1x/2x port 2 1x/2x port 3 1x/2x port 4	5 / port N 6 / port N 7 / port N 8 / port N	One or two single-wide interconnect modules
Mezzanine slot 2—4x cards	4x port 1 4x port 2	5/Port N 7/Port N	One or two double-wide interconnect modules

* Connectivity to interconnect bays 7 and 8 is only available with four-port mezzanine cards or port 2 of 4x card in Mezzanine slot 2.

Mapping full-height blades



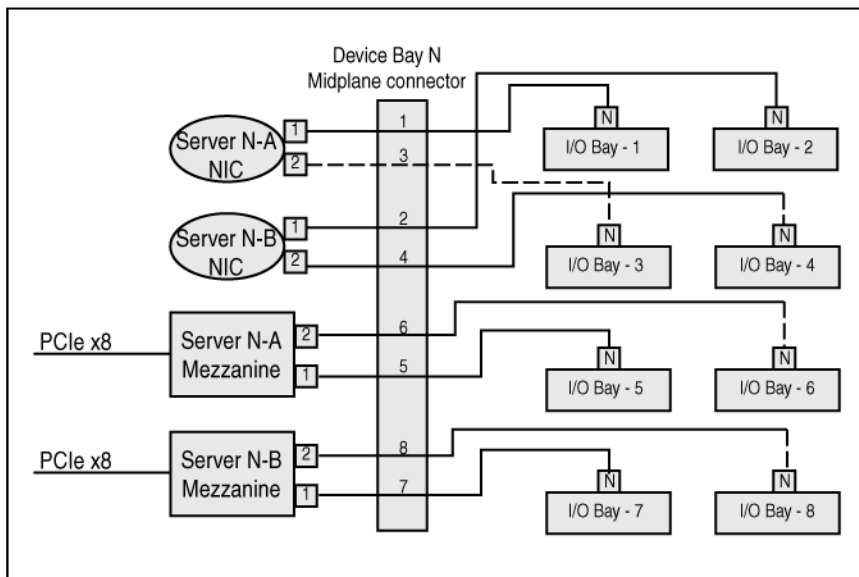
The following table lists the available configurations for full-height devices installed in device bay N (1–8).

Connection	Port number	Connects to interconnect bay/port	Comments
NIC	NIC 1 NIC 2 NIC 3 NIC 4	1/Port N+8 2/Port N+8 1/Port N 2/Port N	One or two single-wide Ethernet interconnect modules
Mezzanine slot 1—1x or 2x cards	1x/2x port 1 1x/2x port 2 1x/2x port 3 1x/2x port 4	3/Port N 4/Port N 3/Port N+8 4/Port N+8	One or two single-wide interconnect modules
Mezzanine slot 1—4x cards	4x port 1	3/Port N	- One double-wide interconnect module - Only port 1 of a two-port card can be connected

Connection	Port number	Connects to interconnect bay/port	Comments
Mezzanine slot 2—1x or 2x cards	1x/2x port 1 1x/2x port 2 1x/2x port 3 1x/2x port 4	5/Port N 6/Port N 7/Port N 8/Port N	Up to four single-wide interconnect modules
Mezzanine slot 2—4x cards	4x port 1 4x port 2	5/Port N 7/Port N	One or two double-wide interconnect modules
Mezzanine slot 3—1x or 2x cards	1x/2x port 1 1x/2x port 2 1x/2x port 3 1x/2x port 4	7/Port N+8 8/Port N+8 5/Port N+8 6/Port N+8	Up to four single-wide interconnect modules
Mezzanine slot 3—4x cards	4x port 1 4x port 2	5/Port N+8 7/Port N+8	One or two double-wide interconnect modules

* Connectivity to interconnect bays 7 and 8 is only available with four-port mezzanine cards or port 2 of 4x card in Mezzanine slot 2.

Mapping BL2x220c Blades



To support network connections for specific signals, install an interconnect module in the bay corresponding to the embedded NIC or mezzanine signals.

Interconnect device mapping for double dense server blades

The following table lists the available configurations for double dense server blades installed in device bay N (1-16).

Connection	Port number	Connects to interconnect bay/port
Server A Embedded NIC	NIC 1 (ENET:1) NIC 2 (ENET:2)	1/Port N 3/Port N
Server A Mezzanine	Port 1 Port 2	5/Port N 6/Port N
Server B Embedded NIC	NIC 1 (ENET:1) NIC 2 (ENET:2)	2/Port N 4/Port N
Server B Mezzanine	Port 1 Port 2	7/Port N 8/Port N

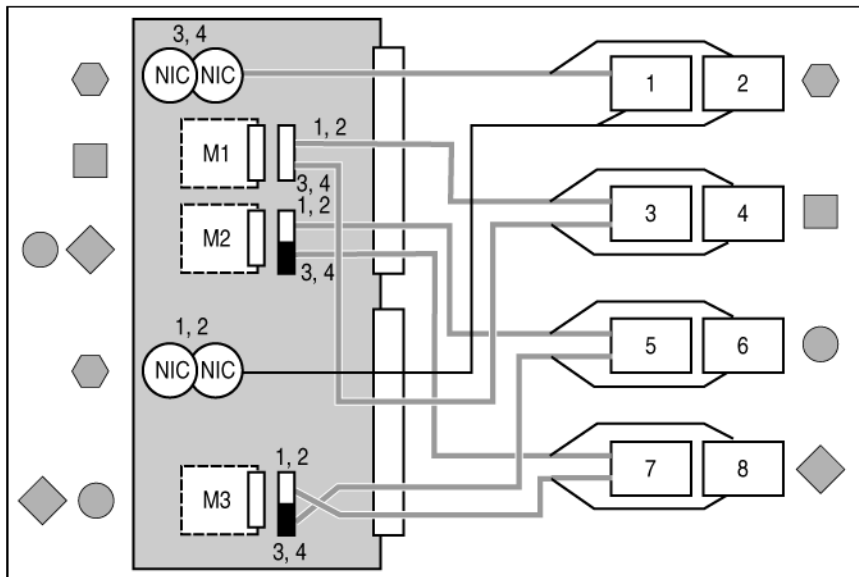
Interconnect device mapping for AMC Telco I/O expansion blades

The following table lists the available configurations for AMC Telco I/O expansion blades installed in device bay N (1-16).

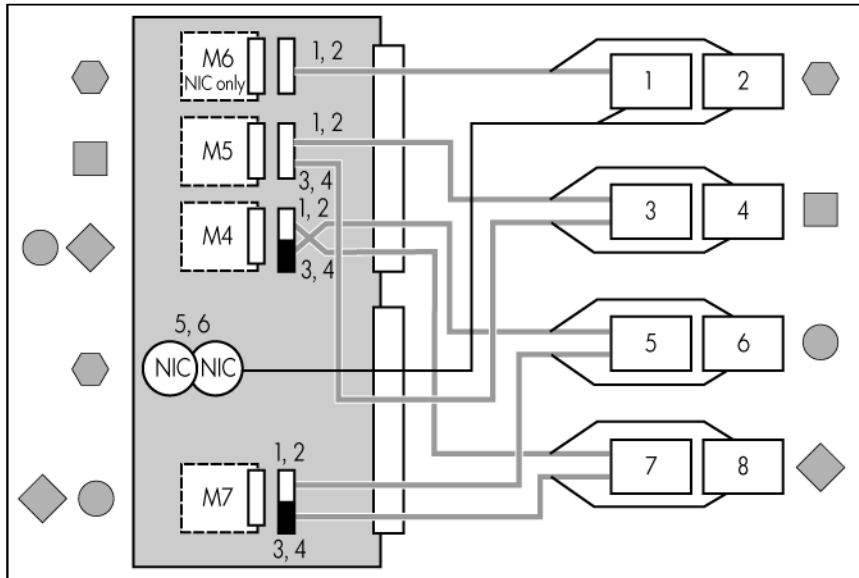
Connection	Port number	Connects to interconnect bay/port
AMC Embedded (1)	Port 1 Port 2 Port 3 Port 4	1/Port N 2/Port N 3/Port N 4/Port N
AMC Embedded (2)	Port 5 Port 6 Port 7 Port 8	5/Port N 6/Port N 7/Port N 8/Port N

Mapping the BL680c G7 Blade

- A side

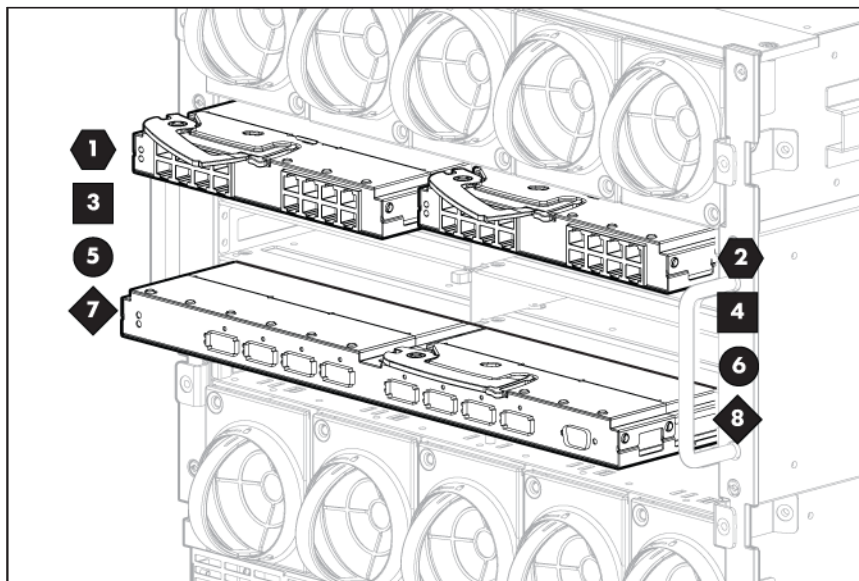


- B side



To support network connections for specific signals, install an interconnect module in the bay corresponding to the embedded NIC or mezzanine signals.

Interconnect bay identification

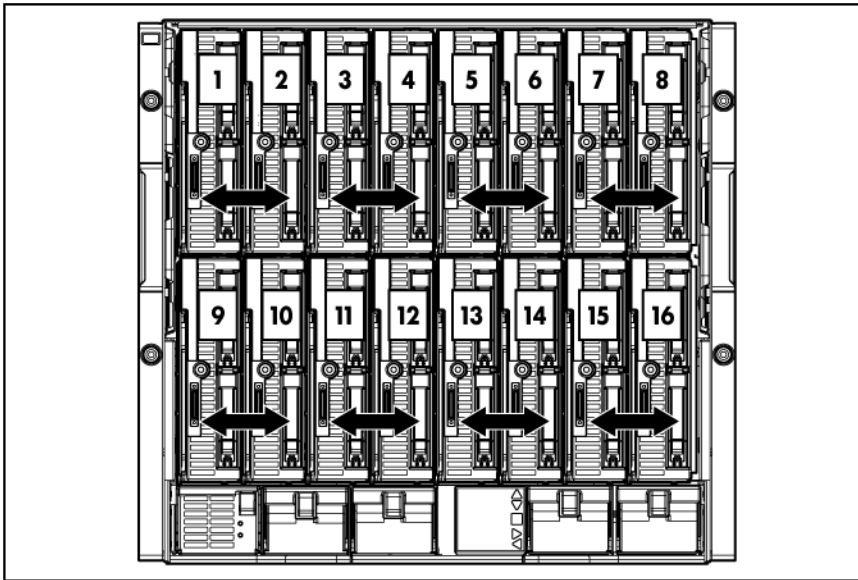


Bay-to-bay crosslinks

Four trace SerDes signals between adjacent bays are provided in the enclosure midplane to permit bay-to-bay communications. Interconnect modules can only connect horizontally.

Device bay crosslinks

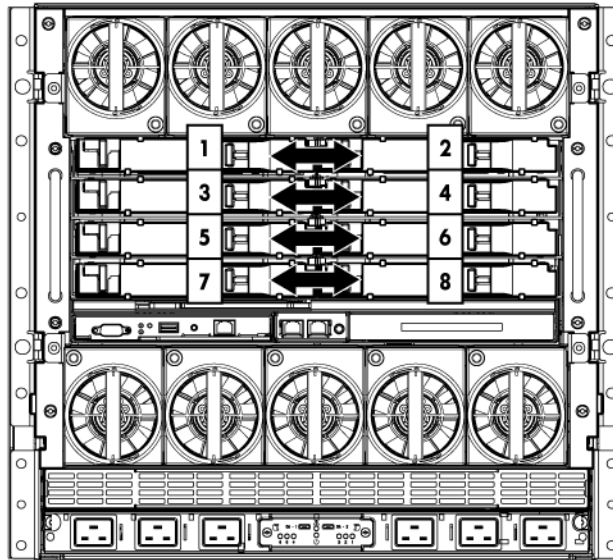
Device bay crosslinks are wired between adjacent horizontal device bay pairs.



For half-height blades, these signals connect a four-lane PCIe module to a partner blade such as a tape blade or a PCI expansion blade. For full-height blades, these signals are used to connect a PCIe module to a partner blade in the lower adjacent bay and require a PCIe pass-thru mezzanine card installed in mezzanine connector 3. The Onboard Administrator disables the device bay crosslinks when they cannot be used, such as when two server blades reside in adjacent device bays.

Interconnect bay crosslinks

Interconnect bay crosslinks are wired between adjacent interconnect bay pairs.



You can enable these signals to provide module-to-module connections, such as Ethernet crosslink ports between matching switches, or Virtual Connect modules as stacking links. Onboard Administrator disables the interconnect bay crosslinks when they cannot be used, such as when two different modules reside in adjacent horizontal interconnect bays.

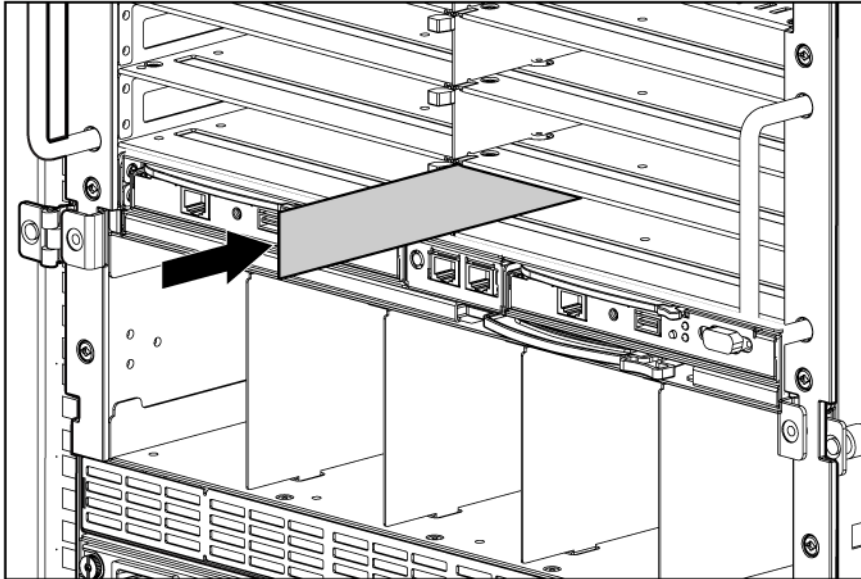
Removing interconnect bay dividers

The enclosure ships with interconnect bay dividers installed. The interconnect bay dividers must be removed before installing double-wide interconnect modules. To remove an interconnect bay divider, press the release tab, and pull the interconnect bay divider out of the enclosure.

