



Hewlett Packard
Enterprise

HPE ProLiant m700p 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 that 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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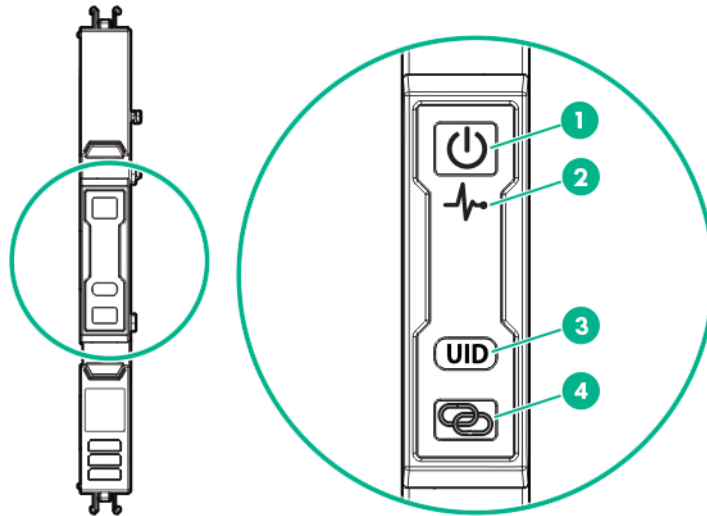
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Component identification

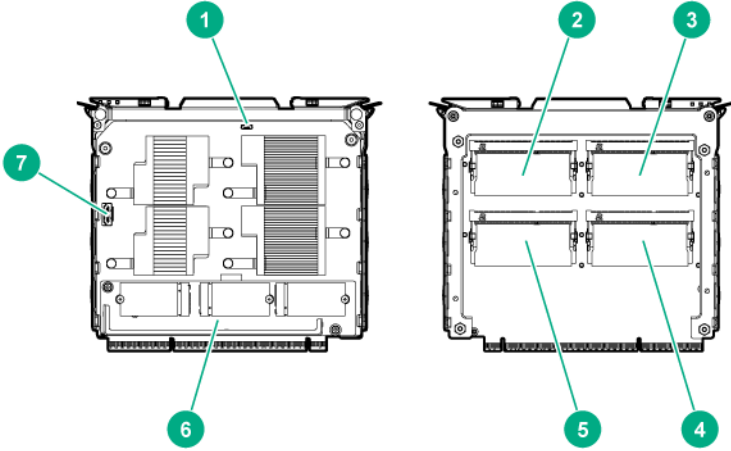
Cartridge LEDs and buttons



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.

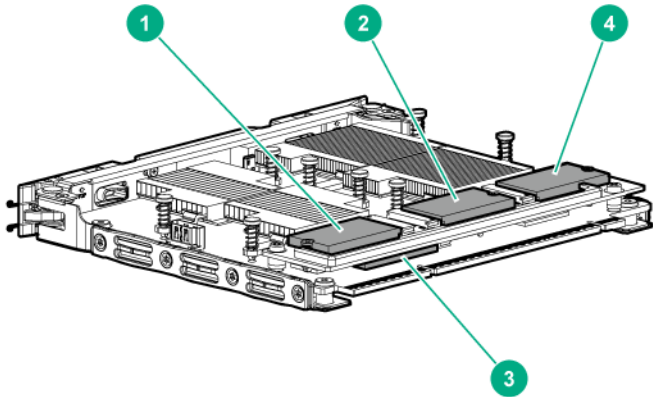
* The cartridge link LED flashes for 10 seconds after the link button is pressed.

