



Hewlett Packard
Enterprise

HPE ProLiant m710p Server

Cartridge

User and Maintenance Guide

Abstract

This document is for the person who installs, administers, services, and troubleshoots cartridges. This guide describes identification and maintenance procedures, and specifications and requirements for hardware components and software. 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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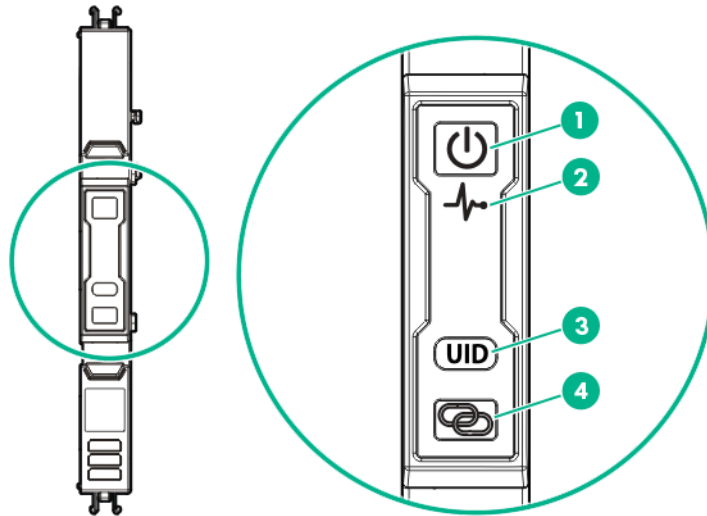
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Component identification

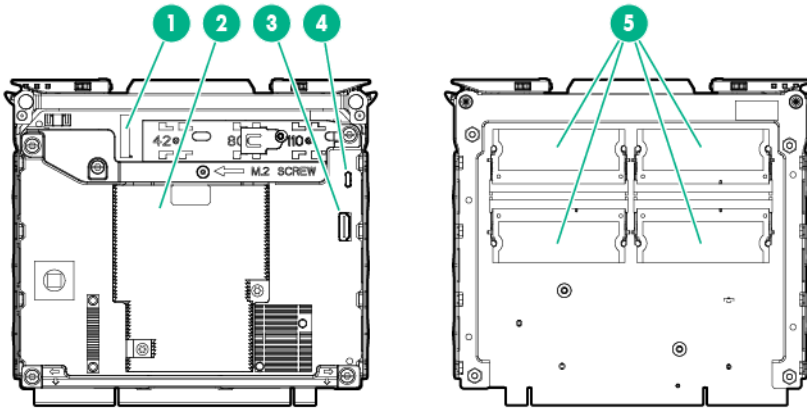
Cartridge LEDs and buttons



Item	Description	Status
1	Cartridge power LED/button	Green = Normal operation Amber = Standby operation Off = No power
2	Cartridge health LED	Green = Normal operation Flashing amber = Degraded condition Flashing red = Critical condition Off = No power
3	Cartridge UID LED/button	Blue = Cartridge ID is selected. Flashing blue = Cartridge firmware update is in progress Off = Cartridge ID is not selected.
4	Cartridge link LED/button*	Flashing white = Cartridges are linked. Off = Cartridge is not linked to other cartridges.

* The cartridge link LED flashes for 10 seconds after the link button is pressed.

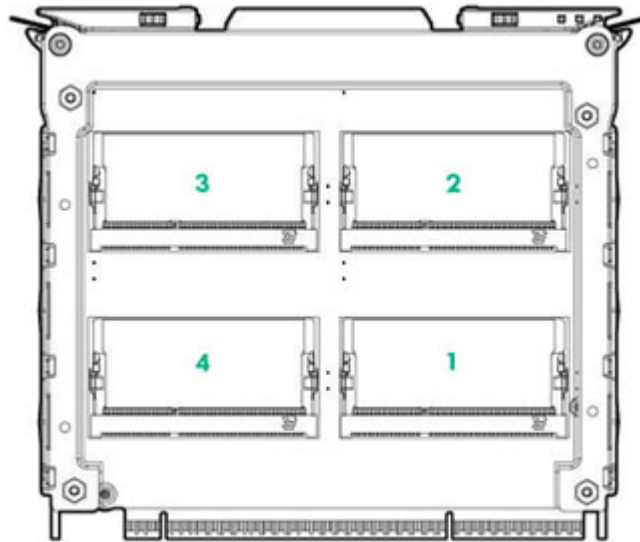
Cartridge components



Item	Description
1	Solid state device connector
2	Processor heatsink
3	HDMI connector
4	Micro-USB connector*
5	DIMM slots (4)

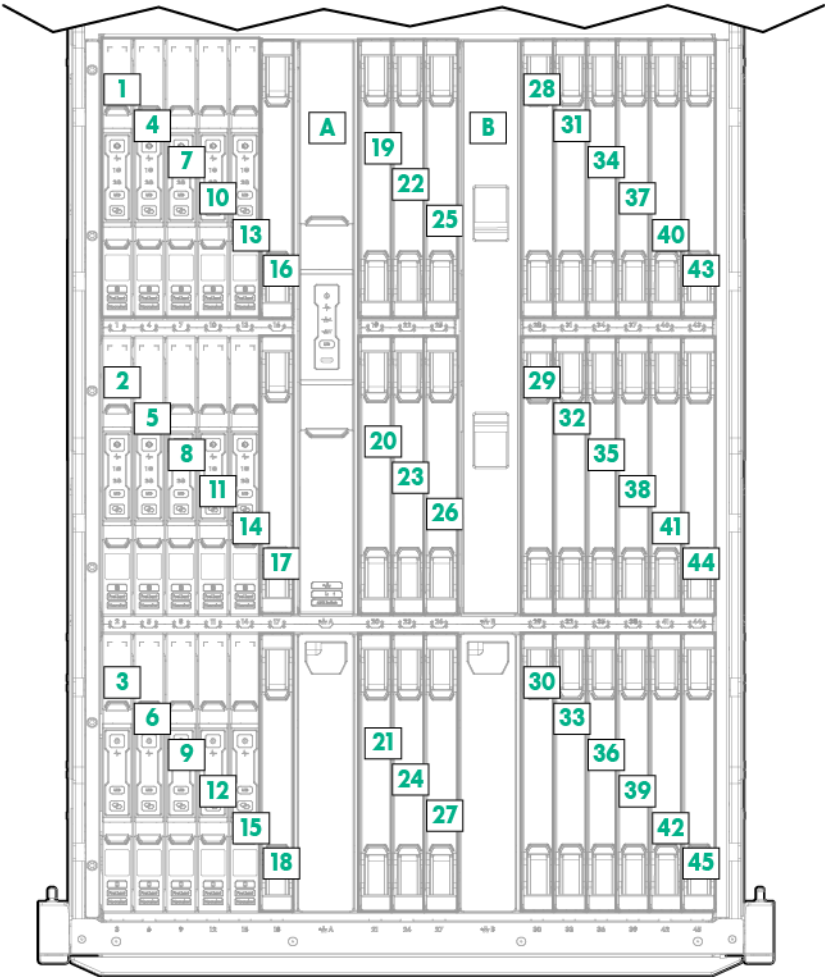
* To connect a standard USB device to the cartridge, connect a USB on-the-go adapter to the cartridge Micro-USB connector, and then connect the USB device to the adapter.