Installing interconnect bay dividers

The enclosure ships with interconnect bay dividers installed. The interconnect bay dividers must be installed to use single-wide interconnect modules.

To reinstall an interconnect bay divider, align the interconnect bay divider with the rail, and slide the divider into the enclosure until it locks into place.



Cabling and powering up the enclosure

Cabling the enclosure

After all system hardware is installed, cable the components. See the *HPE ProLiant BladeSystem c-Class Site Planning Guide* on the Documentation CD or the Hewlett Packard Enterprise website (<http://www.hpe.com>) for additional cabling and site planning requirements.

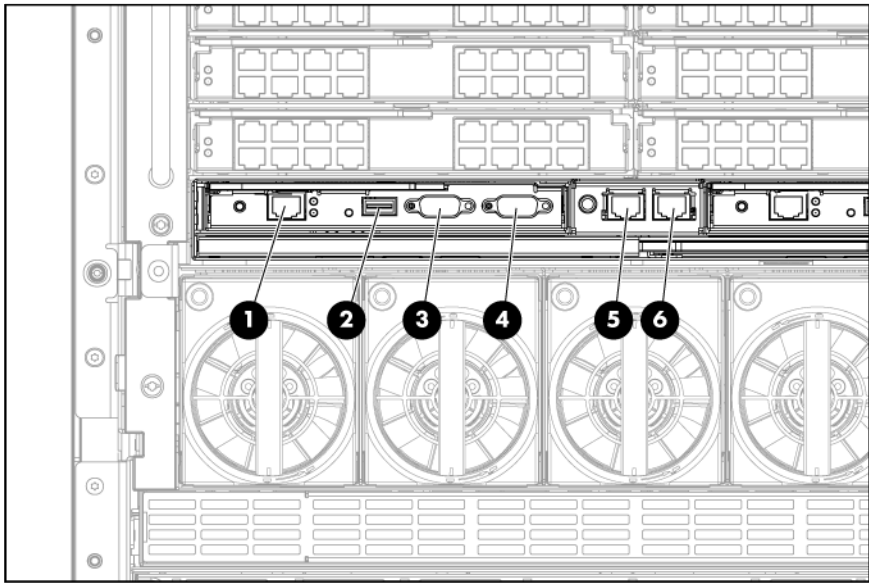
⚠ WARNING: To reduce the risk of electric shock or injury due to high-current electrical energy, be sure that all power is completely disconnected at the source before beginning any power connections to the power bus bars or power bus box.

⚠ WARNING: Be sure that all circuit breakers are locked in the off position before connecting any power components.

To cable the system:

1. Connect the Onboard Administrator modules.
2. Connect the network cables to the interconnect modules. See the documentation that ships with the interconnect modules, or the *HPE ProLiant BladeSystem c-Class Site Planning Guide* on the Documentation CD or the Hewlett Packard Enterprise website (<http://www.hpe.com/info/bizsupport>).
3. Connect to the AC or DC power source in your facility and power up the enclosure ("[Powering up the enclosure](#)" on page 58).

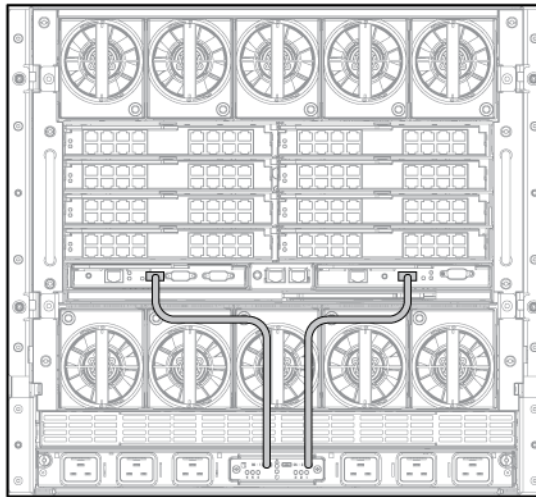
Onboard Administrator cabling



Item	Connector	Description
1	OA/iLO	Ethernet 1000BaseT RJ45 connector, which provides Ethernet access to the Onboard Administrator and the iLO on each blade. Also supports interconnect modules with management processors configured to use the enclosure management network. Autonegotiates 1000/100/10 or can be configured to force 100Mb or 10Mb full duplex.

Item	Connector	Description
2	USB	USB 2.0 Type A connector used for connecting supported USB devices such as DVD drives, USB key drives, or a keyboard or mouse for enclosure KVM use. To connect multiple devices, a USB hub (not included) is required.
3	Serial connector	Serial RS232 DB-9 connector with PC standard pinout. Connects a computer with a null-modem serial cable to the Onboard Administrator command line interface (CLI).
4	VGA connector	VGA DB-15 connector with PC standard pinout. To access the KVM menu or Onboard Administrator CLI, connect a VGA monitor or rack KVM monitor for enclosure KVM.
5	Enclosure link-down port	Connects to the enclosure link-up port on the enclosure below with a CAT5 patch cable
6	Enclosure link-up port and service port	Connects to the enclosure link-down port on the enclosure above with a CAT5 patch cable. On a stand-alone enclosure or the top enclosure in a series of linked enclosures, the top enclosure link-up port functions as a service port.

To utilize intelligent power discovery, connect the cables to an intelligent single-phase AC module, and then to the OAs.



This feature is only available on HPE BladeSystem c7000 Platinum Enclosures. For more information on intelligent power discovery, see the *HPE Intelligent Power Distribution Unit User Guide* on the Hewlett Packard Enterprise website (<http://www.hpe.com/support/manuals>).

Enclosure link cabling

Two enclosure link ports are provided on the rear of the enclosure. Link multiple enclosures installed in one rack to:

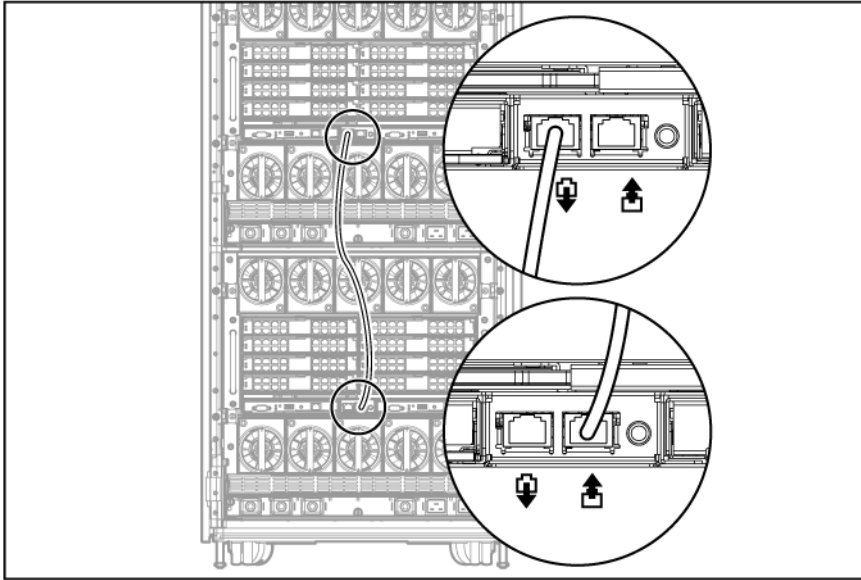
- Allow any active Onboard Administrator module to access the linked enclosures.
- Use the enclosure link-up port on the top enclosure for temporary connection to a PC using the enclosure service port ("[Cabling a PC to the enclosure service port](#)" on page 57) to provide quick access to any Onboard Administrator module, iLO, or interconnect module with Ethernet management ability.
- Allow enclosure settings to be shared between enclosures, which simplifies deployment of multiple enclosures.

NOTE: The enclosure link ports are designed only to support c-Class enclosures in the same rack. The enclosure link-up port on the top enclosure is the service port, and the enclosure link-down port on the bottom linked enclosure is unused.

NOTE: If more c-Class enclosures are added to the rack at a later time, the open enclosure link-up port on the top enclosure can be used to link the new enclosure.

NOTE: The BladeSystem c-Class enclosure link ports are not compatible with the BladeSystem p-Class enclosure link ports.

To link the enclosures, use a standard Category 5 (CAT5) patch cable to connect the enclosure link-down port on the first enclosure to the enclosure link-up port on the second enclosure.



Cabling a PC to the enclosure service port

A PC can be temporarily connected to the enclosure to access the Onboard Administrator modules, iLO, and interconnect modules with Ethernet management ability. When enclosures in the same rack are linked, connecting a PC to the service port enables you to access the Onboard Administrator modules, iLO, and interconnect modules for all linked c-Class enclosures in that rack.

NOTE: The service port is the enclosure link-up port on the **top** enclosure in a group of linked enclosures. If the enclosures are not linked together, each enclosure has a service port.

Only one PC at a time can be connected to a group of linked enclosures using the service port.

1. Use the Insight Display on the enclosure you are logging into to obtain the Service IP address of that active Onboard Administrator module on the Enclosure Info screen. The Service IP address can be found in the Enclosure Settings screen.
2. Connect the laptop or PC 10/100Mb Ethernet port configured for DHCP addressing to the available link-up port on the top enclosure in the rack using a standard CAT5 patch cable. A Windows PC automatically obtains an IP address. If no IP address is obtained, configure the PC Ethernet port for static addressing using the IP address 169.254.1.254 with a netmask of 255.255.0.0.
3. Open a web browser on the PC and enter the active Onboard Administrator module Service IP address found in the Enclosure Info screen in step 2.
4. Log into the Onboard Administrator. For more information on using Onboard Administrator, see the *BladeSystem Onboard Administrator User Guide*.

Cabling the network to the enclosure

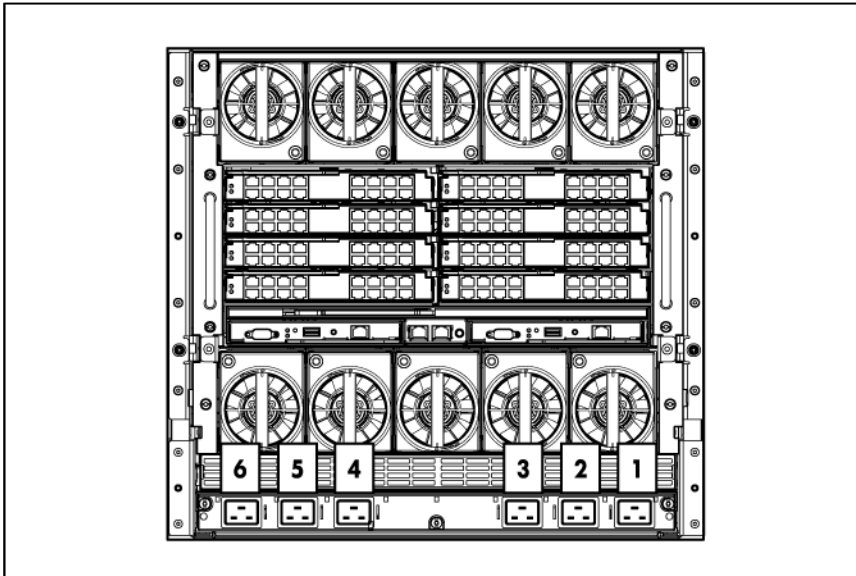
Cable the interconnect modules to the enclosure. See "Mapping to interconnect ports (on page 46)" and the supporting documentation that came with your interconnect modules for specific details on cabling the interconnect modules.

Powering up the enclosure

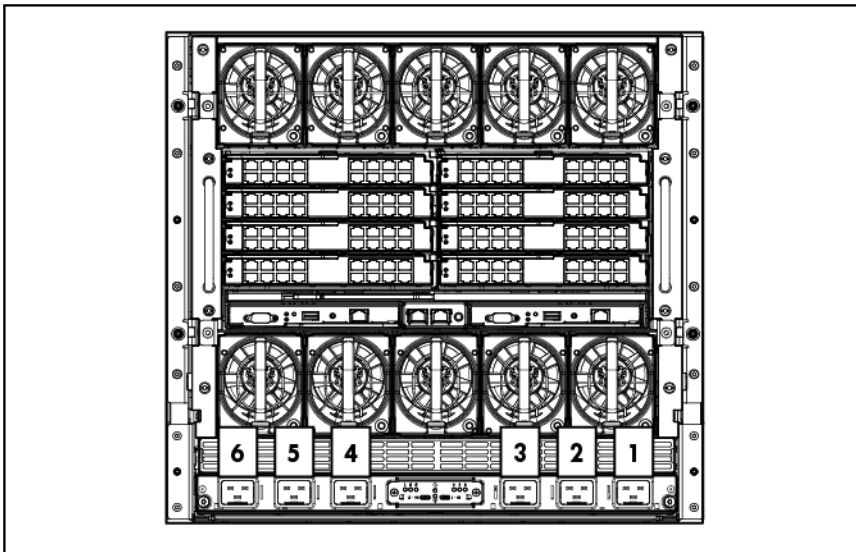
Setting up AC power for the enclosure varies depending on whether you have a single-phase AC configuration or a three-phase AC configuration.