Cartridge components



Item	Description
1	Micro-USB connector (For node 2 only)
2	Node 3 DIMM slot
3	Node 2 DIMM slot
4	Node 1 DIMM slot
5	Node 4 DIMM slot
6	M.2 mezzanine assembly
7	HDMI connector (For node 2 only)

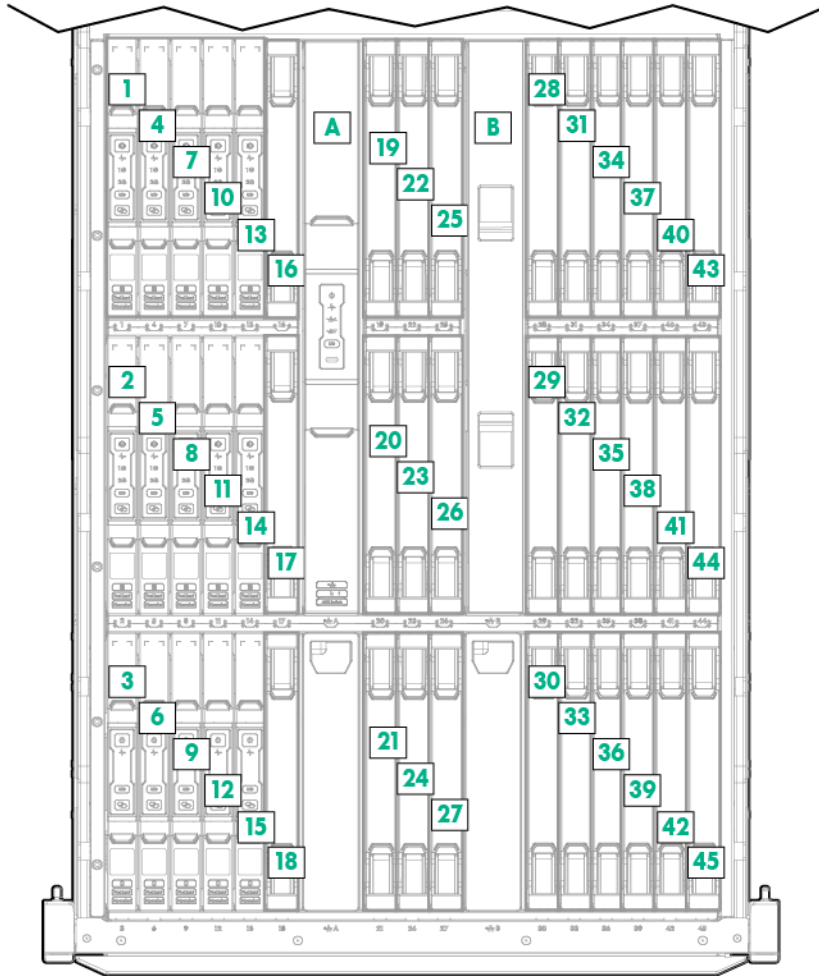
M.2 SSD locations



Item	Description
1	Node 1 M.2 SSD
2	Node 2 M.2 SSD
3	Node 3 M.2 SSD (on back of the mezzanine)
4	Node 4 M.2 SSD

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 the cartridge

The ProLiant m700p Server Cartridge is a four-node cartridge. To power down the cartridge, power down all nodes.

1. Log in to the iLO CM firmware (on page 12).
2. Power down all nodes on the cartridge by issuing the appropriate command.

For a cartridge running a functioning OS with four nodes:

```
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>N1-4
```

The <x> represents the slot number of the cartridge to be replaced. For the cartridge slot number, see "Cartridge slot and switch module bay identification (on page 7)."

3. 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)."