DIMM numbering



Cartridge slot and switch module bay identification

The chassis provides 45 cartridge slots (1-45) and two switch module bays (A-B).



Operations

Power down

Review the following information before powering down the cartridge:

- Before powering down a cartridge for any upgrade or maintenance procedures, always perform a backup of critical cartridge data and programs.
- Depending on the cartridge model, the cartridge may be a single-node or a multi-node cartridge. Always power down all nodes on the cartridge before removing it from the chassis.
- If you are powering down one node but leaving other nodes in a powered up state on the cartridge, the cartridge power LED will remain illuminated, indicating at least one node is powered up.

Cartridges can be powered down individually and as a group of all cartridges in the chassis. Choose the procedure in this section that fits your need.

When entering cartridge commands provided in this section, you can use one command to address multiple cartridges. Use commas to separate non-contiguous numbers (omit spaces), or a dash to denote a range (for example, C1,3-9N1-4). For more information about using commands, see the *HPE Moonshot iLO Chassis Management CLI User Guide* in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

Power down a cartridge remotely

To power down a cartridge remotely:

1. Log in to the iLO CM firmware (on page 16).
2. Power down the cartridge by issuing the appropriate command:
 - For a cartridge running a functioning OS:
Single node:

```
set node power off shutdown C<x>N<y>
```


Multiple nodes (4):

```
set node power off shutdown C<x>N1-4
```
 - For a nonresponsive system or when an OS has not been installed:

```
set node power off force C<x>N<y>
```


Multiple nodes (4):

```
set node power off force C<x>N1-4
```
 - For all cartridges:

```
set node power off force all
```
3. Verify that the power is off by issuing the following command:

```
show node power {CxNy}
```

Power down a cartridge locally

To power down a cartridge locally:

1. Power down the cartridge according to the current cartridge state:
 - If the cartridge power LED is green, press and release the cartridge power button.

This method initiates a controlled shutdown of applications and the OS on any active nodes before the cartridge enters standby mode.

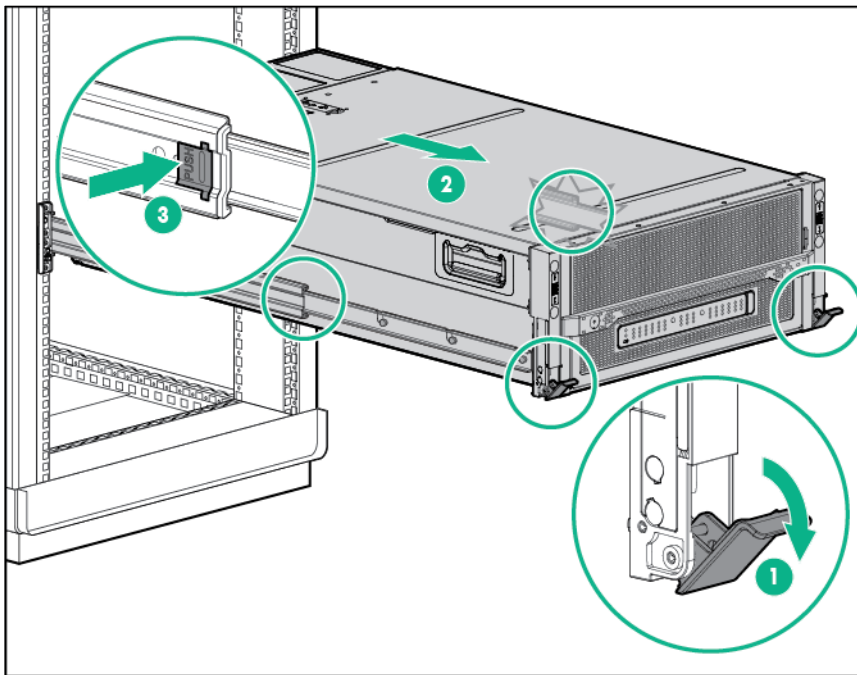
- If the cartridge is unresponsive, press and hold the cartridge power button for 4 seconds to initiate a forced shutdown of any active nodes.
 - If the cartridge power LED is amber, the cartridge is in standby mode and no nodes are active. No further action is required.
2. Verify that the power is off by reviewing the status of the cartridge power LED.
For more information, see "Cartridge LEDs and buttons (on page 5)."

Extend the chassis from the rack

1. Pull down the quick release levers on each side of the chassis.

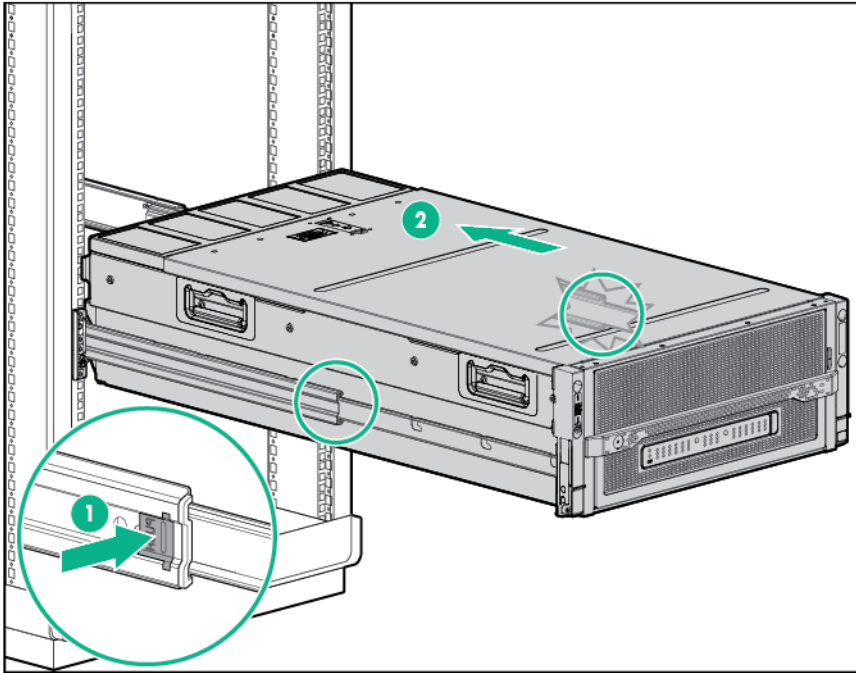
⚠ WARNING: To reduce the risk of personal injury or equipment damage, be sure that the rack is adequately stabilized before extending a component from the rack.