Single-phase AC configuration

- Single-phase AC configuration

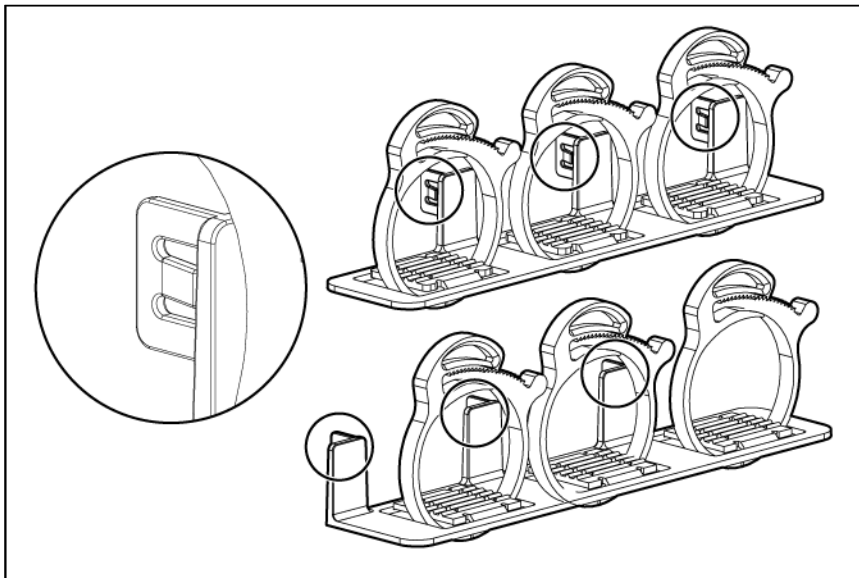


- Single-phase AC configuration using the HPE Single-Phase Intelligent Power Module



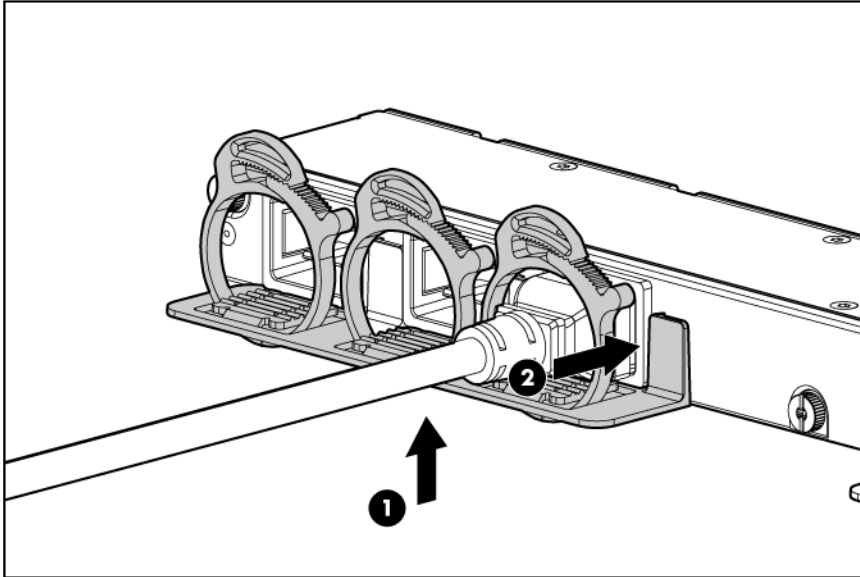
To cable the enclosure using a single-phase AC configuration:

1. Connect the AC power cables to the power connectors on the rear of the enclosure corresponding to the power supply that was populated on the front of the enclosure.
2. Be sure each power cable is securely attached to the power connectors.
3. Connect the AC power cables to the AC power source or to an installed power distribution unit (PDU).
4. Turn on the AC circuit breakers that power the power cables installed in the enclosure.
5. Locate the power retention bracket that came with the enclosure.
6. Verify that the power cord retention tabs are on the correct side.
 - o On the left side: To install the power cord retention bracket on the left side of the enclosure, ensure the power cord retention tabs are located to the right of the snap clamps.
 - o On the right side: To install the power cord retention bracket on the right side of the enclosure, ensure the power cord retention tabs are located on the left side of the snap clamps.

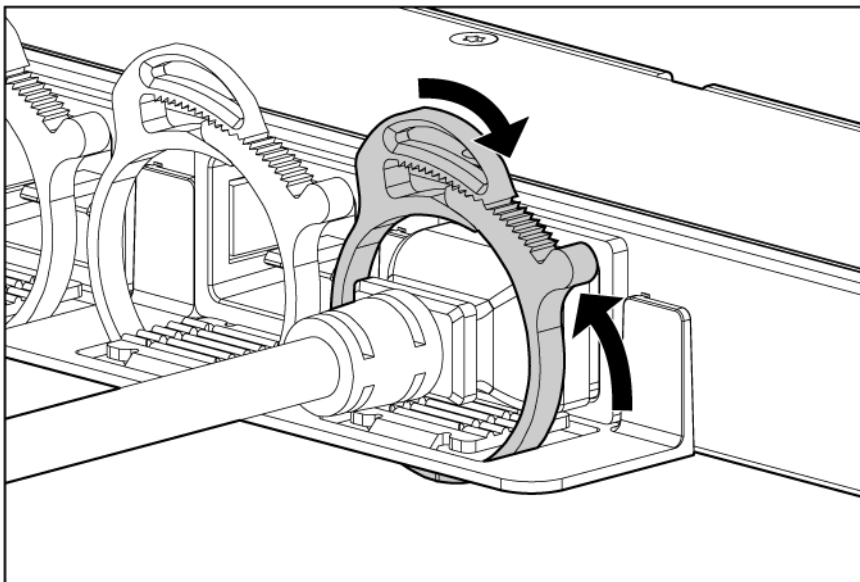


7. Place the power cord retention bracket under the power cords, and then align the power cords with the snap clamps.
8. Open the snap clamps, and then insert each power cord inside each clamp.
9. Slide the power cord retention bracket until the bracket touches the enclosure.

10. Insert the power cord retention tabs into the slots on the enclosure until they snap into place.



11. Slide each snap clamp over the end of each power cord overmold, and then squeeze each snap clamp closed.



When powering this enclosure with an Intelligent Power Distribution Unit, you must connect the Single-Phase Intelligent Power Module to HPE Onboard Administrator 1 and Onboard Administrator 2. Connect the provided USB cables to the USB connectors available on the components.

When the enclosure powers up for the first time, it might take up to 5 minutes before all blades are initialized and recognized by the Onboard Administrator. The time it takes to complete initialization depends on the number of blades configured in the enclosure. For example, a full enclosure of 16 blades might take 5 minutes to power up, while an enclosure with fewer blades might take less time. Server blades are powered up incrementally, starting from device bay 1.

When first initialized, the Onboard Administrator programs the mezzanine cards on the blades during discovery. After the mezzanine cards are programmed, powering up the enclosure takes only 1 to 2 minutes.

The enclosure and the Insight Display now have power. Configure the enclosure ("[Running the Insight Display installation steps](#)" on page 64) using the Insight Display.

PDU installation

The PDU can be installed in either a 1U or a 0U configuration. For more information about installing the PDU in the rack, see the installation instructions that came with the PDU.



IMPORTANT: Rack-based single-phase PDUs cannot be used with a three-phase power configuration.

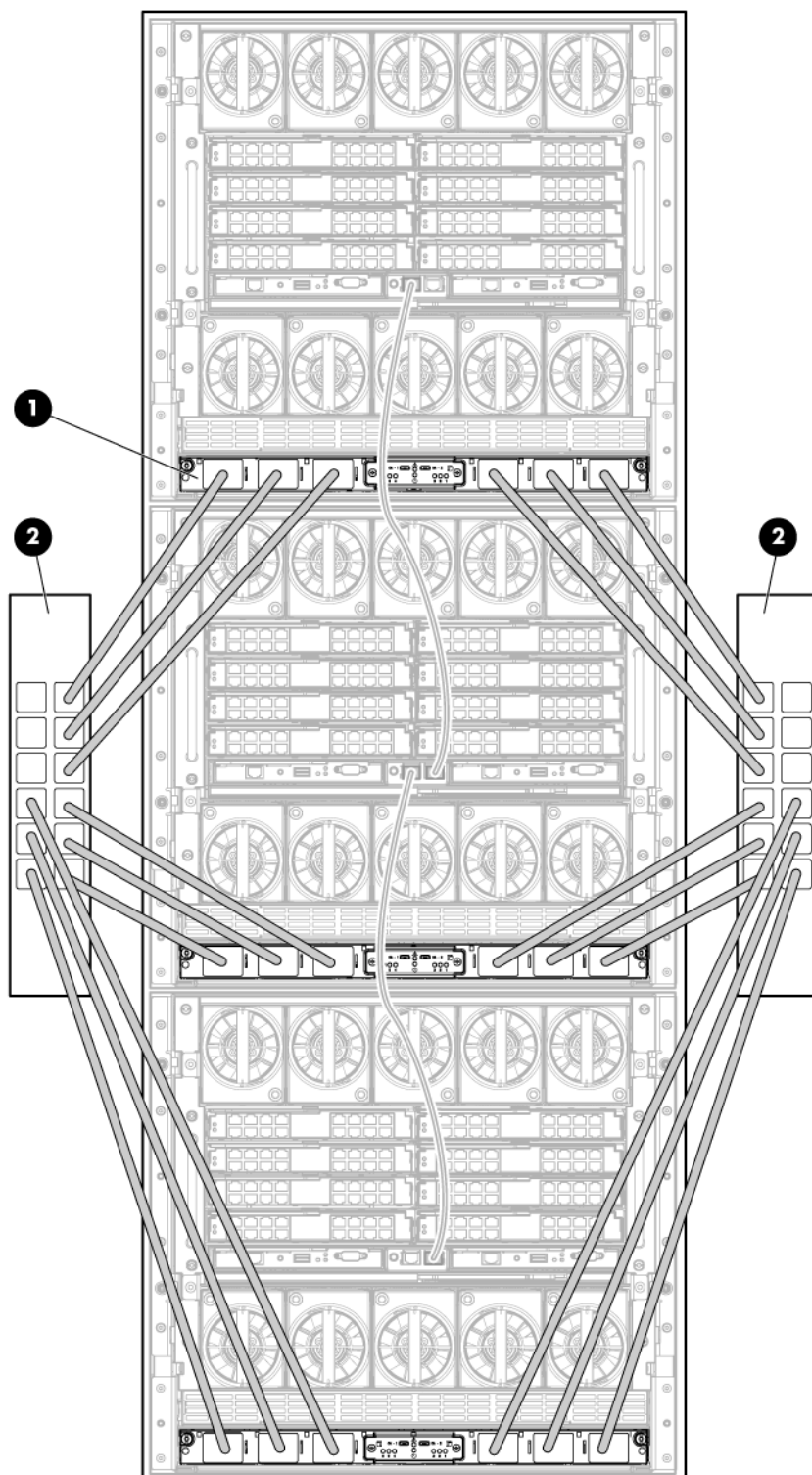


IMPORTANT: Total VA load of the attached enclosures should not exceed the VA capacity of the PDU. Do not exceed the rated current on circuit breakers.

To connect power to the PDU:

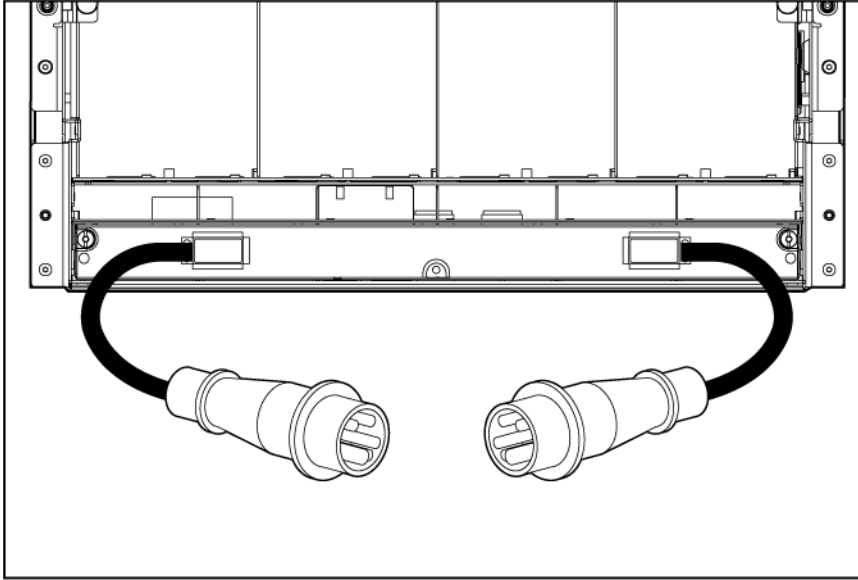
1. Connect the AC power cables to the power connectors on the rear of the enclosure corresponding to the power supply that was populated on the front of the enclosure.

2. Connect the AC power cables to the installed PDU.



3. Power up the enclosure ("[Powering up the enclosure](#)" on page 58).

Three-phase AC configuration



For a three-phase power configuration, the AC power cables are already attached to the enclosure. To cable the enclosure using a three-phase AC configuration:

1. Connect the AC power cables to the AC power source.
2. Turn on the AC circuit breakers that power the power cables installed in the enclosure.

When the enclosure powers up for the first time, it might take up to 5 minutes before all blades are initialized and recognized by the Onboard Administrator. The time it takes to complete initialization depends on the number of blades configured in the enclosure. For example, a full enclosure of 16 blades might take 5 minutes to power up, while an enclosure with fewer blades might take less time. Server blades are powered up incrementally, starting from device bay 1.

When first initialized, the Onboard Administrator programs the mezzanine cards on the blades during discovery. After the mezzanine cards are programmed, powering up the enclosure takes only 1 to 2 minutes.

The enclosure and the Insight Display now have power. Configure the enclosure ("[Running the Insight Display installation steps](#)" on page 64) using the Insight Display.

HPE BladeSystem Insight Display

Insight Display overview

The Insight Display enables the rack technician to configure the enclosure initially. It also provides information about the health and operation of the enclosure. See the *BladeSystem Onboard Administrator User Guide* for additional information.

The Insight Display background color varies with the condition of the enclosure health:

- **Blue**—The Insight Display background illuminates blue when the enclosure UID is active. The enclosure UID is automatically turned on when the enclosure is powered up for the first time and can be turned on by selecting **Turn Enclosure UID On** from the Main Menu or by pressing the enclosure UID button on the rear of the enclosure.

When the enclosure UID is on, the Insight Display flashes after 2 minutes of inactivity. Pressing any button on the Insight Display stops the flashing and reactivates the screen.

- **Green**—The Insight Display background illuminates green when no error or alert conditions exist and the enclosure is operating normally. After 2 minutes of inactivity, the Insight Display light turns off. Pressing any button on the Insight Display reactivates the screen.
- **Amber**—The Insight Display background illuminates amber when the Onboard Administrator detects an error or alert condition. Depending on the error, the component is displayed in red or yellow on the Health Summary screen.

After 2 minutes of inactivity, the Insight Display background flashes amber, indicating an error or alert condition exists. If the enclosure UID is on and an error or alert condition exists, the Insight Display illuminates blue because the enclosure UID takes priority over the alert. Pressing any button on the Insight Display reactivates the screen.

- **Dark (no power)**—The Insight Display has a 2-minute inactivity period. If no action is taken and no alert condition exists, the enclosure UID is off, or the chat mode has not been activated, the screen light turns off after 2 minutes. Pressing any button on the Insight Display reactivates the screen.