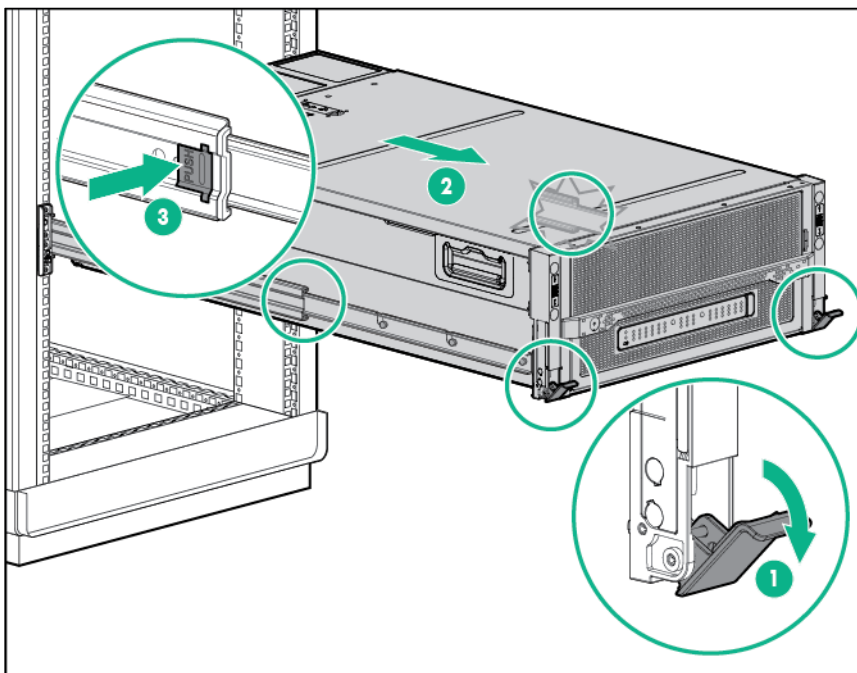
Extend the chassis from the rack

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.

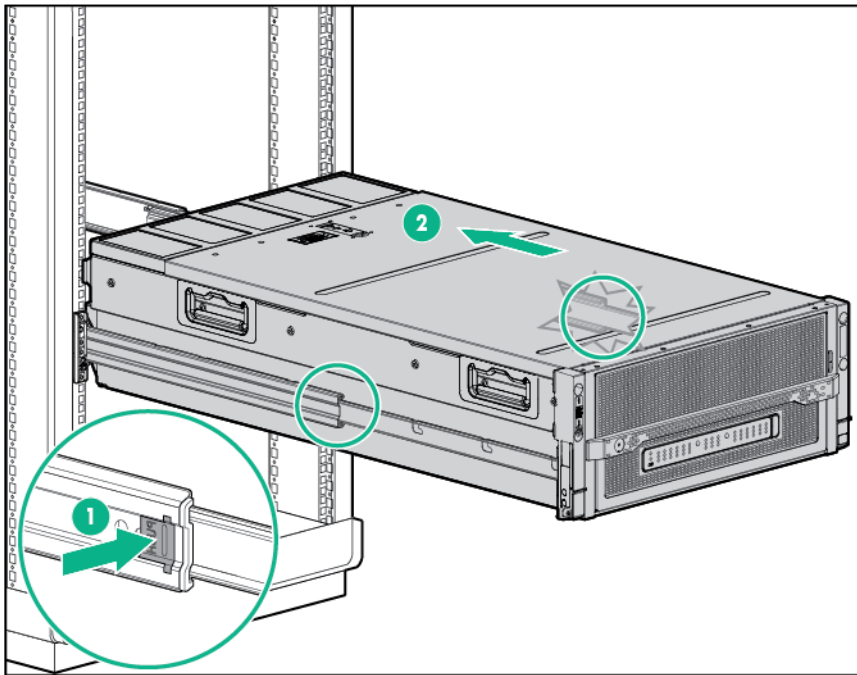
2. Extend the chassis from the rack until it locks once.
3. Press the push tab on the rail, and then fully extend the chassis.





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 installing or maintaining the system, 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.