2. Extend the chassis from the rack until it locks once.
3. Press the push tab on the rail, and then fully extend the chassis.



⚠ WARNING: To reduce the risk of personal injury, be careful when pressing the server rail-release latches and sliding the server into the rack. The sliding rails could pinch your fingers.

4. After performing the installation or maintenance procedure, slide the chassis back into the rack, and then press the chassis firmly into the rack to secure it in place.



Remove the access panel



IMPORTANT: After performing a procedure inside the chassis, always install the access panel on the chassis when complete. Do not operate the chassis for long periods of time with the access panel removed.



IMPORTANT: To maintain appropriate cooling, fans will operate at a high speed when the access panel is removed.

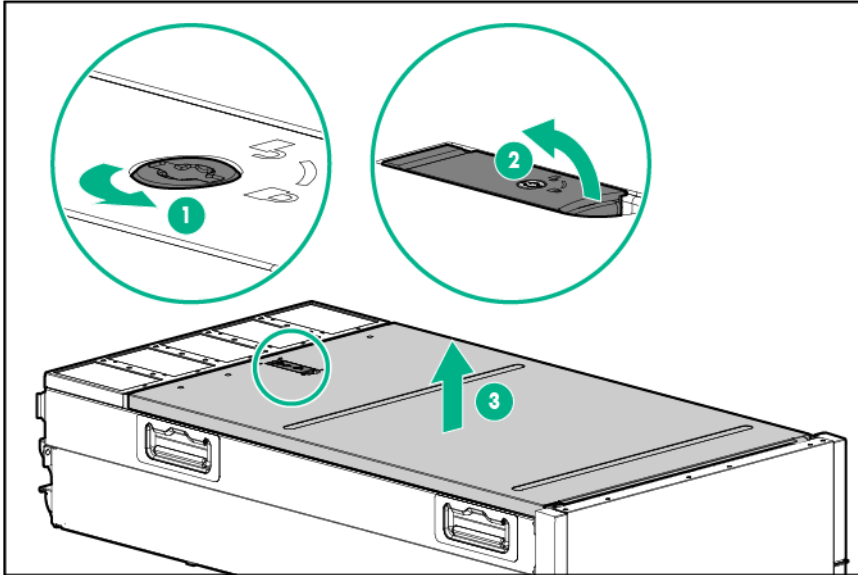


IMPORTANT: When the access panel is removed, the cartridge might be placed into a low power operating state to reduce thermal stress.

To remove the component:

1. If the locking latch is locked, use a T-15 Torx screwdriver to unlock the latch.
2. Open the locking latch.
The access panel slides back, releasing it from the chassis.

3. Lift and remove the access panel.



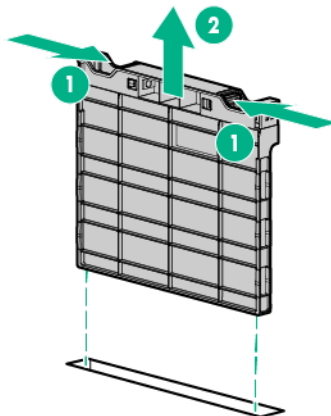
Turn the access panel over to locate the HPE Moonshot 1500 Chassis label. This label provides information on LED status indicators, component identification, and cartridge and switch installation procedures.

Remove the cartridge blank

- CAUTION:** For proper cooling, be sure that a cartridge or a cartridge blank is always installed in each cartridge slot in the chassis. When replacing a cartridge, leave the cartridge slot empty for no more than 30 seconds. Failure to do so can disrupt airflow in the chassis.

To remove the component:

1. Extend the chassis from the rack (on page 9).
2. Remove the access panel (on page 10).
3. Remove the cartridge blank from the chassis.

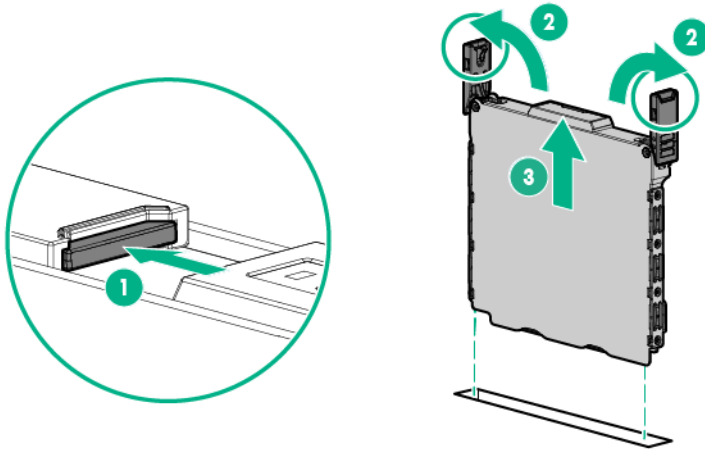


Remove the cartridge

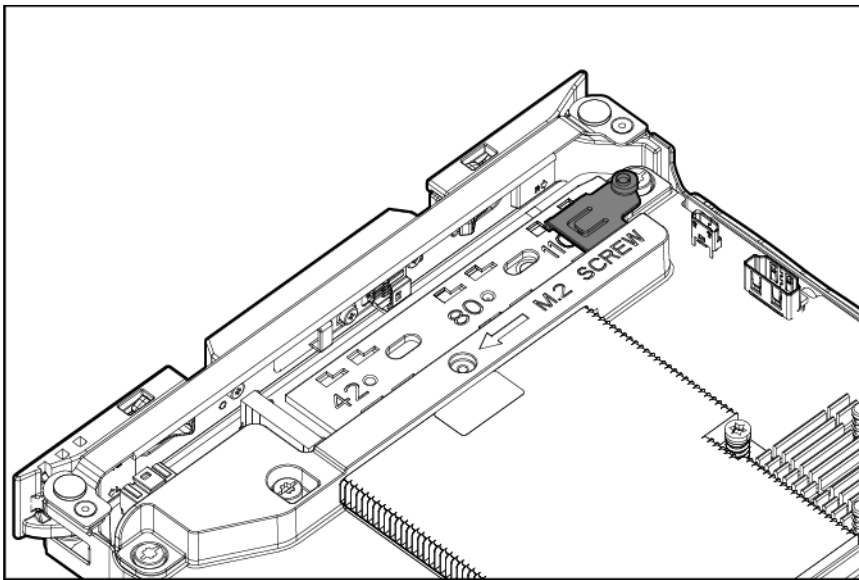
CAUTION: For proper cooling, be sure that a cartridge or a cartridge blank is always installed in each cartridge slot in the chassis. When replacing a cartridge, leave the cartridge slot empty for no more than 30 seconds. Failure to do so can disrupt airflow in the chassis.