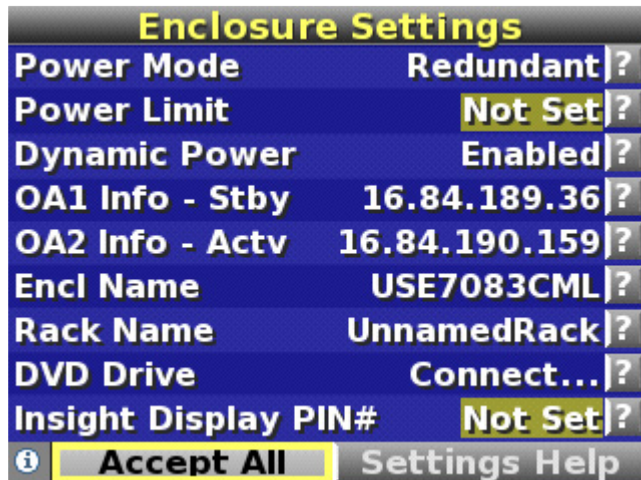
The Enclosure Health icon is located on the bottom left corner of every screen, indicating the enclosure health. To access the Health Summary screen from any Insight Display screen, navigate the cursor to the Enclosure Health icon and press **OK**.

For information on driver and firmware updates, see the Hewlett Packard Enterprise website (<http://www.hpe.com/info/blades/>).

Running the Insight Display installation steps

To identify the enclosure, the rear enclosure UID light and the background of the Insight Display are illuminated blue when the enclosure is powered on initially. When the enclosure is powered up for the first time, the Insight Display launches an installation wizard to guide you through the configuration process. At the beginning of the installation, the wizard automatically powers on the enclosure UID. After the installation is complete, the wizard powers off the enclosure UID. After configuring the enclosure, the Insight Display verifies that there are no installation or configuration errors. If errors are present, the Insight Display guides you through the process of correcting the errors. The Installation Wizard automatically turns on the enclosure UID at the beginning of the installation and turns it off after the installation is complete.

The Enclosure Settings screen is the first screen to appear. The background color is blue because the enclosure UID is active when this screen appears.



1. Review each setting on the Enclosure Settings screen for accuracy.
2. To change any value, move the cursor to the menu option to be edited, and press the **OK** button.
3. Change the setting to the appropriate value, navigate the cursor to **Accept**, and press the **OK** button to return to the Enclosure Settings menu. Repeat this step until all options on the Enclosure Settings menu are accurate.

 TIP: elect the ? icon to access detailed help information about each setting or topic.

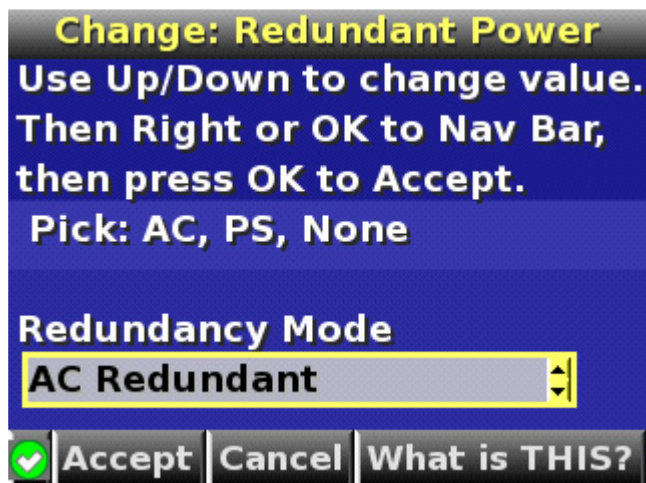
 TIP: Within any menu option, navigate the cursor to **What is This**, and press the **OK** button to view additional information about each setting, option, or alert.

4. When all settings on the Enclosure Settings menu are accurate, move the cursor to **Accept All**, and press the **OK** button to accept the current settings.

You can change the following options in the Enclosure Settings screen:

Redundant Power Mode—The default setting is AC Redundant. The following selections are valid:

- o AC Redundant
- o Power Supply Redundant
- o None



Limit AC Input VA—The default setting is Not Set. You can change the Max AC Watts in increments of 50 Watts.

Power Savings—The default setting is Enabled. The following selections are valid:

- **Enabled**—You can place some of the power supplies on standby automatically to increase overall enclosure power subsystem efficiency.
- **Disabled**—All power supplies share the load; the power subsystem efficiency varies based on load.

OA1 IP Addr—The default setting is DHCP. If no IP address is received, the IP address is 0.0.0.0. The IP address, mask, and gateway are set within this option.

OA2 IP Addr—If this module is present, the default setting is DHCP. If no IP address is received, the IP address is 0.0.0.0. If only one Onboard Administrator module is installed, the screen will display Not Present.

Enclosure Name—The default setting is a unique factory-assigned name. The accepted character values are 0–9, A–Z, a–z, -, _ and . is used to signal the end of the name.

NOTE: Do not use the symbol in the middle of a text field. Entries in text fields will be truncated to the last character before the symbol.



TIP: Select **Clear** from the navigation bar to quickly clear entries in text fields up to the symbol.

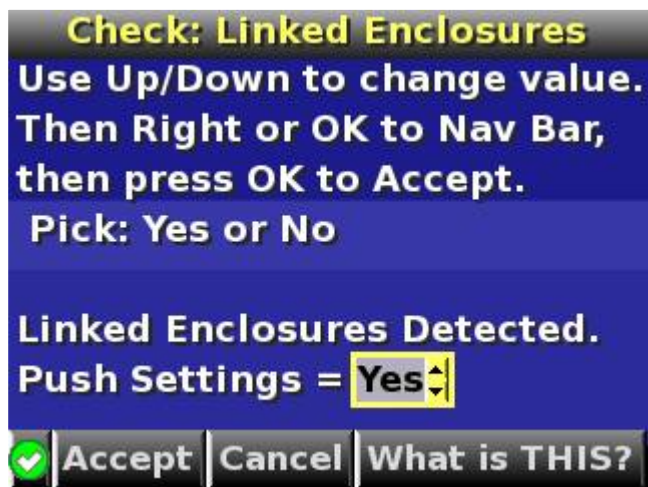
Rack Name—The default setting is UnnamedRack. The accepted character values are 0–9, A–Z, a–z, -, _ and . is used to signal the end of the name.

Insight Display PIN#—The default setting is Not Set. Hewlett Packard Enterprise recommends that you set a PIN to protect the enclosure configuration from unauthorized changes. You must enter the PIN after each inactivity period to change options in the Enclosure Settings menu. The accepted character values are 0–9, A–Z, a–z, -, _ and . is used to signal the end of the name.

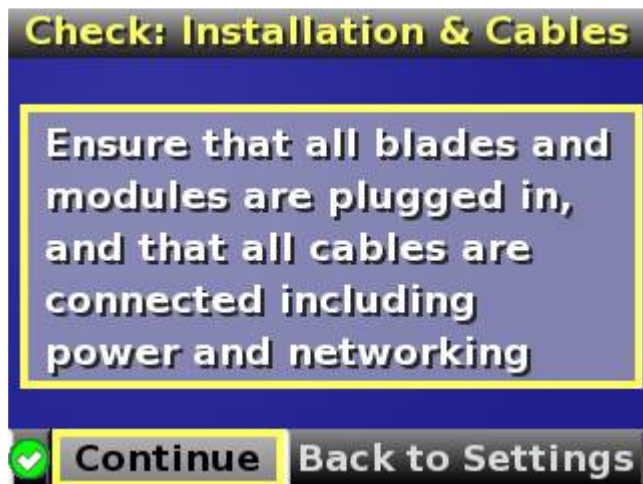
5. Navigate to the **Accept All** button at the bottom of the Enclosure Settings screen, and press the **OK** button to accept all the settings and continue.
6. In the Check: Linked Enclosures screen, the message `Linked enclosures detected` appears if the Onboard Administrator module detects other enclosures. Use the up and down arrow buttons to change **Push Settings =** to one of the following values:
 - **Yes**—Copy the configured power settings, rack name, and LCD Lockout PIN (if set) from the Enclosure Settings screen to the detected enclosures.
 - **No**—Continue configuring the current enclosure only. The Insight Display installation wizard must be run on each of the other detected enclosures. Select this option if each enclosure requires different power settings.



IMPORTANT: If your facility uses Static IP addressing for the Onboard Administrator modules, you must manually enter those IP addresses into the Insight Display for each Insight Display separately. You can enter those Onboard Administrator module IP addresses before you send the settings to adjacent enclosures. You can return to the Enclosure Settings menu after the Installation Wizard completes to change the Onboard Administrator module IP addresses, if necessary.

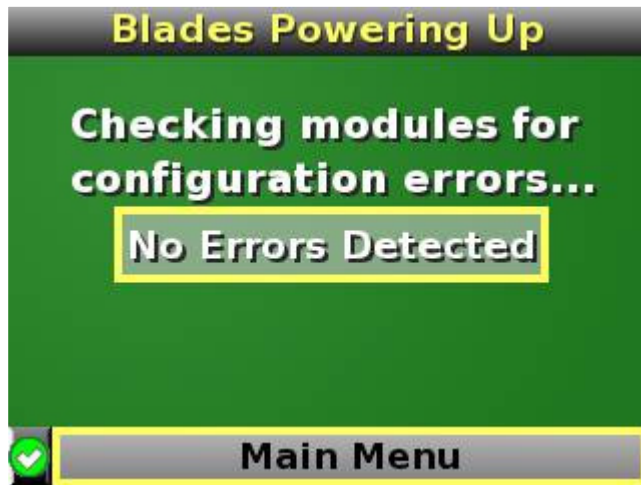


7. Navigate the cursor to **Accept**, and press the **OK** button.
The Check: Installation and Cables screen appears.



8. Verify all components are installed and cabled before continuing.
9. Select **Continue**, and press the OK button to begin checking for configuration and installation errors.
The enclosure UID automatically turns off. If **Push Settings = Yes**:
 - o The enclosure settings are pushed to adjacent enclosures
 - o The installation wizards run on each adjacent enclosure
 - o The enclosure UID turns off on the adjacent enclosures

10. If no errors are detected, the rear enclosure UID turns off, and the Insight Display screen illuminates green. Press the **OK** button to return to the Main Menu. Enclosure and blade hardware setup and configuration is complete.



If errors are detected, the Insight Display screen illuminates amber, and the Health Summary screen appears. For more information on troubleshooting configuration and installation errors, see [Insight Display errors \(on page 79\)](#).



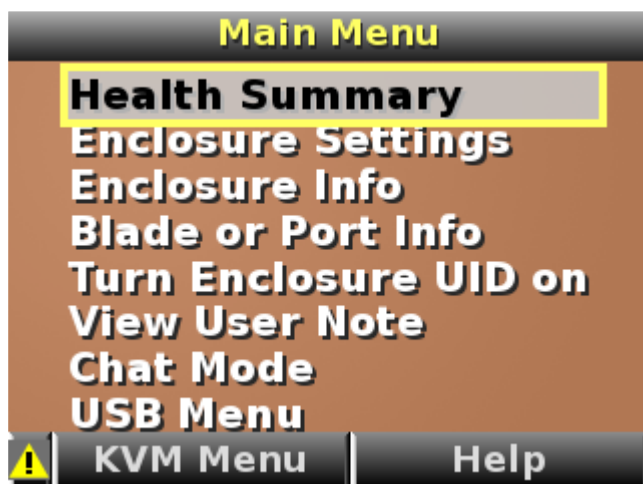
IMPORTANT: If errors are detected, the Insight Display screen illuminates amber, and the Health Summary screen displays. For more information on troubleshooting configuration errors, see "Insight Display errors (on page 79)."
All configuration errors prevent the operation of the enclosure and should be corrected immediately.

11. Open a browser and connect to the active Onboard Administrator module using the Onboard Administrator IP address that was configured during the Insight Display installation wizard process.
12. Enter the user name and password from the tag supplied with the Onboard Administrator module to access the remote Onboard Administrator web interface and complete the Onboard Administrator first time installation wizard.

Navigating the Insight Display

Navigate through the menus and selections by using the arrow buttons on the Insight Display panel ("[HPE BladeSystem Insight Display components](#)" on page 14). Use the arrow buttons to move the selection box to a menu item, and then press **OK** to go to selected screen.

The Main Menu appears:



The Main Menu of the Insight Display has the following menu options:

- Health Summary ("Health Summary screen" on page 69)
- Enclosure Settings ("Running the Insight Display installation steps" on page 64)
- Enclosure Info ("Enclosure Info screen" on page 72)
- Blade or Port Info ("Blade and Port Info screen" on page 73)
- Turn Enclosure UID on/off ("Turn Enclosure UID On/Off screen" on page 74)
- View User Note ("View User Note screen" on page 76)
- Chat Mode ("Chat Mode screen" on page 76)
- USB Menu—This option is available on Onboard Administrator version 2.30 and later.
- KVM Menu—This option is available if the enclosure supports KVM.



TIP: Within any menu option, navigate the cursor to **What is This**, and press the **OK** button to view additional information about each setting, option, or alert.

The navigation bar contains options to:

- Navigate forward and backward through alert screens
- Return to the main menu
- Accept changes to current settings
- Cancel changes to current settings
- Access the Health Summary screen from any screen by selecting the Health Summary icon on the navigation bar

Health Summary screen

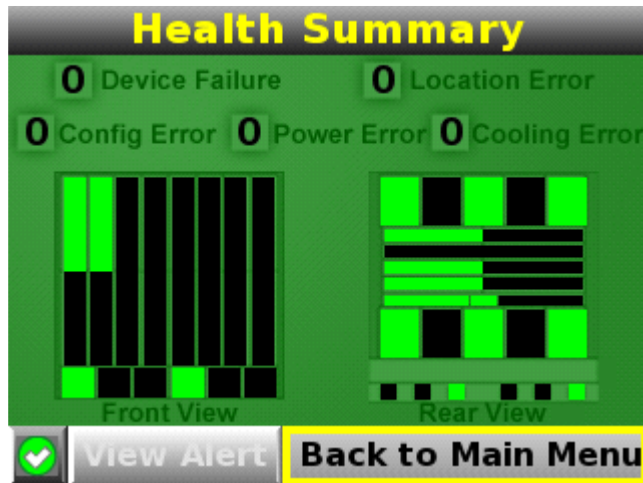
The Health Summary screen displays the current condition of the enclosure. The Health Summary screen can be accessed by:

- Selecting **Health Summary** from the main menu
- Selecting the **Health Summary icon** from any Insight Display screen

When an error or alert condition is detected, the Health Summary screen displays the total number of error conditions and the error locations.