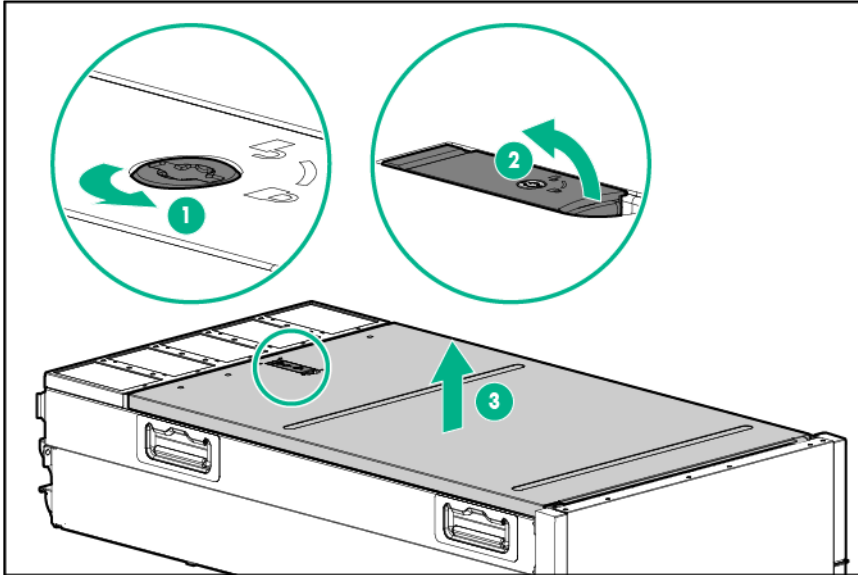


IMPORTANT: When the access panel is removed, the cartridge might be placed into a low power operating state to reduce thermal stress.

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.

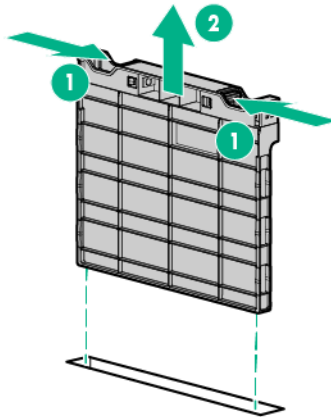


Turn the access panel over to locate the HPE Moonshot 1500 Chassis label. This label provides information on LED status indicators, component identification, and cartridge and switch installation procedures.

Removing the cartridge blank

To remove the component:

1. Extend the chassis from the rack (on page 8).
2. Remove the access panel (on page 9).
3. Remove the cartridge cover.
4. Remove the cartridge blank from the chassis.

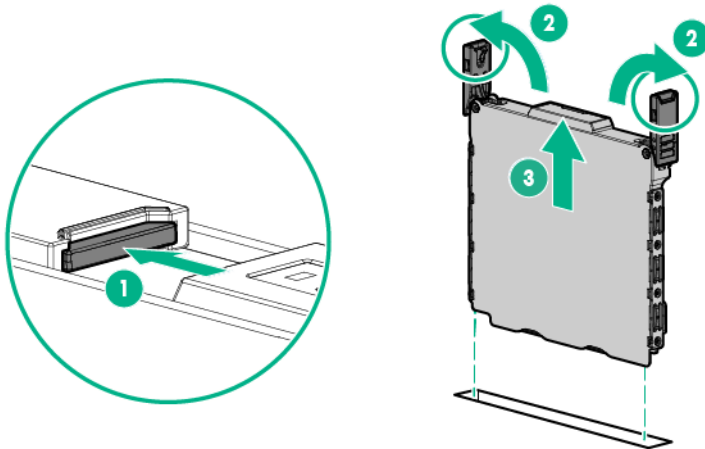


Removing the cartridge

- △ **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 cartridge (on page 8).
2. Extend the chassis from the rack (on page 8).
3. Remove the access panel (on page 9).
4. Remove the cartridge from 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.