To remove the component:

1. Power down the node or cartridge ("Power down" on page 8).
2. Extend the chassis from the rack (on page 9).
3. Remove the access panel (on page 10).
4. Remove the cartridge.



SSD mounting clip

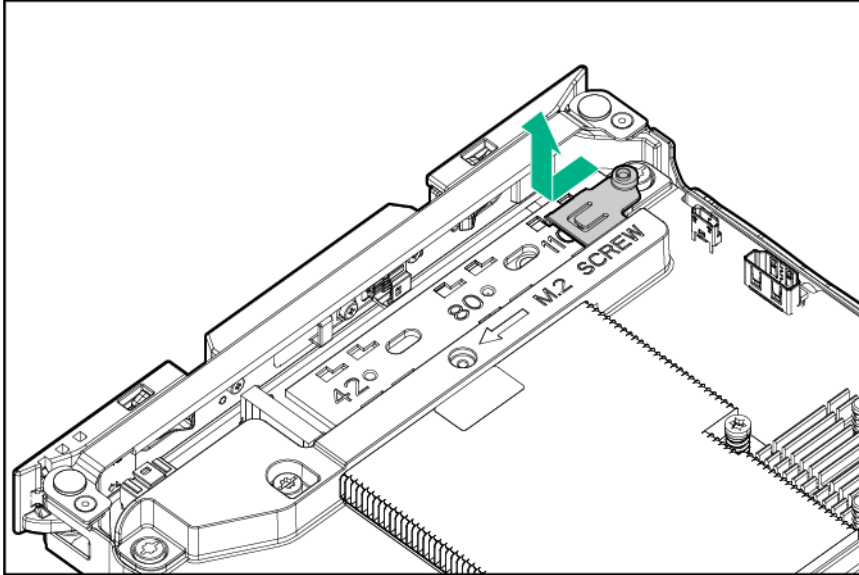


An SSD mounting clip is attached to the air baffle to secure an M.2 solid state device. This clip is aligned with the M.2 length markers corresponding to the supported M.2 device types:

- M.2 2242 – 42 position
- M.2 2280 – 80 position
- M.2 22110 – 110 position

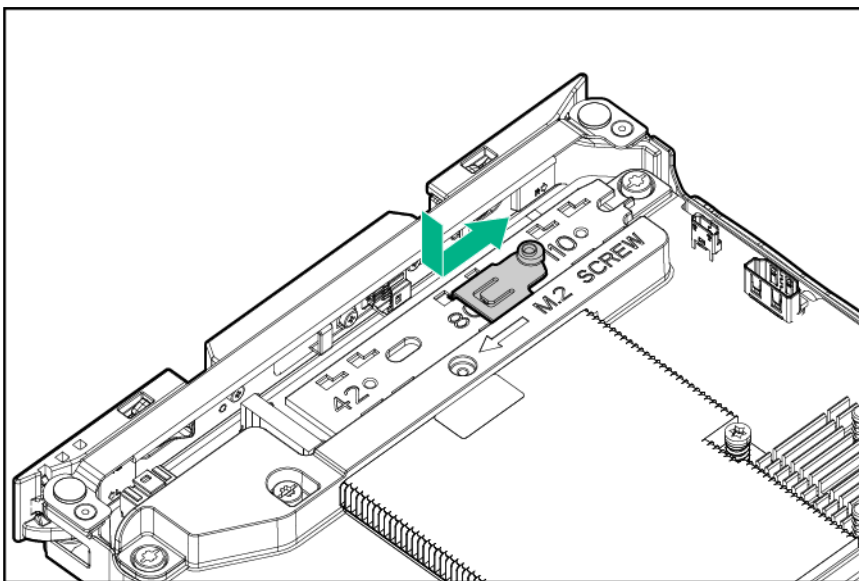
Remove the SSD mounting clip

1. Power down the node or cartridge ("[Power down](#)" on page 8).
2. Extend the chassis from the rack (on page 9).
3. Remove the access panel (on page 10).
4. Remove the cartridge (on page 11).
5. Remove the SSD mounting clip.



Install the SSD mounting clip

1. Identify the M.2 device type of the solid state device to be installed.
2. Install the SSS mounting clip on the length marker position corresponding to the type of M.2 device to be installed.

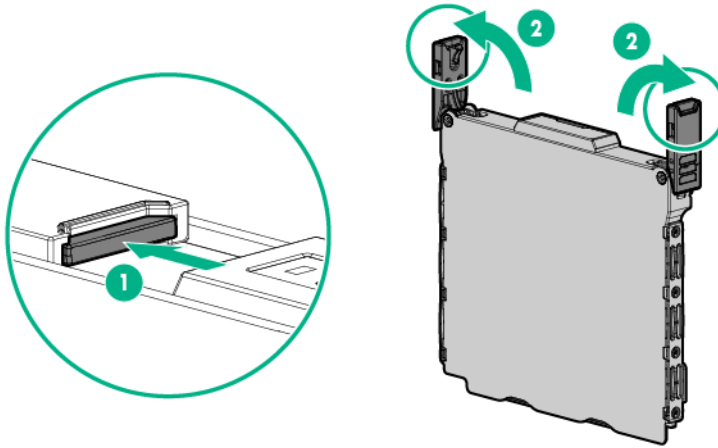


Install the cartridge

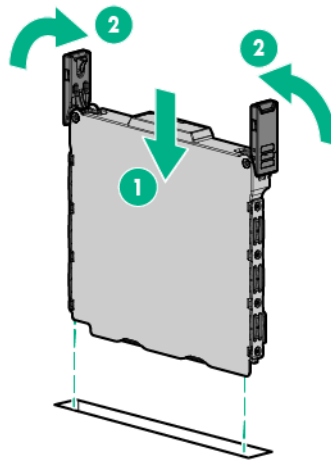
CAUTION: For proper cooling, be sure that a cartridge or a cartridge blank is always installed in each cartridge slot in the chassis. When replacing a cartridge, leave the cartridge slot empty for no more than 30 seconds. Failure to do so can disrupt airflow in the chassis.

To install the component:

1. Extend the chassis from the rack (on page 9).
2. Remove the access panel (on page 10).
3. Prepare the cartridge.



4. Align and install the cartridge into the chassis.



5. Install the access panel (on page 15).
6. Slide the chassis into the rack.

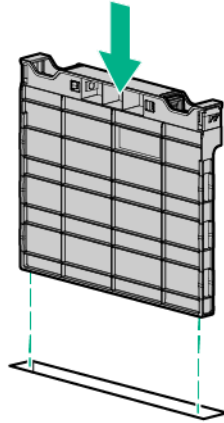
Install the cartridge blank

CAUTION: For proper cooling, be sure that a cartridge or a cartridge blank is always installed in each cartridge slot in the chassis. When replacing a cartridge, leave the cartridge slot empty for no more than 30 seconds. Failure to do so can disrupt airflow in the chassis.