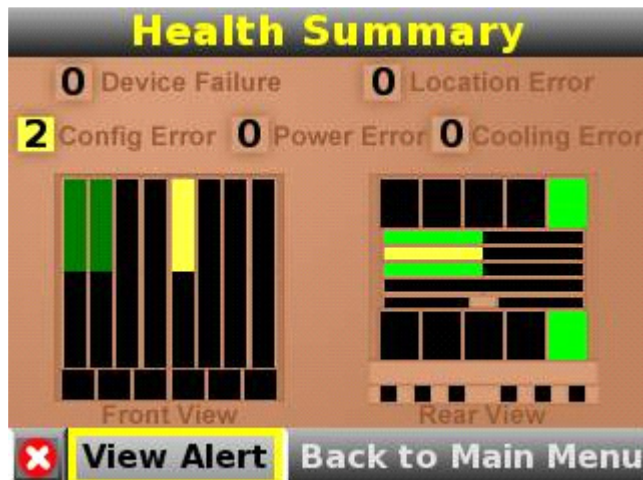
Select **Next Alert** from the navigation bar, and press the **OK** button to view each individual error condition. The Insight Display displays each error condition in the order of severity. Critical alerts display first (if one exists), followed by caution alerts.

When the enclosure is operating normally, the Health Summary screen displays green. The bright green rectangles are components that are installed and on. A light green rectangle represents a component that is installed but powered off with no errors.

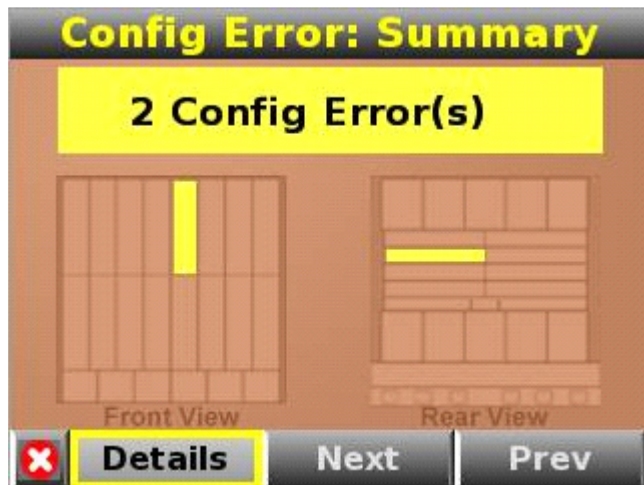


The only option active on the navigation bar is Back to Main Menu. Select **Back to Main Menu**, and press the OK button to return to the main menu.

If there is a configuration error between the blade and the interconnect module, the error will be highlighted in yellow.

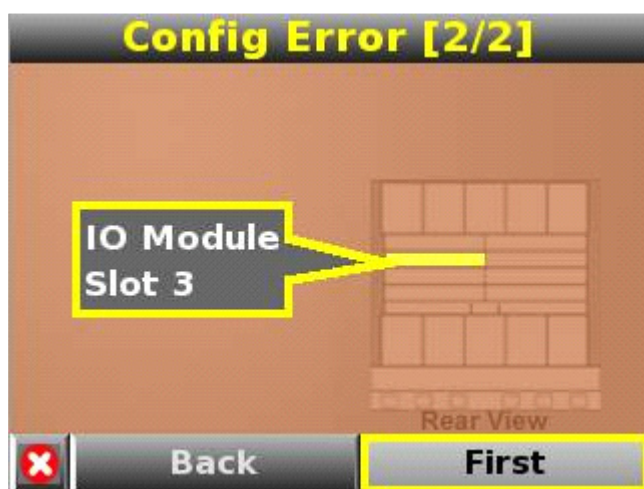
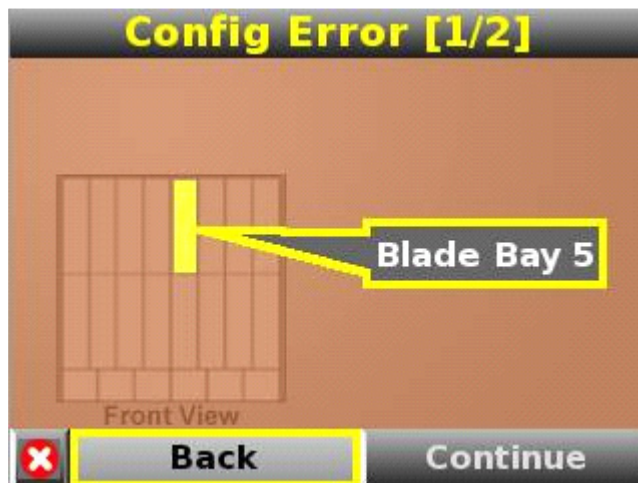


Select **View Alert** and press the OK button to display the errors.



Select **Details** to view the details of the error.

In the following example, the blade in bay 5 and the interconnect module in slot 3 have a configuration error.



Enclosure Settings screen

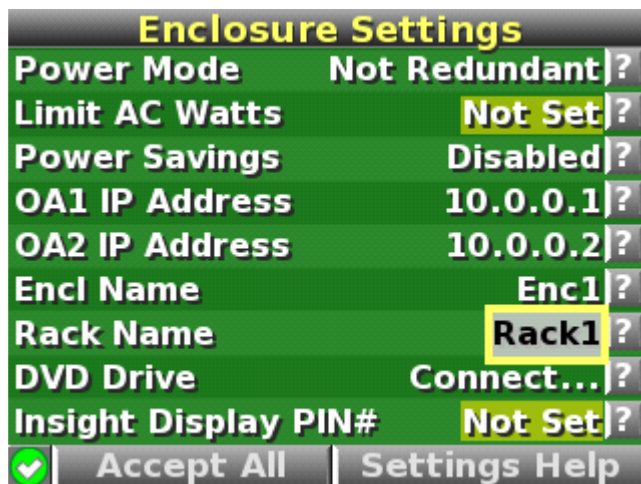
The Enclosure Settings screen displays the following setting information about the enclosure, including:

- Redundancy mode setting
- Limit AC input VA setting
- Power Savings mode setting
- Active and Standby OA IP addresses
- Enclosure Name
- Rack Name
- Insight Display PIN#



TIP: Set a PIN to protect the enclosure settings from changes.

Navigate the cursor to a setting or to the ?, and press OK to change the setting or get help on that setting.

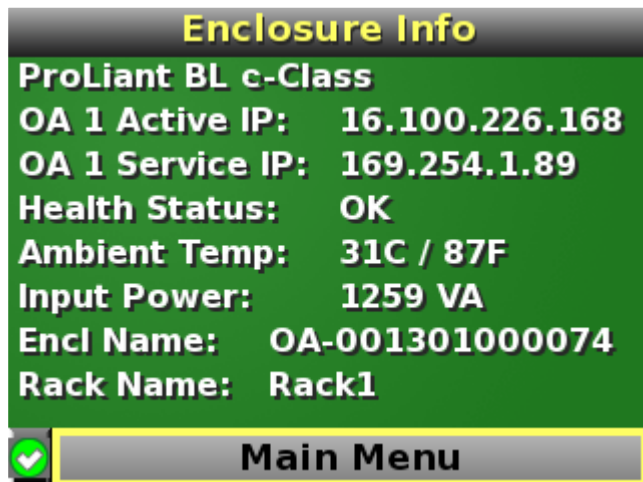


Enclosure Info screen

The Enclosure Info screen displays information about the enclosure, including:

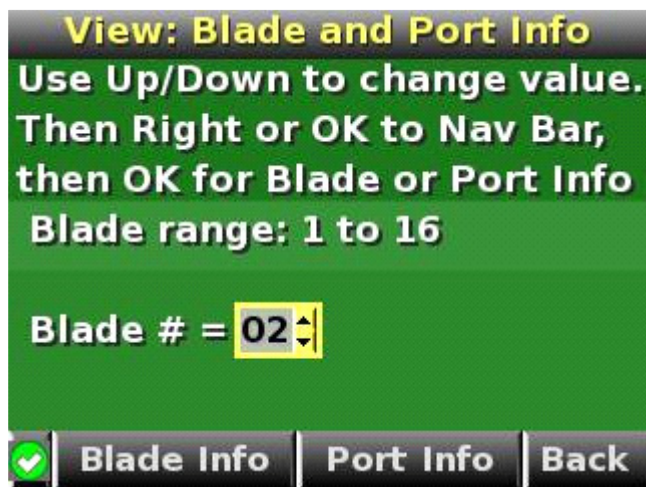
- Active OA IP address
- Active OA Service IP address
- Current health status of the enclosure
- Current enclosure ambient temperature
- Current AC input power to the enclosure
- Enclosure name

- Rack name

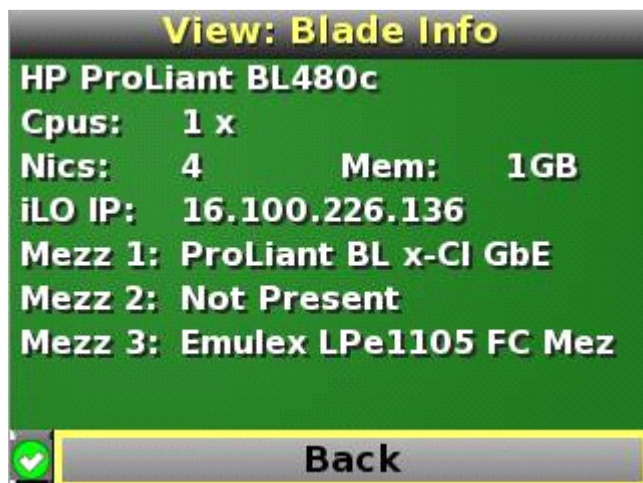


Blade and Port Info screen

The Blade or Port Info screen displays information about a specific blade. On the first screen, select the blade number, then press the OK button. Select **Blade Info** or **Port Info**, and press the OK button.



To view information about the blade, select **Blade Info** and press the OK button.



To view the ports used by a specific blade, select **Port Info** and press the OK button.

On the following full-height blade, there are four embedded NICs. There are two interconnect modules located in interconnect bays 1 and 5, shown with bright green highlights. The other interconnect bays are empty. The four embedded NICs are connected to particular port numbers on the interconnect modules.



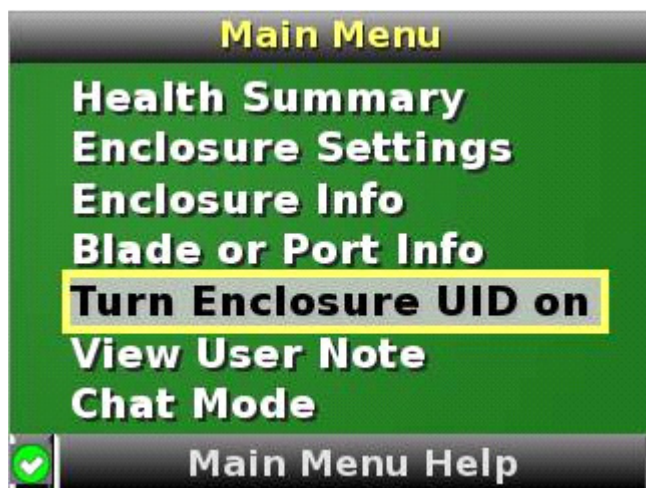
The following Port Info screen shows a configuration error. There is a mismatch between the mezzanine card and interconnect module. Interconnect bay 3 contains a Fibre Channel interconnect module. Mezzanine 1 on the blade is a gigabit Ethernet which does not match the technology of the interconnect module. Therefore an error displays.



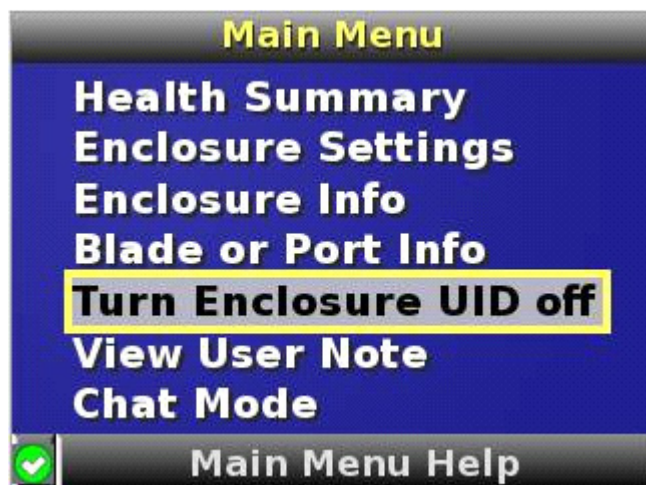
Turn Enclosure UID On/Off screen

The main menu option displays "Turn Enclosure UID Off" when the enclosure UID is active, and displays "Turn Enclosure UID on" when the enclosure UID is off.

Selecting **Turn Enclosure UID On** from the main menu turns on the rear enclosure UID LED and changes the color of the Insight Display screen to blue.

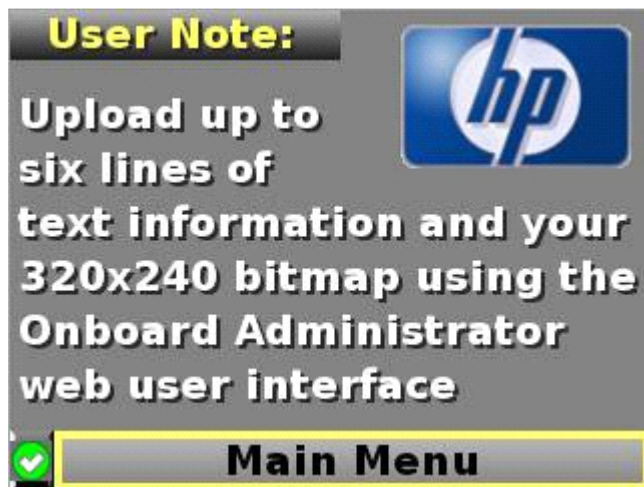


Selecting **Turn Enclosure UID Off** from the main menu turns off the rear enclosure UID LED and changes the color of the Insight Display screen to the current condition ("[Insight Display overview](#)" on page 64).



View User Note screen

The View User Note screen displays six lines of text, each containing a maximum of 16 characters. Use this screen to display helpful information such as contact phone numbers or other important information. Change this screen using the remote Onboard Administrator user web interface. Both the background bitmap and the text can be changed.



Chat Mode screen

The Chat Mode screen is used by the remote administrator who uses the web interface to send a message to an enclosure Insight Display. The technician uses the Insight Display buttons to select from a set of prepared responses, or dials in a custom response message on the ? line. To send a response back to the Administrator, navigate the cursor to **Send**, then press the **OK** button.