Install the cartridge

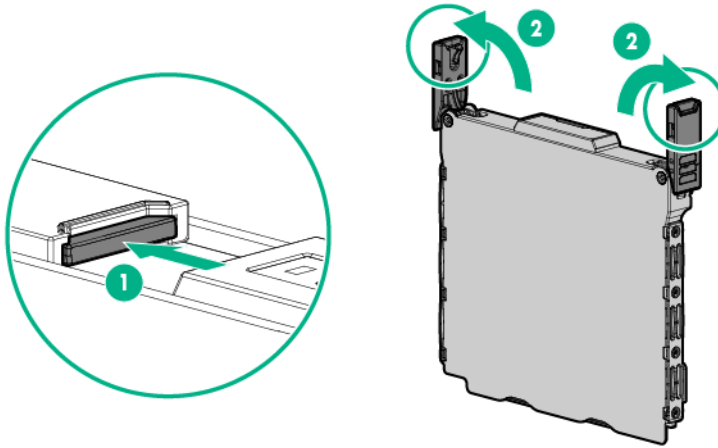


CAUTION: For proper cooling, be sure that a cartridge or a cartridge blank is always installed in each cartridge slot in the chassis. When replacing a cartridge, leave the cartridge slot empty for no more than 30 seconds. Failure to do so can disrupt airflow in the chassis.

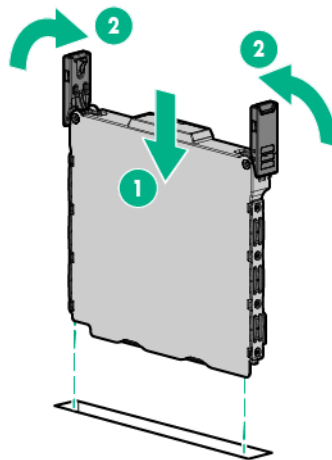
To install the component:

1. Extend the chassis from the rack (on page 8).
2. Remove the access panel (on page 9).

3. Prepare the cartridge.



4. Do one of the following:
 - o Remove the cartridge ("[Removing the cartridge](#)" on page 10).
 - o Remove the cartridge blank ("[Removing the cartridge blank](#)" on page 10).
5. Align and install the cartridge into the chassis.



6. Install the access panel (on page 11).
7. Slide the chassis back into the rack ("[Extend the chassis from the rack](#)" on page 8).

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

Installing 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 14).
2. Install and configure the switch and uplink modules ("[Installing and configuring the switch and uplink modules](#)" on page 14).
3. Install the cartridge (on page 11).
4. Power up the chassis ("[Powering up the chassis](#)" on page 14).
5. Power up the cartridge ("[Powering up the cartridge](#)" on page 15).
6. Install the operating system ("[Installing the operating system](#)" on page 15).
7. Update the cartridge firmware ("[Updating cartridge firmware](#)" on page 15).
8. Register the product ("[Registering the server](#)" on page 16).

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>).

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 the 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 power LED on the front panel of the chassis. For more information on the chassis power LEDs, 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 cartridge

The ProLiant m700p Server Cartridge is a four-node cartridge. To power up the cartridge, power up all nodes.

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

1. Log in to the iLO CM firmware (on page 12).
2. Show the installed cartridges to determine the node status:
hpiLO -> show node list
3. Power up all cartridge nodes using the following command:

```
set node power on CxN1-4
```

The <x> represents the slot number of the cartridge to be replaced. For the cartridge slot number, see "Cartridge slot and switch module bay identification (on page 7)."

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*

Installing the operating system

The Moonshot 1500 Chassis supports up to 45 cartridges. Each HPE ProLiant m700p Server Cartridge has four nodes per cartridge and each node can run an operating system.

- To provision a full complement of cartridges with Linux or Windows operating systems quickly, Hewlett Packard Enterprise recommends the HPE Insight Cluster Management Utility for large-scale image deployment. 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>).
- The ProLiant m700p Server Cartridge nodes can be provisioned with Linux or Windows operating systems using PXE deployment. For OS deployment procedures, see the *Operating System Deployment on ProLiant Moonshot Server Cartridges User Guide* in the Hewlett Packard Enterprise Information Library (<http://www.hpe.com/info/moonshot/docs>).