To install the component:

1. Extend the chassis from the rack (on page 9).
2. Remove the access panel (on page 10).

3. Align and install the cartridge into the chassis.



Install the access panel



IMPORTANT: After performing a procedure inside the chassis, always install the access panel on the chassis when complete. Do not operate the chassis for long periods of time with the access panel removed.

To install the component:

1. Place the access panel on top of the chassis.
2. Slide the access panel toward the front of the chassis. The access panel locks into position.

Power up

Review the following information before powering up the cartridge:

- Depending on the cartridge model, the cartridge may be a single-node or a multi-node cartridge.
- Upon installation into the chassis, auxiliary power is automatically provided to the cartridge. Depending on the chassis autopower setting, nodes may power up automatically upon cartridge installation.

Cartridges can be powered up individually and as a group of all cartridges in the chassis. Choose the procedure in this section that fits your need.

When entering cartridge commands provided in this section, you can use one command to address multiple cartridges. Use commas to separate non-contiguous numbers (omit spaces), or a dash to denote a range (for example, C1,3-9N1-4). For more information about using commands, see the *HPE Moonshot iLO Chassis Management CLI User Guide* in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

Power up a cartridge remotely

To power up a cartridge remotely:

1. Log in to the iLO CM firmware (on page 16).
2. Show the installed cartridges to determine node status:
`show node power {C<x>N<y>|all}`
3. Power up the cartridge by issuing the appropriate command:
 - o Single node:

- ```
set node power on C<x>N<y>
```
- o Multiple nodes (4):  

```
set node power on C<x>N1-4
```
  - o For all cartridges:  

```
set node power on all
```
4. Verify that the power is on by issuing the following command:
- ```
show node power {CxNy}
```

Power up a cartridge locally

To power up a cartridge locally:

1. Press and release the cartridge power button.
This method powers on all nodes.
2. Verify that the power is on by reviewing the status of the cartridge power LED.
For more information, see "Cartridge LEDs and buttons (on page 5)."

Log in to the iLO CM firmware

1. Connect to the iLO CM firmware locally or remotely:
To access the iLO CM firmware through the GUI, you must know the serial number or IP address of the iLO CM. The serial number can be found on the chassis hood label.
 - o To connect remotely, use a browser or SSH session over the network.
 - o To connect locally, use a serial cable to connect a PC or terminal to the iLO CM management serial port on the Moonshot 1500 CM module.
2. If no changes were made, enter the user name and password assigned for the chassis or the default user name and password:
Default username:
Administrator
Default password:
password

For more information about the iLO CM firmware, see the *HPE Moonshot iLO Chassis Management CLI User Guide* in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

Setup

Overview

Installation of a cartridge requires the following steps:

1. Install and configure the HPE Moonshot 1500 Chassis ("[Installing and configuring the HPE Moonshot 1500 Chassis](#)" on page 17).
2. Install and configure the switch and uplink modules ("[Installing and configuring the switch and uplink modules](#)" on page 17).
3. Install the solid state device ("[Installing the solid state device](#)" on page 17).
4. Install the cartridge (on page 13).
5. Power up the chassis ("[Powering up the chassis](#)" on page 18).
6. Power up the node ("[Powering up the node](#)" on page 19).
7. Update the cartridge firmware ("[Updating cartridge firmware](#)" on page 19).
8. Install the operating system ("[Installing the operating system](#)" on page 19).
9. Register the product ("[Registering the product](#)" on page 20).

Installing and configuring the HPE Moonshot 1500 Chassis

Before performing any cartridge-specific procedures, install the HPE ProLiant Moonshot 1500 Chassis. For more information on installing a chassis, see the *HPE Moonshot 1500 Chassis Setup and Installation Guide* in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

Installing and configuring the switch and uplink modules

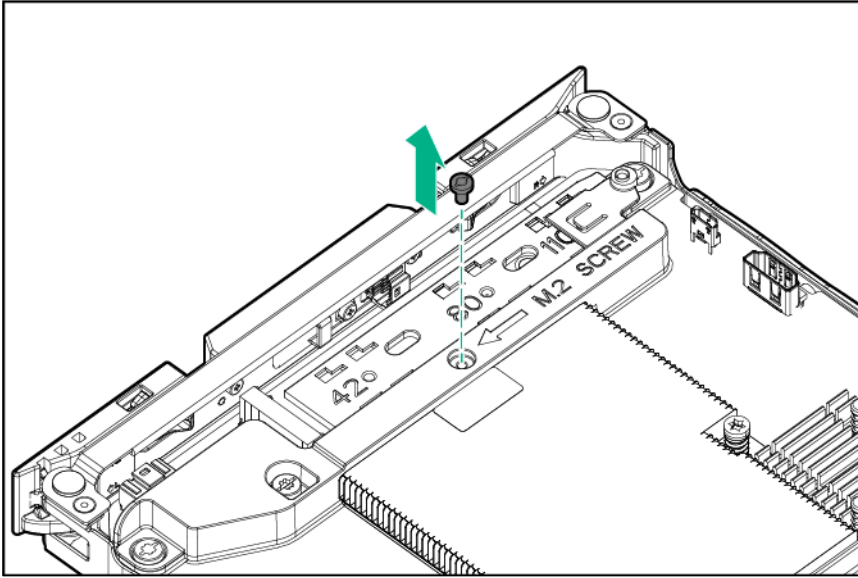
For specific steps to install the switch modules and uplink modules, see the switch documentation in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

Installing the solid state device

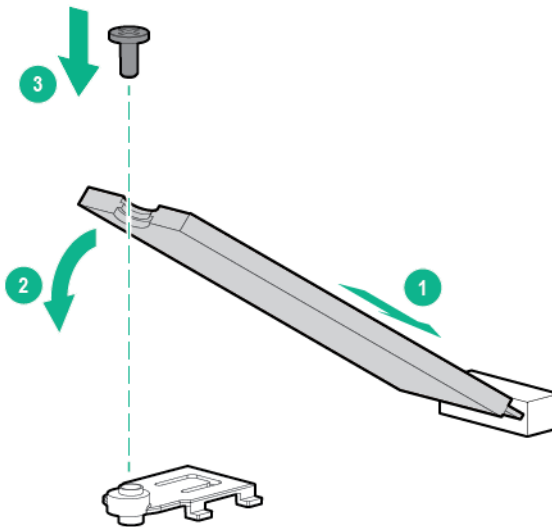
To install the component:

1. Power down the node or cartridge ("[Power down](#)" on page 8).
2. Extend the chassis from the rack (on page 9).
3. Remove the access panel (on page 10).
4. Remove the cartridge from the chassis ("[Remove the cartridge](#)" on page 11).
5. Identify the M.2 device type of the solid state device to be installed.
6. If necessary, move the SSD mounting clip on the length marker position corresponding to the M.2 device type ("[SSD mounting clip](#)" on page 12).