The Chat Mode screen has top priority in the Insight Display and will remain on the screen until **Send** is selected. The technician can leave this chat screen temporarily and use the other Insight Display screens, then return to the Chat Mode screen from the Main Menu to send a response. After the response, the Chat Mode screen is cleared. Both the A and ? responses are then displayed to the remote Administrator on the web interface for LCD Chat.



Troubleshooting

Troubleshooting resources

The *HPE ProLiant Servers Troubleshooting Guide* provides procedures for resolving common problems and comprehensive courses of action for fault isolation and identification, error message interpretation, issue resolution, and software maintenance on ProLiant servers and server blades. This guide includes problem-specific flowcharts to help you navigate complex troubleshooting processes. To view the guide, select a language:

- English (http://www.hpe.com/support/ProLiant_TSG_en)
- French (http://www.hpe.com/support/ProLiant_TSG_fr)
- Italian (http://www.hpe.com/support/ProLiant_TSG_it)
- Spanish (http://www.hpe.com/support/ProLiant_TSG_sp)
- German (http://www.hpe.com/support/ProLiant_TSG_gr)
- Dutch (http://www.hpe.com/support/ProLiant_TSG_nl)
- Japanese (http://www.hpe.com/support/ProLiant_TSG_jp)

The *HPE BladeSystem c-Class Enclosure Troubleshooting Guide* provides procedures and solutions for troubleshooting BladeSystem c-Class enclosures. This guide explains how to use the Insight Display to troubleshoot enclosures, and it includes a flowchart to help you navigate the troubleshooting process. To view the guide, see the Hewlett Packard Enterprise website (http://www.hpe.com/support/BladeSystem_Enclosure_TSG_en).

Important safety information

Familiarize yourself with the safety information in the following sections before troubleshooting the server.



Important safety information

Before servicing this product, read the *Important Safety Information* document provided with the server.

Symbols on equipment

The following symbols may be placed on equipment to indicate the presence of potentially hazardous conditions.



This symbol indicates the presence of hazardous energy circuits or electric shock hazards. Refer all servicing to qualified personnel.

WARNING: To reduce the risk of injury from electric shock hazards, do not open this enclosure. Refer all maintenance, upgrades, and servicing to qualified personnel.



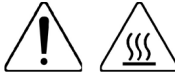
This symbol indicates the presence of electric shock hazards. The area contains no user or field serviceable parts. Do not open for any reason.

WARNING: To reduce the risk of injury from electric shock hazards, do not open this enclosure.



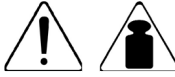
This symbol on an RJ-45 receptacle indicates a network interface connection.

WARNING: To reduce the risk of electric shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.



This symbol indicates the presence of a hot surface or hot component. If this surface is contacted, the potential for injury exists.

WARNING: To reduce the risk of injury from a hot component, allow the surface to cool before touching.



This symbol indicates that the component exceeds the recommended weight for one individual to handle safely.

WARNING: To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manual material handling.



These symbols, on power supplies or systems, indicate that the equipment is supplied by multiple sources of power.

WARNING: To reduce the risk of injury from electric shock, remove all power cords to completely disconnect power from the system.

Warnings and cautions



WARNING: Only authorized technicians trained by Hewlett Packard Enterprise should attempt to repair this equipment. All troubleshooting and repair procedures are detailed to allow only subassembly/module-level repair. Because of the complexity of the individual boards and subassemblies, no one should attempt to make repairs at the component level or to make modifications to any printed wiring board. Improper repairs can create a safety hazard.



WARNING: To reduce the risk of personal injury or damage to the equipment, consult the safety information and user documentation provided with the server before attempting the installation.

Some servers contain high energy circuits, high current circuits, moving parts (such as fan blades), or any combination of these hazards, that may be exposed if covers and access panels are removed while the product is connected to a power source. These products are intended to be serviced only by qualified personnel who have been trained to deal with these hazards. Do not remove enclosures or attempt to bypass any interlocks designed to guard against these hazardous conditions.



WARNING: To reduce the risk of personal injury or damage to the equipment, be sure that:

- The leveling feet are extended to the floor.
- The full weight of the rack rests on the leveling feet.
- The stabilizing feet are attached to the rack if it is a single-rack installation.
- The racks are coupled together in multiple-rack installations.
- Only one component is extended at a time. A rack may become unstable if more than one component is extended for any reason.



WARNING: To reduce the risk of electric shock or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
- Unplug the power cord from the power supply to disconnect power to the equipment.
- Do not route the power cord where it can be walked on or pinched by items placed against it. Pay particular attention to the plug, electrical outlet, and the point where the cord extends from the server.



WARNING: To reduce the risk of personal injury or damage to the equipment:
Observe local occupation health and safety requirements and guidelines for manual handling.
Obtain adequate assistance to lift and stabilize the chassis during installation or removal.
The server is unstable when not fastened to the rails.
When mounting the server in a rack, remove the power supplies and any other removable module to reduce the overall weight of the product



CAUTION: To properly ventilate the system, you must provide at least 7.6 cm (3.0 in) of clearance at the front and back of the server.



CAUTION: The server is designed to be electrically grounded (earthed). To ensure proper operation, plug the AC power cord into a properly grounded AC outlet only.

Insight Display errors

The enclosure installation is successful when all errors are corrected. The errors in the following sections are specific to installation and initial configuration of the enclosure. To clear errors that occur after initial powerup and configuration, see the *Onboard Administrator User Guide* for information.

The following types of errors can occur when installing and configuring the enclosure:

- Power errors (on page 79)
- Cooling errors (on page 80)
- Location errors (on page 80)
- Configuration errors (on page 80)
- Device failure errors

When the enclosure UID LED is off, the Insight Display is illuminated amber when any error condition exists. The navigation bar displays the following selections when an error condition exists:

- Health summary icon—Displays the Health Summary screen.
- Fix THIS—Suggests corrective action to clear the current error.
- Next Alert—Displays the next alert, or if none exist, displays the Health Summary screen.
- Previous Alert—Displays the previous alert.

Power errors

Power errors can occur because of insufficient power to bring up an enclosure. Power errors can occur on blades, storage blades, or interconnect modules.

To correct a power error:

1. Use the arrow buttons to navigate to **Fix This**, and press **OK**.
2. Review and complete the corrective action suggested by the Insight Display. In most cases, you must either add power supplies to the enclosure or remove the indicated components.

Cooling errors

Cooling errors occur when too few fans are installed in the enclosure or when the existing fans are not installed in an effective configuration. Cooling errors can occur on blades, storage blades, or interconnect modules.

To correct a cooling error:

1. Use the arrow buttons to navigate to **Fix This**, and press **OK**.
2. Review and complete the corrective action suggested by the Insight Display. In most cases, you must either add fans to the enclosure, correct the fan configuration, or remove the indicated components.

Location errors

Location (installation) errors occur when the component is not installed in the appropriate bay. Location errors can occur on blades, storage blades, power supplies, and fans.

To correct a location error:

1. Use the arrow buttons to navigate to **Fix This**, and press **OK**.
2. Review and complete the corrective action suggested by the Insight Display. Remove the indicated component, and install it into the correct bay. The Insight Display will indicate the correct bay number.

Configuration errors

Configuration errors can occur if the interconnect modules are installed in the wrong bays or if mezzanine cards are installed in the wrong connectors in the blade. Configuration errors can occur on blades and interconnect modules.

To correct a configuration error:

1. Use the arrow buttons to navigate to **Fix This**, and press **OK**.
2. Review and complete the corrective action suggested by the Insight Display. Depending on the error received, do one of the following:
 - o Remove the indicated interconnect module and install it into the correct bay (the Insight Display indicates the correct bay).
 - o Remove the blade to correct the mezzanine card installation (the Insight Display will indicate the correct bay). For information on installing the mezzanine card, see the server-specific user guide on the Documentation CD.

Device failure errors

Device failure errors occur when a component has failed. Device failure errors can occur on all components, including:

- Server blades
- Storage blades
- Power supplies
- Interconnect modules
- Onboard Administrator modules
- Fans
- AC power inputs

To correct a device failure error:

1. Use the arrow buttons to navigate to **Fix This**, and press **OK**.
2. Review and complete the corrective action suggested by the Insight Display. In most cases, you must remove the failed component to clear the error.
3. Replace the failed component with a spare, if applicable.

NOTE: If the device failure error is an AC power input failure error, you must have the failed AC input repaired to clear the error.

Support and other resources

Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website (<http://www.hpe.com/assistance>).
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website (<http://www.hpe.com/support/hpesc>).

Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates, go to either of the following:
 - Hewlett Packard Enterprise Support Center **Get connected with updates** page (<http://www.hpe.com/support/e-updates>)
 - Software Depot website (<http://www.hpe.com/support/softwaredepot>)
- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page (<http://www.hpe.com/support/AccessToSupportMaterials>).



IMPORTANT: Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HP Passport set up with relevant entitlements.

Websites

- Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/enterprise/docs>)
- Hewlett Packard Enterprise Support Center (<http://www.hpe.com/support/hpesc>)
- Contact Hewlett Packard Enterprise Worldwide (<http://www.hpe.com/assistance>)

- Subscription Service/Support Alerts (<http://www.hpe.com/support/e-updates>)
- Software Depot (<http://www.hpe.com/support/softwaredepot>)
- Customer Self Repair (<http://www.hpe.com/support/selfrepair>)
- Insight Remote Support (<http://www.hpe.com/info/insightremotesupport/docs>)
- Serviceguard Solutions for HP-UX (<http://www.hpe.com/info/hpux-serviceguard-docs>)
- Single Point of Connectivity Knowledge (SPOCK) Storage compatibility matrix (<http://www.hpe.com/storage/spock>)
- Storage white papers and analyst reports (<http://www.hpe.com/storage/whitepapers>)

Customer Self Repair

Hewlett Packard Enterprise products are designed with many Customer Self Repair (CSR) parts to minimize repair time and allow for greater flexibility in performing defective parts replacement. If during the diagnosis period Hewlett Packard Enterprise (or Hewlett Packard Enterprise service providers or service partners) identifies that the repair can be accomplished by the use of a CSR part, Hewlett Packard Enterprise will ship that part directly to you for replacement. There are two categories of CSR parts:

- **Mandatory**—Parts for which customer self repair is mandatory. If you request Hewlett Packard Enterprise to replace these parts, you will be charged for the travel and labor costs of this service.
- **Optional**—Parts for which customer self repair is optional. These parts are also designed for customer self repair. If, however, you require that Hewlett Packard Enterprise replace them for you, there may or may not be additional charges, depending on the type of warranty service designated for your product.

NOTE: Some Hewlett Packard Enterprise parts are not designed for customer self repair. In order to satisfy the customer warranty, Hewlett Packard Enterprise requires that an authorized service provider replace the part. These parts are identified as "No" in the Illustrated Parts Catalog.

Based on availability and where geography permits, CSR parts will be shipped for next business day delivery. Same day or four-hour delivery may be offered at an additional charge where geography permits. If assistance is required, you can call the Hewlett Packard Enterprise Support Center and a technician will help you over the telephone. Hewlett Packard Enterprise specifies in the materials shipped with a replacement CSR part whether a defective part must be returned to Hewlett Packard Enterprise. In cases where it is required to return the defective part to Hewlett Packard Enterprise, you must ship the defective part back to Hewlett Packard Enterprise within a defined period of time, normally five (5) business days. The defective part must be returned with the associated documentation in the provided shipping material. Failure to return the defective part may result in Hewlett Packard Enterprise billing you for the replacement. With a customer self repair, Hewlett Packard Enterprise will pay all shipping and part return costs and determine the courier/carrier to be used.

For more information about the Hewlett Packard Enterprise CSR program, contact your local service provider. For the North American program, go to the Hewlett Packard Enterprise CSR website (<http://www.hpe.com/support/selfrepair>).

Réparation par le client (CSR)

Les produits Hewlett Packard Enterprise comportent de nombreuses pièces CSR (Customer Self Repair = réparation par le client) afin de minimiser les délais de réparation et faciliter le remplacement des pièces défectueuses. Si pendant la période de diagnostic, Hewlett Packard Enterprise (ou ses partenaires ou mainteneurs agréés) détermine que la réparation peut être effectuée à l'aide d'une pièce CSR, Hewlett Packard Enterprise vous l'envoie directement. Il existe deux catégories de pièces CSR :

- **Obligatoire**—Pièces pour lesquelles la réparation par le client est obligatoire. Si vous demandez à Hewlett Packard Enterprise de remplacer ces pièces, les coûts de déplacement et main d'œuvre du service vous seront facturés.
- **Facultatif**—Pièces pour lesquelles la réparation par le client est facultative. Ces pièces sont également conçues pour permettre au client d'effectuer lui-même la réparation. Toutefois, si vous demandez à Hewlett Packard Enterprise de remplacer ces pièces, l'intervention peut ou non vous être facturée, selon le type de garantie applicable à votre produit.

REMARQUE: Certaines pièces Hewlett Packard Enterprise ne sont pas conçues pour permettre au client d'effectuer lui-même la réparation. Pour que la garantie puisse s'appliquer, Hewlett Packard Enterprise exige que le remplacement de la pièce soit effectué par un Mainteneur Agréé. Ces pièces sont identifiées par la mention "Non" dans le Catalogue illustré.

Les pièces CSR sont livrées le jour ouvré suivant, dans la limite des stocks disponibles et selon votre situation géographique. Si votre situation géographique le permet et que vous demandez une livraison le jour même ou dans les 4 heures, celle-ci vous sera facturée. Pour toute assistance, appelez le Centre d'assistance Hewlett Packard Enterprise pour qu'un technicien vous aide au téléphone. Dans les documents envoyés avec la pièce de rechange CSR, Hewlett Packard Enterprise précise s'il est nécessaire de lui retourner la pièce défectueuse. Si c'est le cas, vous devez le faire dans le délai indiqué, généralement cinq (5) jours ouvrés. La pièce et sa documentation doivent être retournées dans l'emballage fourni. Si vous ne retournez pas la pièce défectueuse, Hewlett Packard Enterprise se réserve le droit de vous facturer les coûts de remplacement. Dans le cas d'une pièce CSR, Hewlett Packard Enterprise supporte l'ensemble des frais d'expédition et de retour, et détermine la société de courses ou le transporteur à utiliser.

Pour plus d'informations sur le programme CSR de Hewlett Packard Enterprise, contactez votre Mainteneur Agréé local. Pour plus d'informations sur ce programme en Amérique du Nord, consultez le site Web Hewlett Packard Enterprise (<http://www.hpe.com/support/selfrepair>).