Updating cartridge firmware

1. Verify the firmware version by entering one of the following commands:

```
show firmware revisions all  
show firmware revisions list
```

The minimum supported version of the iLO CM firmware for the ProLiant m700p Server Cartridge is iLO Chassis Manager firmware version 1.50.

2. To download the latest firmware, see the HPE Moonshot Component Pack download site (<http://www.hpe.com/info/moonshot/download>).
3. Reboot the cartridge using the following commands:

```
set node power off force CxN1-4  
set node power on CxN1-4
```

The iLO CM firmware updates the system ROM flash.

The <x> represents the slot number of the cartridge to be replaced. For the cartridge slot number, see "Cartridge slot and switch module bay identification (on page 7)."

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>).

Registering the server

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>).

Hardware options installation

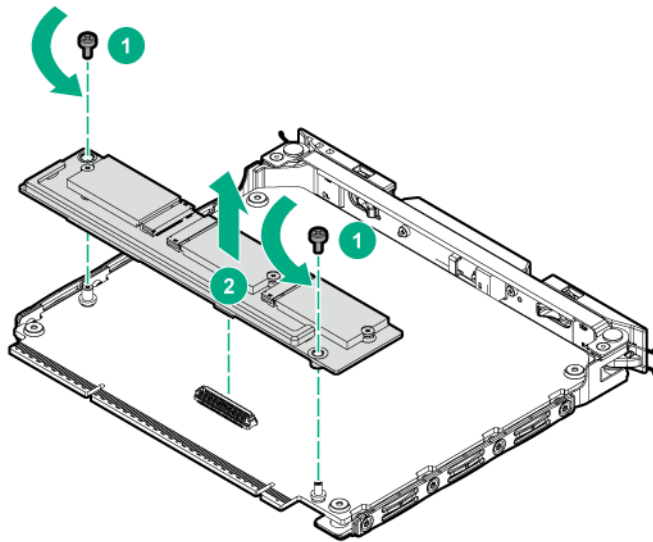
M.2 mezzanine assembly

Preparing to install the M.2 mezzanine assembly

- Prepare a No. 2 Phillips screwdriver.
- Back up all data on the cartridge.

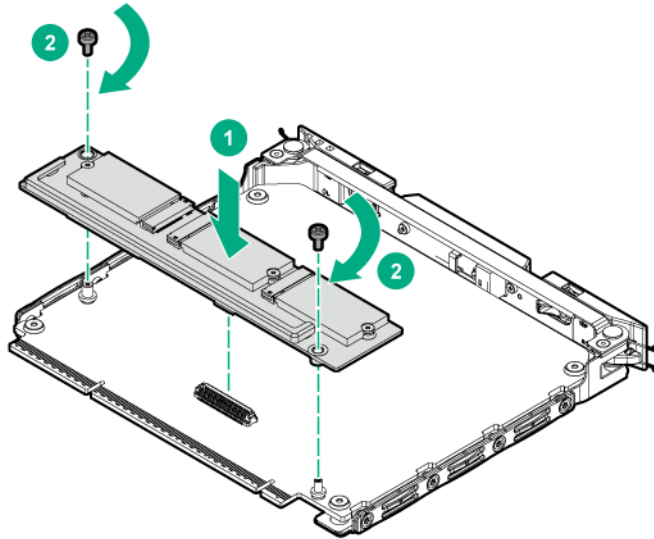
Installing the M.2 mezzanine assembly

1. Power down the cartridge (on page 8).
2. Extend the chassis from the rack (on page 8).
3. Remove the access panel (on page 9).
4. Remove the cartridge ("[Removing the cartridge](#)" on page 10).
5. Remove the M.2 mezzanine assembly:
 - a. Remove the screws securing the M.2 mezzanine.
Retain the screws for later use.
 - b. Remove the M.2 mezzanine assembly from the cartridge.



6. Install the M.2 mezzanine assembly:
 - a. Align the M.2 mezzanine assembly onto the connector pin, and then seat the M.2 mezzanine by pressing down firmly onto the middle of the connector.