7. Remove the SSD mounting screw.



8. Install the solid state device.



Installing the cartridge

1. Do one of the following:
 - o Remove the cartridge blank.
 - o Remove a cartridge ("[Remove the cartridge](#)" on page 11).
2. Install the cartridge (on page 13).

Powering up the chassis

If the chassis was powered off while installing the cartridge, then power up the chassis. The cartridges are hot-pluggable and do not require that you power down the chassis for installation.

1. Connect the power cables to the power supplies.

2. Connect the power cables to the power source (UPS or wall outlet) or to an installed PDU.
3. Wait while the chassis powers on. Verify the status of the chassis power LED located on the front panel display on the chassis. For more information on the chassis power LED status, see the *HPE Moonshot 1500 Chassis Setup and Installation Guide* in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

Powering up the node

Upon installation into the chassis, auxiliary power is provided to the cartridge. Depending on chassis autpower state, nodes may power up automatically upon cartridge installation.

To power up the node:

1. Log in to the iLO CM firmware (on page 16).
2. Show the installed cartridges to determine node status:
hpiLO -> show node list
3. Power up the preferred node:
hpiLO -> set node power on C<x>N<y>

For more information on configuring the cartridge, see the following documents in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>):

- *HPE Moonshot System Configuration and Compatibility Guide*
- *HPE Moonshot iLO Chassis Management CLI User Guide*

Updating cartridge firmware

The minimum supported iLO CM firmware version for use with this cartridge is iLO Chassis Manager Firmware version 1.31.



IMPORTANT: To ensure that the latest firmware version is loaded correctly, power down the cartridge node before updating the cartridge firmware.

A system ROM flash does not take effect on a node until the node is rebooted. The iLO CM firmware will reflect the system ROM flash immediately.

To update the firmware:

1. Verify the firmware version by entering one of the following commands:
show firmware revisions all
show firmware revisions list
2. Download the latest firmware version from the HPE Moonshot Component Pack download site (<http://www.hpe.com/info/moonshot/download>).

For more information on updating the firmware, see the *HPE Moonshot iLO Chassis Management CLI User Guide* in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

Installing the operating system

The HPE Moonshot 1500 Chassis supports up to 45 cartridges, each with a processor, drive, and memory, and is capable of running an operating system. It is possible to individually load each cartridge with an OS via PXE. For OS deployment procedures, see the operating system deployment documentation in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

To quickly provision a full complement of cartridges, Hewlett Packard Enterprise recommends the HPE Insight Cluster Management Utility for large-scale image deployment. The Insight CMU is an efficient and robust hyperscale cluster lifecycle management framework and suite of tools for large Linux clusters.

For more information on Insight CMU features and links to technical documents, QuickSpecs, and a product demonstration, see the Hewlett Packard Enterprise website (<http://www.hpe.com/info/cmu>).

Registering the product

To experience quicker service and more efficient support, register the product at the Hewlett Packard Enterprise Product Registration website (<http://www.hpe.com/info/register>).

Software and configuration utilities

Product QuickSpecs

For more information about product features, specifications, options, configurations, and compatibility, see the product QuickSpecs on the Hewlett Packard Enterprise website (<http://www.hpe.com/info/qs>).

HPE Moonshot iLO Chassis Management Firmware

The Moonshot iLO Chassis Management Firmware is the gateway for aggregated chassis management on the Moonshot System. As a single point of access to the chassis, iLO CM firmware enables you to configure, update, and operate the Moonshot System through the GUI, CLI, IPMI, and remote serial console access.

For more information, see the *HPE Moonshot iLO Chassis Management CLI User Guide* in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

HPE Moonshot iLO CM Integrated Management Log

The iLO CM IML records hundreds of events and stores them in an easy-to-view form. The iLO CM IML timestamps each event with 1-minute granularity. Logged events include fan, power supply, cartridge and switch insertion, removal or failure events, temperature events, and firmware updates. To view recorded events in the iLO CM IML, use the GUI or enter the `show log iml all` command in iLO CM firmware.

For more information, see the *HPE Moonshot iLO Chassis Management CLI User Guide* in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

HPE Moonshot iLO CM Event Log

The iLO CM Event Log is an operating system-independent log that maintains a record of events by date and time. Logged events include major events, such as a power outage or a reset, login events, node power on/off events, configuration changes, and iLO CM firmware events. To view recorded events in the iLO CM Event Log, use the GUI or enter `show log ilo all` command in iLO CM firmware.

For more information, see the *HPE Moonshot iLO Chassis Management CLI User Guide* in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

HPE Insight Cluster Management Utility

The Insight CMU is an efficient and robust hyperscale cluster lifecycle management framework and suite of tools for large Linux clusters. A simple graphical interface enables an at-a-glance view of the entire cluster across multiple metrics, provides frictionless scalable remote management and analysis, and allows rapid software provisioning to all system nodes. Insight CMU makes cluster management more user friendly, efficient, and error-free than if it were being managed by scripts, or on a node-by-node basis. Insight CMU is highly flexible and customizable, offers both GUI and CLI interfaces, and is used to deploy a range of software environments, from simple compute farms to highly customized, application-specific configurations.

For more information on Insight CMU features and links to technical documentation, QuickSpecs, and a product demo, see the Hewlett Packard Enterprise website (<http://www.hpe.com/info/cmu>).

To download the product, go to the Hewlett Packard Enterprise Software Depot (<http://www.hpe.com/support/softwaredepot>). Click **HP Insight Management**, then click **Insight Cluster Management**.

HPE Moonshot Component Pack

The Moonshot Component Pack is a comprehensive firmware solution tested on the Moonshot System and delivered as a compressed file. The compressed file includes all the component files needed to update a Moonshot System. Users deploy the firmware updates contained in the Moonshot Component Pack using the included HP Smart Update Manager, or by using the iLO Chassis Manager GUI or CLI, or the HPE Moonshot switch module CLI. Download the latest pack from the Hewlett Packard Enterprise website (<http://www.hpe.com/info/moonshot/download>).

HP Smart Update Manager

HP SUM is an application included with the Moonshot Component Pack that provides a web-based GUI for installing and updating firmware on many Hewlett Packard Enterprise products, including the Moonshot System. HP SUM has an integrated discovery engine that finds the installed hardware and current versions of firmware in use on nodes you identify. The application installs updates in the correct order and ensures that all dependencies are met before deploying an update, and prevents an installation if there are version-based dependencies that it cannot resolve.