Riparazione da parte del cliente

Per abbreviare i tempi di riparazione e garantire una maggiore flessibilità nella sostituzione di parti difettose, i prodotti Hewlett Packard Enterprise sono realizzati con numerosi componenti che possono essere riparati direttamente dal cliente (CSR, Customer Self Repair). Se in fase di diagnostica Hewlett Packard Enterprise (o un centro di servizi o di assistenza Hewlett Packard Enterprise) identifica il guasto come riparabile mediante un ricambio CSR, Hewlett Packard Enterprise lo spedisce direttamente al cliente per la sostituzione. Vi sono due categorie di parti CSR:

- **Obbligatorie**—Parti che devono essere necessariamente riparate dal cliente. Se il cliente ne affida la riparazione ad Hewlett Packard Enterprise, deve sostenere le spese di spedizione e di manodopera per il servizio.
- **Opzionali**—Parti la cui riparazione da parte del cliente è facoltativa. Si tratta comunque di componenti progettati per questo scopo. Se tuttavia il cliente ne richiede la sostituzione ad Hewlett Packard Enterprise, potrebbe dover sostenere spese aggiuntive a seconda del tipo di garanzia previsto per il prodotto.

NOTA: alcuni componenti Hewlett Packard Enterprise non sono progettati per la riparazione da parte del cliente. Per rispettare la garanzia, Hewlett Packard Enterprise richiede che queste parti siano sostituite da un centro di assistenza autorizzato. Tali parti sono identificate da un "No" nel Catalogo illustrato dei componenti.

In base alla disponibilità e alla località geografica, le parti CSR vengono spedite con consegna entro il giorno lavorativo seguente. La consegna nel giorno stesso o entro quattro ore è offerta con un supplemento di costo solo in alcune zone. In caso di necessità si può richiedere l'assistenza telefonica di un addetto del centro di supporto tecnico Hewlett Packard Enterprise. Nel materiale fornito con una parte di ricambio CSR, Hewlett Packard Enterprise specifica se il cliente deve restituire dei componenti. Qualora sia richiesta la resa ad Hewlett Packard Enterprise del componente difettoso, lo si deve spedire ad Hewlett Packard Enterprise entro un determinato periodo di tempo, generalmente cinque (5) giorni lavorativi. Il componente difettoso deve essere restituito con la documentazione associata nell'imballo di

spedizione fornito. La mancata restituzione del componente può comportare la fatturazione del ricambio da parte di Hewlett Packard Enterprise. Nel caso di riparazione da parte del cliente, Hewlett Packard Enterprise sostiene tutte le spese di spedizione e resa e sceglie il corriere/vettore da utilizzare.

Per ulteriori informazioni sul programma CSR di Hewlett Packard Enterprise, contattare il centro di assistenza di zona. Per il programma in Nord America fare riferimento al sito Web (<http://www.hpe.com/support/selfrepair>).

Customer Self Repair

Hewlett Packard Enterprise Produkte enthalten viele CSR-Teile (Customer Self Repair), um Reparaturzeiten zu minimieren und höhere Flexibilität beim Austausch defekter Bauteile zu ermöglichen. Wenn Hewlett Packard Enterprise (oder ein Hewlett Packard Enterprise Servicepartner) bei der Diagnose feststellt, dass das Produkt mithilfe eines CSR-Teils repariert werden kann, sendet Ihnen Hewlett Packard Enterprise dieses Bauteil zum Austausch direkt zu. CSR-Teile werden in zwei Kategorien unterteilt:

- **Zwingend**—Teile, für die das Customer Self Repair-Verfahren zwingend vorgegeben ist. Wenn Sie den Austausch dieser Teile von Hewlett Packard Enterprise vornehmen lassen, werden Ihnen die Anfahrt- und Arbeitskosten für diesen Service berechnet.
- **Optional**—Teile, für die das Customer Self Repair-Verfahren optional ist. Diese Teile sind auch für Customer Self Repair ausgelegt. Wenn Sie jedoch den Austausch dieser Teile von Hewlett Packard Enterprise vornehmen lassen möchten, können bei diesem Service je nach den für Ihr Produkt vorgesehenen Garantiebedingungen zusätzliche Kosten anfallen.

HINWEIS: Einige Hewlett Packard Enterprise Teile sind nicht für Customer Self Repair ausgelegt. Um den Garantieanspruch des Kunden zu erfüllen, muss das Teil von einem Hewlett Packard Enterprise Servicepartner ersetzt werden. Im illustrierten Teilekatalog sind diese Teile mit „No“ bzw. „Nein“ gekennzeichnet.

CSR-Teile werden abhängig von der Verfügbarkeit und vom Lieferziel am folgenden Geschäftstag geliefert. Für bestimmte Standorte ist eine Lieferung am selben Tag oder innerhalb von vier Stunden gegen einen Aufpreis verfügbar. Wenn Sie Hilfe benötigen, können Sie das Hewlett Packard Enterprise Support Center anrufen und sich von einem Mitarbeiter per Telefon helfen lassen. Den Materialien von Hewlett Packard Enterprise, die mit einem CSR-Ersatzteil geliefert werden, können Sie entnehmen, ob das defekte Teil an Hewlett Packard Enterprise zurückgeschickt werden muss. Wenn es erforderlich ist, das defekte Teil an Hewlett Packard Enterprise zurückzuschicken, müssen Sie dies innerhalb eines vorgegebenen Zeitraums tun, in der Regel innerhalb von fünf (5) Geschäftstagen. Das defekte Teil muss mit der zugehörigen Dokumentation in der Verpackung zurückgeschickt werden, die im Lieferumfang enthalten ist. Wenn Sie das defekte Teil nicht zurückschicken, kann Hewlett Packard Enterprise Ihnen das Ersatzteil in Rechnung stellen. Im Falle von Customer Self Repair kommt Hewlett Packard Enterprise für alle Kosten für die Lieferung und Rücksendung auf und bestimmt den Kurier-/Frachtdienst.

Weitere Informationen über das Hewlett Packard Enterprise Customer Self Repair Programm erhalten Sie von Ihrem Servicepartner vor Ort. Informationen über das CSR-Programm in Nordamerika finden Sie auf der Hewlett Packard Enterprise Website unter (<http://www.hpe.com/support/selfrepair>).

Reparaciones del propio cliente

Los productos de Hewlett Packard Enterprise incluyen muchos componentes que el propio usuario puede reemplazar (Customer Self Repair, CSR) para minimizar el tiempo de reparación y ofrecer una mayor flexibilidad a la hora de realizar sustituciones de componentes defectuosos. Si, durante la fase de diagnóstico, Hewlett Packard Enterprise (o los proveedores o socios de servicio de Hewlett Packard Enterprise) identifica que una reparación puede llevarse a cabo mediante el uso de un componente CSR, Hewlett Packard Enterprise le enviará dicho componente directamente para que realice su sustitución. Los componentes CSR se clasifican en dos categorías:

- **Obligatorio**—componentes cuya reparación por parte del usuario es obligatoria. Si solicita a Hewlett Packard Enterprise que realice la sustitución de estos componentes, tendrá que hacerse cargo de los gastos de desplazamiento y de mano de obra de dicho servicio.
- **Opcional**—componentes cuya reparación por parte del usuario es opcional. Estos componentes también están diseñados para que puedan ser reparados por el usuario. Sin embargo, si precisa que Hewlett Packard Enterprise realice su sustitución, puede o no conllevar costes adicionales, dependiendo del tipo de servicio de garantía correspondiente al producto.

NOTA: Algunos componentes de Hewlett Packard Enterprise no están diseñados para que puedan ser reparados por el usuario. Para que el usuario haga valer su garantía, Hewlett Packard Enterprise pone como condición que un proveedor de servicios autorizado realice la sustitución de estos componentes. Dichos componentes se identifican con la palabra "No" en el catálogo ilustrado de componentes.

Según la disponibilidad y la situación geográfica, los componentes CSR se enviarán para que lleguen a su destino al siguiente día laborable. Si la situación geográfica lo permite, se puede solicitar la entrega en el mismo día o en cuatro horas con un coste adicional. Si precisa asistencia técnica, puede llamar al Centro de asistencia técnica de Hewlett Packard Enterprise y recibirá ayuda telefónica por parte de un técnico. Con el envío de materiales para la sustitución de componentes CSR, Hewlett Packard Enterprise especificará si los componentes defectuosos deberán devolverse a Hewlett Packard Enterprise. En aquellos casos en los que sea necesario devolver algún componente a Hewlett Packard Enterprise, deberá hacerlo en el periodo de tiempo especificado, normalmente cinco días laborables. Los componentes defectuosos deberán devolverse con toda la documentación relacionada y con el embalaje de envío. Si no enviara el componente defectuoso requerido, Hewlett Packard Enterprise podrá cobrarle por el de sustitución. En el caso de todas sustituciones que lleve a cabo el cliente, Hewlett Packard Enterprise se hará cargo de todos los gastos de envío y devolución de componentes y escogerá la empresa de transporte que se utilice para dicho servicio.

Para obtener más información acerca del programa de Reparaciones del propio cliente de Hewlett Packard Enterprise, póngase en contacto con su proveedor de servicios local. Si está interesado en el programa para Norteamérica, visite la página web de Hewlett Packard Enterprise CSR (<http://www.hpe.com/support/selfrepair>).

Customer Self Repair

Veel onderdelen in Hewlett Packard Enterprise producten zijn door de klant zelf te repareren, waardoor de reparatieduur tot een minimum beperkt kan blijven en de flexibiliteit in het vervangen van defecte onderdelen groter is. Deze onderdelen worden CSR-onderdelen (Customer Self Repair) genoemd. Als Hewlett Packard Enterprise (of een Hewlett Packard Enterprise Service Partner) bij de diagnose vaststelt dat de reparatie kan worden uitgevoerd met een CSR-onderdeel, verzendt Hewlett Packard Enterprise dat onderdeel rechtstreeks naar u, zodat u het defecte onderdeel daarmee kunt vervangen. Er zijn twee categorieën CSR-onderdelen:

- **Verplicht**—Onderdelen waarvoor reparatie door de klant verplicht is. Als u Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, worden u voor deze service reiskosten en arbeidsloon in rekening gebracht.
- **Optioneel**—Onderdelen waarvoor reparatie door de klant optioneel is. Ook deze onderdelen zijn ontworpen voor reparatie door de klant. Als u echter Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, kunnen daarvoor extra kosten in rekening worden gebracht, afhankelijk van het type garantieservice voor het product.

OPMERKING: Sommige Hewlett Packard Enterprise onderdelen zijn niet ontwikkeld voor reparatie door de klant. In verband met de garantievooraardelen moet het onderdeel door een geautoriseerde Service Partner worden vervangen. Deze onderdelen worden in de geïllustreerde onderdelencatalogus aangemerkt met "Nee".

Afhankelijk van de leverbaarheid en de locatie worden CSR-onderdelen verzonden voor levering op de eerstvolgende werkdag. Levering op dezelfde dag of binnen vier uur kan tegen meerkosten worden aangeboden, indien dit mogelijk is gezien de locatie. Indien assistentie is gewenst, belt u het Hewlett Packard Enterprise Support Center om via de telefoon ondersteuning van een technicus te ontvangen.

Hewlett Packard Enterprise vermeldt in de documentatie bij het vervangende CSR-onderdeel of het defecte onderdeel aan Hewlett Packard Enterprise moet worden geretourneerd. Als het defecte onderdeel aan Hewlett Packard Enterprise moet worden teruggezonden, moet u het defecte onderdeel binnen een bepaalde periode, gewoonlijk vijf (5) werkdagen, retourneren aan Hewlett Packard Enterprise. Het defecte onderdeel moet met de bijbehorende documentatie worden geretourneerd in het meegeleverde verpakkingsmateriaal. Als u het defecte onderdeel niet terugzendt, kan Hewlett Packard Enterprise u voor het vervangende onderdeel kosten in rekening brengen. Bij reparatie door de klant betaalt Hewlett Packard Enterprise alle verzendkosten voor het vervangende en geretourneerde onderdeel en kiest Hewlett Packard Enterprise zelf welke koerier/transportonderneming hiervoor wordt gebruikt.

Neem contact op met een Service Partner voor meer informatie over het Customer Self Repair programma van Hewlett Packard Enterprise. Informatie over Service Partners vindt u op de Hewlett Packard Enterprise website (<http://www.hpe.com/support/selfrepair>).

Reparo feito pelo cliente

Os produtos da Hewlett Packard Enterprise são projetados com muitas peças para reparo feito pelo cliente (CSR) de modo a minimizar o tempo de reparo e permitir maior flexibilidade na substituição de peças com defeito. Se, durante o período de diagnóstico, a Hewlett Packard Enterprise (ou fornecedores/parceiros da Hewlett Packard Enterprise) concluir que o reparo pode ser efetuado pelo uso de uma peça CSR, a Hewlett Packard Enterprise enviará a peça diretamente ao cliente. Há duas categorias de peças CSR:

- **Obrigatória**—Peças cujo reparo feito pelo cliente é obrigatório. Se desejar que a Hewlett Packard Enterprise substitua essas peças, serão cobradas as despesas de transporte e mão-de-obra do serviço.
- **Opcional**—Peças cujo reparo feito pelo cliente é opcional. Essas peças também são projetadas para o reparo feito pelo cliente. No entanto, se desejar que a Hewlett Packard Enterprise as substitua, pode haver ou não a cobrança de taxa adicional, dependendo do tipo de serviço de garantia destinado ao produto.

OBSERVAÇÃO: Algumas peças da Hewlett Packard Enterprise não são projetadas para o reparo feito pelo cliente. A fim de cumprir a garantia do cliente, a Hewlett Packard Enterprise exige que um técnico autorizado substitua a peça. Essas peças estão identificadas com a marca "No" (Não), no catálogo de peças ilustrado.

Conforme a disponibilidade e o local geográfico, as peças CSR serão enviadas no primeiro dia útil após o pedido. Onde as condições geográficas permitirem, a entrega no mesmo dia ou em quatro horas pode ser feita mediante uma taxa adicional. Se precisar de auxílio, entre em contato com o Centro de suporte técnico da Hewlett Packard Enterprise para que um técnico o ajude por telefone. A Hewlett Packard Enterprise especifica nos materiais fornecidos com a peça CSR de reposição se a peça com defeito deve ser devolvida à Hewlett Packard Enterprise. Nos casos em que isso for necessário, é preciso enviar a peça com defeito à Hewlett Packard Enterprise, você deverá enviar a peça com defeito de volta para a Hewlett Packard Enterprise dentro do período de tempo definido, normalmente em 5 (cinco) dias úteis. A peça com defeito deve ser enviada com a documentação correspondente no material de transporte fornecido. Caso não o faça, a Hewlett Packard Enterprise poderá cobrar a reposição. Para as peças de reparo feito pelo cliente, a Hewlett Packard Enterprise paga todas as despesas de transporte e de devolução da peça e determina a transportadora/serviço postal a ser utilizado.

Para obter mais informações sobre o programa de reparo feito pelo cliente da Hewlett Packard Enterprise, entre em contato com o fornecedor de serviços local. Para o programa norte-americano, visite o site da Hewlett Packard Enterprise (<http://www.hpe.com/support/selfrepair>).

カスタマーセルフリペア

修理時間を短縮し、故障部品の交換における高い柔軟性を確保するために、Hewlett Packard Enterprise製品には多数のカスタマーセルフリペア（CSR）部品があります。診断の際に、CSR部品を使用すれば修理ができるとHewlett Packard Enterprise（Hewlett Packard EnterpriseまたはHewlett Packard Enterprise正規保守代理店）が判断した場合、Hewlett Packard Enterpriseはその部品を直接、お客様に発送し、お客様に交換していただきます。CSR部品には以下の2種類があります。

- **必須** - カスタマーセルフリペアが必須の部品。当該部品について、もしもお客様がHewlett Packard Enterpriseに交換作業を依頼される場合には、その修理サービスに関する交通費および人件費がお客様に請求されます。
- **任意** - カスタマーセルフリペアが任意である部品。この部品もカスタマーセルフリペア用です。当該部品について、もしもお客様がHewlett Packard Enterpriseに交換作業を依頼される場合には、お買い上げの製品に適用される保証サービス内容の範囲内においては、別途費用を負担していただくことなく保証サービスを受けることができます。

注： Hewlett Packard Enterprise製品の一部の部品は、カスタマーセルフリペアの対象外です。製品の保証を継続するためには、Hewlett Packard EnterpriseまたはHewlett Packard Enterprise正規保守代理店による交換作業が必須となります。部品カタログには、当該部品がカスタマーセルフリペア除外品である旨が記載されています。

部品供給が可能な場合、地域によっては、CSR部品を翌営業日に届くように発送します。また、地域によっては、追加費用を負担いただくことにより同日または4時間以内に届くように発送することも可能な場合があります。サポートが必要なときは、Hewlett Packard Enterpriseの修理受付窓口に電話していただければ、技術者が電話でアドバイスします。交換用のCSR部品または同梱物には、故障部品をHewlett Packard Enterpriseに返送する必要があるかどうかが表示されています。故障部品をHewlett Packard Enterpriseに返送する必要がある場合は、指定期限内（通常は5営業日以内）に故障部品をHewlett Packard Enterpriseに返送してください。故障部品を返送する場合は、届いた時の梱包箱に関連書類とともに入れてください。故障部品を返送しない場合、Hewlett Packard Enterpriseから部品費用が請求されます。カスタマーセルフリペアの際には、Hewlett Packard Enterpriseは送料および部品返送費を全額負担し、使用する宅配便会社や運送会社を指定します。

客户自行维修

Hewlett Packard Enterprise 产品提供许多客户自行维修 (CSR) 部件，以尽可能缩短维修时间和在更换缺陷部件方面提供更大的灵活性。如果在诊断期间 Hewlett Packard Enterprise (或 Hewlett Packard Enterprise 服务提供商或服务合作伙伴) 确定可以通过使用 CSR 部件完成维修，Hewlett Packard Enterprise 将直接把该部件发送给您进行更换。有两类 CSR 部件：

- **强制性的** — 要求客户必须自行维修的部件。如果您请求 Hewlett Packard Enterprise 更换这些部件，则必须为该服务支付差旅费和人工费用。
- **可选的** — 客户可以选择是否自行维修的部件。这些部件也是为客户自行维修设计的。不过，如果您要求 Hewlett Packard Enterprise 为您更换这些部件，则根据为您的产品指定的保修服务类型，Hewlett Packard Enterprise 可能收取或不再收取任何附加费用。

注：某些 Hewlett Packard Enterprise 部件的设计并未考虑客户自行维修。为了满足客户保修的需要，Hewlett Packard Enterprise 要求授权服务提供商更换相关部件。这些部件在部件图解目录中标记为“否”。

CSR 部件将在下一个工作日发运（取决于备货情况和允许的地理范围）。在允许的地理范围内，可在当天或四小时内发运，但要收取额外费用。如果需要帮助，您可以致电 Hewlett Packard Enterprise 技术支持中心，将会有技术人员通过电话为您提供帮助。Hewlett Packard Enterprise 会在随更换的 CSR 部件发运的材料中指明是否必须将有缺陷的部件返还给 Hewlett Packard Enterprise。如果要求您将有缺陷的部件返还给 Hewlett Packard Enterprise，那么您必须在规定的期限内（通常是五 (5) 个工作日）将缺陷部件发给 Hewlett Packard Enterprise。有缺陷的部件必须随所提供的发运材料中的相关文件一起返还。如果未能送还有缺陷的部件，Hewlett Packard Enterprise 可能会要求您支付更换费用。客户自行维修时，Hewlett Packard Enterprise 将承担所有相关运输和部件返回费用，并指定快递商/承运商。

有关 Hewlett Packard Enterprise 客户自行维修计划的详细信息，请与您当地的服务提供商联系。有关北美地区的计划，请访问 Hewlett Packard Enterprise 网站 (<http://www.hpe.com/support/selfrepair>)。

客戶自行維修

Hewlett Packard Enterprise 產品設計了許多「客戶自行維修」(CSR) 的零件以減少維修時間，並且使得更換瑕疵零件時能有更大的彈性。如果在診斷期間，Hewlett Packard Enterprise (或 Hewlett Packard Enterprise 服務供應商或維修夥伴) 辨認出此項維修工作可以藉由使用 CSR 零件來完成，則 Hewlett Packard Enterprise 將直接寄送該零件給您作更換。CSR 零件分為兩種類別：

- **強制的** — 客戶自行維修所使用的零件是強制性的。如果您要求 Hewlett Packard Enterprise 更換這些零件，Hewlett Packard Enterprise 將會向您收取此服務所需的外出費用與勞動成本。
- **選購的** — 客戶自行維修所使用的零件是選購的。這些零件也設計用於客戶自行維修之用。不過，如果您要求 Hewlett Packard Enterprise 為您更換，則可能需要也可能不需要負擔額外的費用，端視針對此產品指定的保固服務類型而定。

備註：某些 Hewlett Packard Enterprise 零件沒有消費者可自行維修的設計。為符合客戶保固，Hewlett Packard Enterprise 需要授權的服務供應商更換零件。這些零件在圖示的零件目錄中，被標示為「否」。

基於材料取得及環境允許的情況下，CSR 零件將於下一個工作日以快遞寄送。在環境的允許下當天或四小時內送達，則可能需要額外的費用。若您需要協助，可致電 Hewlett Packard Enterprise 支援中心，會有一位技術人員透過電話來協助您。不論損壞的零件是否必須退回，Hewlett Packard Enterprise 皆會在與 CSR 替換零件一起運送的材料中註明。若要將損壞的零件退回 Hewlett Packard Enterprise，您必須在指定的一段時間內（通常為五 (5) 個工作天），將損壞的零件寄回 Hewlett Packard Enterprise。損壞的零件必須與寄送資料中隨附的相關技術文件一併退還。如果無法退還損壞的零件，Hewlett Packard Enterprise 可能要向您收取替換費用。針對客戶自行維修情形，Hewlett Packard Enterprise 將負責所有運費及零件退還費用，並指定使用何家快遞/貨運公司。

如需 Hewlett Packard Enterprise 的 CSR 方案詳細資訊，請連絡您當地的服務供應商。至於北美方案，請參閱 Hewlett Packard Enterprise 的 CSR 網站 [frepair \(http://www.hpe.com/support/selfrepair\)](http://www.hpe.com/support/selfrepair)。

고객 셀프 수리

Hewlett Packard Enterprise 제품은 수리 시간을 최소화하고 결함이 있는 부품 교체 시 더욱 융통성을 발휘할 수 있도록 하기 위해 고객 셀프 수리(CSR) 부품을 다량 사용하여 설계되었습니다. 진단 기간 동안 Hewlett Packard Enterprise(또는 Hewlett Packard Enterprise 서비스 공급업체 또는 서비스 협력업체)에서 CSR 부품을 사용하여 수리가 가능하다고 판단되면 Hewlett Packard Enterprise는 해당 부품을 바로 사용자에게 보내어 사용자가 교체할 수 있도록 합니다. CSR 부품에는 두 가지 종류가 있습니다.

- 필수 - 고객 셀프 수리가 의무 사항인 필수 부품. 사용자가 Hewlett Packard Enterprise에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.
- 선택 사항 - 고객 셀프 수리가 선택 사항인 부품. 이 부품들도 고객 셀프 수리가 가능하도록 설계되었습니다. 하지만 사용자가 Hewlett Packard Enterprise에 이 부품의 교체를 요청할 경우 사용자가 구입한 제품에 해당하는 보증 서비스 유형에 따라 추가 비용 없이 교체가 가능할 수 있습니다.

참고: 일부 Hewlett Packard Enterprise 제품은 고객 셀프 수리가 불가능하도록 설계되었습니다. Hewlett Packard Enterprise는 만족스러운 고객 보증을 위해 공인 서비스 제공업체를 통해 부품을 교체하도록 하고 있습니다. 이러한 부품들은 Illustrated Parts Catalog에 “No”라고 표시되어 있습니다.

CSR 부품은 재고 상태와 지리적 조건이 허용하는 경우 다음 영업일 납품이 가능하도록 배송이 이루어집니다. 지리적 조건이 허용하는 경우 추가 비용이 청구되는 조건으로 당일 또는 4시간 배송이 가능할 수도 있습니다. 도움이 필요하시면 Hewlett Packard Enterprise Support Center로 전화하십시오. 전문 기술자가 전화로 도움을 줄 것입니다. Hewlett Packard Enterprise는 결함이 발생한 부품을 Hewlett Packard Enterprise로 반환해야 하는지 여부를 CSR 교체 부품과 함께 배송된 자료에 지정합니다. 결함이 발생한 부품을 Hewlett Packard Enterprise로 반환해야 하는 경우에는 지정된 기간 내(통상 영업일 기준 5일)에 Hewlett Packard Enterprise로 반환해야 합니다. 이때 결함이 발생한 부품은 제공된 포장 재료에 넣어 관련 설명서와 함께 반환해야 합니다. 결함이 발생한 부품을 반환하지 않는 경우 Hewlett Packard Enterprise가 교체 부품에 대해 비용을 청구할 수 있습니다. 고객 셀프 수리의 경우, Hewlett Packard Enterprise는 모든 운송 및 부품 반환 비용을 부담하며 이용할 운송업체 및 택배 서비스를 결정합니다.

Hewlett Packard Enterprise CSR 프로그램에 대한 자세한 내용은 가까운 서비스 제공업체에 문의하십시오. 북미 지역의 프로그램에 대해서는 Hewlett Packard Enterprise CSR 웹사이트(<http://www.hpe.com/support/selfrepair>)를 참조하십시오.

Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

For more information and device support details, go to the Insight Remote Support website (<http://www.hpe.com/info/insightremotesupport/docs>).

Warranty and regulatory information

Warranty information

HPE ProLiant and x86 Servers and Options (<http://www.hpe.com/support/ProLiantServers-Warranties>)

HPE Enterprise Servers (<http://www.hpe.com/support/EnterpriseServers-Warranties>)

HPE Storage Products (<http://www.hpe.com/support/Storage-Warranties>)

HPE Networking Products (<http://www.hpe.com/support/Networking-Warranties>)

Regulatory information

Safety and regulatory compliance

For important safety, environmental, and regulatory information, see *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at the Hewlett Packard Enterprise website (<http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts>).

Belarus Kazakhstan Russia marking



Manufacturer and Local Representative Information

Manufacturer information:

Hewlett Packard Enterprise Company, 3000 Hanover Street, Palo Alto, CA 94304 U.S.

Local representative information Russian:

- **Russia:**

ООО «Хьюлетт Паккард Энтерпрайз», Российская Федерация, 125171, г. Москва, Ленинградское шоссе, 16А, стр.3, Телефон/факс: +7 495 797 35 00

- **Belarus:**

ИООО «Хьюлетт-Паккард Бел», Республика Беларусь, 220030, г. Минск, ул. Интернациональная, 36-1, Телефон/факс: +375 17 392 28 20

- **Kazakhstan:**

ТОО «Хьюлетт-Паккард (К)», Республика Казахстан, 050040, г. Алматы, Бостандыкский район, проспект Аль-Фараби, 77/7, Телефон/факс: + 7 727 355 35 52

Local representative information Kazakh:

- **Russia:**
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Manufacturing date:

The manufacturing date is defined by the serial number.

CCSYWWZZZZ (serial number format for this product)

Valid date formats include:

- YWW, where Y indicates the year counting from within each new decade, with 2000 as the starting point; for example, 238: 2 for 2002 and 38 for the week of September 9. In addition, 2010 is indicated by 0, 2011 by 1, 2012 by 2, 2013 by 3, and so forth.
- YYWW, where YY indicates the year, using a base year of 2000; for example, 0238: 02 for 2002 and 38 for the week of September 9.

Turkey RoHS material content declaration

Türkiye Cumhuriyeti: EEE Yönetmeliğine Uygundur

Ukraine RoHS material content declaration

Обладнання відповідає вимогам Технічного регламенту щодо обмеження використання деяких небезпечних речовин в електричному та електронному обладнанні, затвердженого постановою Кабінету Міністрів України від 3 грудня 2008 № 1057

Electrostatic discharge

Preventing electrostatic discharge

To prevent damaging the system, be aware of the precautions you need to follow when setting up the system or handling parts. A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the device.

To prevent electrostatic damage:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly.

Grounding methods to prevent electrostatic discharge

Several methods are used for grounding. Use one or more of the following methods when handling or installing electrostatic-sensitive parts:

- Use a wrist strap connected by a ground cord to a grounded workstation or computer chassis. Wrist straps are flexible straps with a minimum of 1 megohm ± 10 percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.
- Use heel straps, toe straps, or boot straps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.
- Use conductive field service tools.
- Use a portable field service kit with a folding static-dissipating work mat.

If you do not have any of the suggested equipment for proper grounding, have an authorized reseller install the part.

For more information on static electricity or assistance with product installation, contact an authorized reseller.

Acronyms and abbreviations

CSA

Canadian Standards Association

CSR

Customer Self Repair

ESD

electrostatic discharge

ICPM

Insight Control Power Management

IEC

International Electrotechnical Commission

iLO

Integrated Lights-Out

PDU

power distribution unit

RETMA

Radio Electronics Television Manufacturers Association (rack spacing)

SIM

Systems Insight Manager

TMRA

recommended ambient operating temperature

UID

unit identification

UPS

uninterruptible power system

USB

universal serial bus

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