The version of HP SUM included with each Moonshot Component Pack release is designed to be the best solution for installing Moonshot System firmware updates. Always use the included version of HP SUM for Moonshot System updates. For more information, see the *HPE Moonshot Component Pack Update Guide* in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

Troubleshooting

Troubleshooting resources

The *HPE Moonshot System Troubleshooting Guide* provides procedures for resolving common problems and comprehensive courses of action for fault isolation and identification, issue resolution, and software maintenance on the Moonshot System. The document is available in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

Illustrated parts catalog

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>).

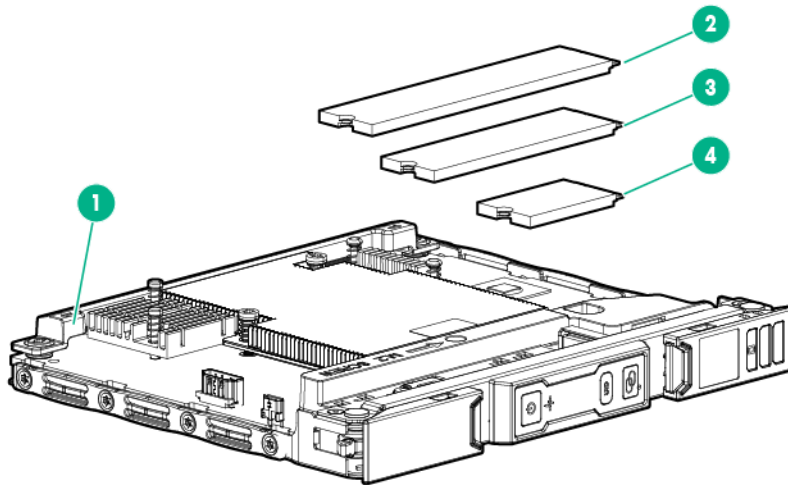
Parts only warranty service

Your Hewlett Packard Enterprise Limited Warranty may include a parts only warranty service. Under the terms of parts only warranty service, Hewlett Packard Enterprise will provide replacement parts free of charge.

For parts only warranty service, CSR part replacement 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.

Cartridge replaceable components

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported parts information, see the Hewlett Packard Enterprise PartSurfer website (<http://www.hpe.com/info/partssurfer>).



Item	Description	Spare part number	Customer self repair (on page 24)
1	HPE ProLiant m710p Server Cartridge	808999-001	Mandatory ¹
2	HPE Moonshot 960 GB PCIe PLP M.2 M2.22110 Solid State Device	827255-001	Mandatory ¹
3	M.2 2280 solid state devices	—	—
	a) HPE Moonshot 120 GB SATA VE M.2 2280 Solid State Device	755509-001	Mandatory ¹
	b) HPE Moonshot 240 GB SATA VE M.2 2280 Solid State Device*	755510-001	Mandatory ¹
	c) HPE Moonshot 480 GB SATA VE M.2 2280 Solid State Device*	755511-001	Mandatory ¹
4	HPE Moonshot 64 GB SATA VE M.2 2242 Solid State Device	749154-001	Mandatory ¹
5	Cartridge blank*	745825-001	Mandatory ¹

* Not shown

¹Mandatory—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.

²Optional—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.

³No—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.

Removal and replacement procedures

Preparation procedures

To access some components and perform certain service procedures, you must perform one or more of the following procedures:

- Remove the access panel (on page 10).
- Install the access panel (on page 15).
- Remove the cartridge (on page 11).
- Install the cartridge (on page 13).

Safety considerations

Before performing service procedures, review all the safety information.

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.

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.

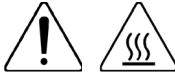


This symbol indicates the presence of electric shock hazards. The area contains no user or field serviceable parts. Do not open for any reason.

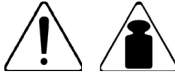
WARNING: To reduce the risk of injury from electric shock hazards, do not open this enclosure.



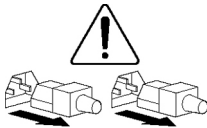
This symbol on an RJ-45 receptacle indicates a network interface connection.
WARNING: To reduce the risk of electric shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.



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

Before installing a chassis, be sure that you understand the following warnings and cautions.



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.
 - Connect the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
 - Disconnect 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 chassis.
-



CAUTION: Do not operate the chassis for long periods with the access panel open or removed. Operating the chassis in this manner results in improper airflow and improper cooling that can lead to thermal damage.

Cartridge

When a cartridge fails and a replacement cartridge is installed in the chassis, you must update the serial number and the product ID to preserve the warranty entitlement for that cartridge.

Before you begin the replacement procedure, make note of the cartridge slot number for the cartridge being replaced.

To remove the component:

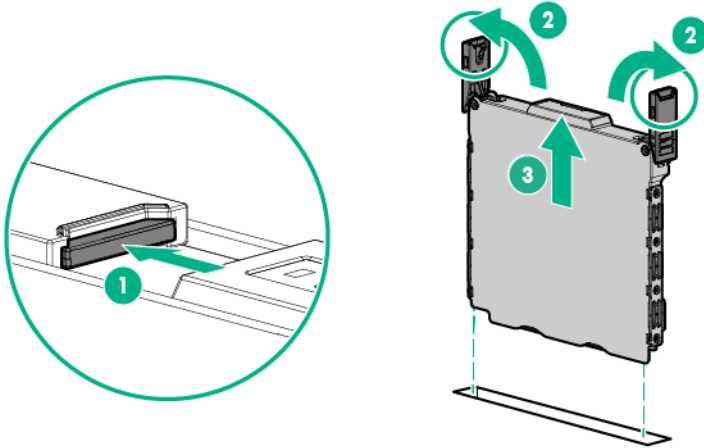
1. Log in to the iLO CM firmware (on page 16).
2. Capture the cartridge serial number using the following command:
`SHOW CARTRIDGE SN C<x>`
3. Capture the cartridge product ID using the following command:
`SHOW CARTRIDGE PID C<x>`
4. If the failed cartridge is powered on, then power down the failed cartridge using the following command:

SET NODE POWER OFF FORCE C<x>N<y>

For multinode cartridges, use the command:

SET NODE POWER OFF FORCE C<x>N<1-4>

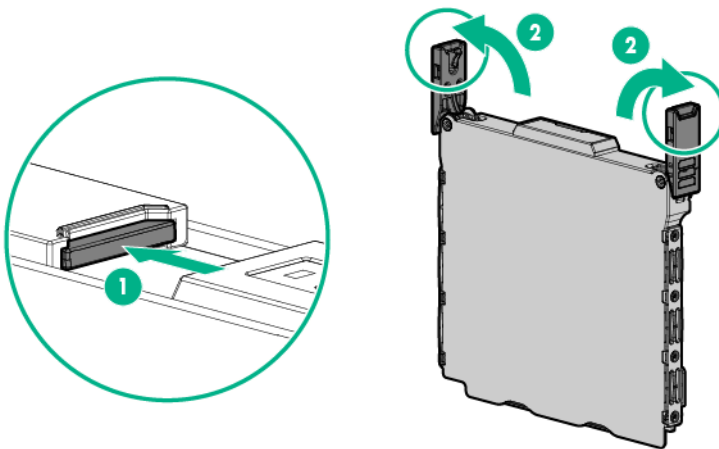
5. Extend the chassis from the rack (on page 9).
6. Remove the access panel (on page 10).
7. Remove the failed cartridge.



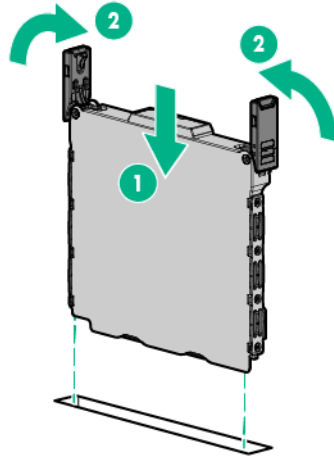
8. To minimize the amount of time that the cartridge slot is empty, install a cartridge blank ("Install the cartridge blank" on page 14) in the cartridge slot while moving the options to the replacement cartridge.
9. If installed, remove the solid state device ("Solid state device" on page 30).

To replace the component:

1. If necessary, install the solid state device (on page 30) removed from the failed cartridge on the replacement cartridge.
2. If installed, remove the cartridge blank.
3. Prepare the replacement cartridge for installation.



4. Install the replacement cartridge.



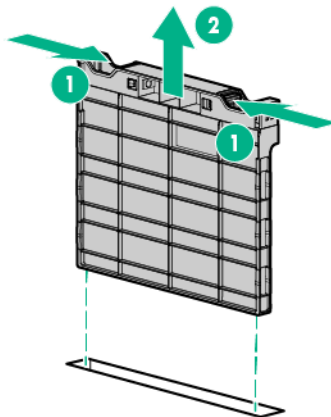
5. Install the access panel (on page 15).
6. Slide the chassis into the rack.
7. Allow the iLO CM firmware to discover the replacement cartridge. The cartridge link LED flashes when this process is complete.
8. Assign the original serial number to the replacement cartridge using the following command:
`SET CARTRIDGE SN <original SN> C<cartridge number>`
9. Assign the original product ID number to the replacement cartridge using the following command:
`SET CARTRIDGE PID <original PID> C<cartridge number>`

Cartridge blank

CAUTION: For proper cooling, be sure that a cartridge or a cartridge blank is always installed in each cartridge slot in the chassis. When replacing a cartridge, leave the cartridge slot empty for no more than 30 seconds. Failure to do so can disrupt airflow in the chassis.

To remove the component:

1. Extend the chassis from the rack (on page 9).
2. Remove the access panel (on page 10).
3. Remove the cartridge blank from the chassis.

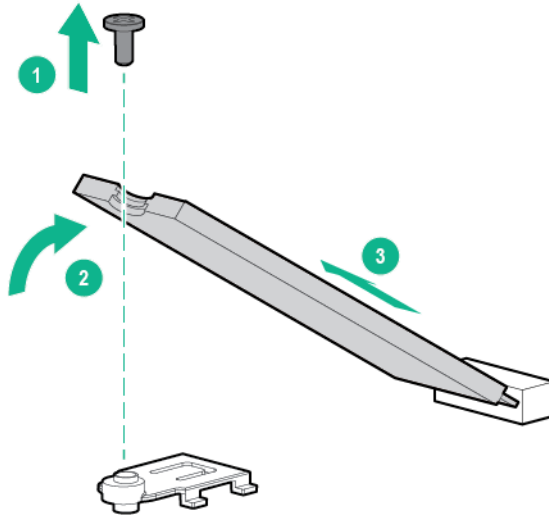


To replace the component, reverse the removal procedure.

Solid state device

To remove the component:

1. Back up all data on the solid state device.
2. Power down the node or cartridge ("[Power down](#)" on page 8).
3. Extend the chassis from the rack (on page 9).
4. Remove the access panel (on page 10).
5. Remove the cartridge from the chassis ("[Remove the cartridge](#)" on page 11).
6. Remove the solid state device.



To replace the component, reverse the removal procedure. If you are replacing the solid state device with a different M.2 device type, move the SSD mounting clip on the length marker position corresponding to the new M.2 device type ("[SSD mounting clip](#)" on page 12).

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>).

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 \pm 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.

Specifications

Chassis environmental specifications

Specification	Value
Temperature range*	—
Operating	10°C to 35°C (50°F to 95°F)
Nonoperating	-30°C to 60°C (-22°F to 140°F)
Maximum wet bulb temperature	—
Operating	28°C (82.4°F)
Nonoperating	38.7°C (101.7°F)
Relative humidity (non condensing)**	—
Operating	10% to 90%
Nonoperating	5% to 95%

* All temperature ratings shown are for sea level. An altitude derating of 1°C per 304.8 m (1.8°F per 1000 ft) to 3048 m (10,000 ft) is applicable. No direct sunlight allowed. Upper operating limit is 3,048 m (10,000 ft) or 70 kPa/10.1 psia. Upper nonoperating limit is 9,144 m (30,000 ft).

** Storage maximum humidity of 95% is based on a maximum temperature of 45°C (113°F). Altitude maximum for storage corresponds to a pressure minimum of 70 kPa (10.1 psia).

Chassis specifications

Specification	Value
Height	18.96 cm (7.46 in)
Depth	84.91 cm (33.43 in)
Width	44.33 cm (17.45 in)
Weight, fully loaded	81.65 kg (180.00 lb)
Weight, empty	43.09 kg (95.00 lb)

Cartridge specifications

Specification	Value
Height	16.71 cm (6.57 in)
Depth	1.98 cm (0.78 in)
Width	18.37 cm (7.23 in)
Weight (approx.)	0.60 kg (1.32 lb)

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

Be sure to have the following information available before you call Hewlett Packard Enterprise:

- Technical support registration number (if applicable)
- Product name
- Chassis serial number
- Product identification number
- Applicable error messages
- Operating system type and revision level

To obtain product information, log in to iLO CM firmware and use the `Show Chassis Info` command. For more information, see the *HPE Moonshot iLO Chassis Management CLI User Guide* in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

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 garanti voorwaarden 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 [selfrepair](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 부품은 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>).

Acronyms and abbreviations

CM

chassis management

CMU

HPE Insight Cluster Management Utility

CSR

Customer Self Repair

IML

Integrated Management Log

IPMI

Intelligent Platform Management Interface

PDU

power distribution unit

PXE

preboot execution environment

SATA

serial ATA

SSD

solid state device

UID

unit identification

UPS

uninterruptible power system

Documentation feedback

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