- b. Install the screws on the M.2 mezzanine.



7. Install the cartridge (on page 11).
8. Install the access panel (on page 11).
9. Slide the chassis back into the rack ("[Extend the chassis from the rack](#)" on page 8).
10. Power up the cartridge ("[Powering up the cartridge](#)" on page 15).

Software and configuration utilities

Hewlett Packard Enterprise 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 **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>).

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>).

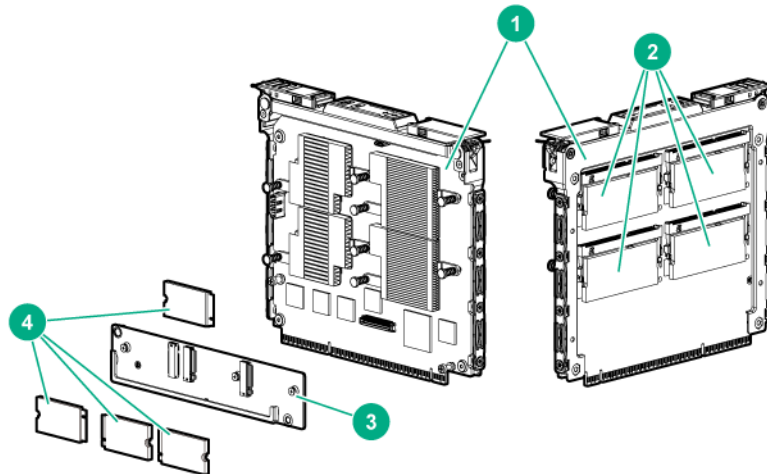
Parts only warranty service

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 22)
1	ProLiant m700p Server Cartridge	866238-001	Mandatory ¹
2	DIMMs		
	a) 8 GB EP3L-12800E, 512 MB x 8 SODIMM	824367-001	Mandatory ¹
	b) 16 GB EP3L-12800E, 1 GB x 8 SODIMM	868303-001	Mandatory ¹
3	M.2 mezzanine for HPE ProLiant m700p	833685-001	Mandatory ¹
4	M.2 SATA SSDs		
	a) HPE 64 GB SATA M.2 2242 SSD	867635-001	Mandatory ¹
	b) HPE 120 GB SATA M.2 2242 SSD	867636-001	Mandatory ¹
	c) HPE 240 GB STAT M.2 2242 SSD	867637-001	Mandatory ¹

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 9).
- Install the access panel (on page 11).
- Remove the cartridge ("Removing the cartridge" on page 10).
- Install the cartridge (on page 11).

Safety considerations

Before performing service procedures, review all the safety information.

Preventing electrostatic discharge

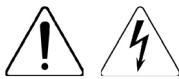
To prevent damaging the system, be aware of the precautions you must follow when setting up the system or handling parts. A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of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

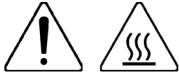


This symbol indicates the presence of electric shock hazards. The area contains no user or field serviceable parts. Do not open for any reason.

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 disconnect power from the system completely.

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

Preparing to replace a cartridge

1. Note the cartridge slot number for the cartridge being replaced ("[Cartridge slot and switch module bay identification](#)" on page 7).
2. Back up all data on the cartridge.

Replacing a cartridge

1. Log in to the iLO CM firmware (on page 12).
For more information about the iLO CM firmware, see the *Moonshot iLO Chassis Management CLI User Guide* on the Hewlett Packard Enterprise website (<http://www.hpe.com/info/moonshot/docs>).
2. Capture the cartridge serial number using the following command:

```
SHOW CARTRIDGE SN C<x>
```

The <x> represents the slot number of the cartridge to be replaced. For the cartridge slot number, see "Cartridge slot and switch module bay identification (on page 7)."

3. Capture the cartridge product ID using the following command:

```
SHOW CARTRIDGE PID C<x>
```

4. Display the cartridge node power state using the following command:

```
show cartridge power C<x>
```

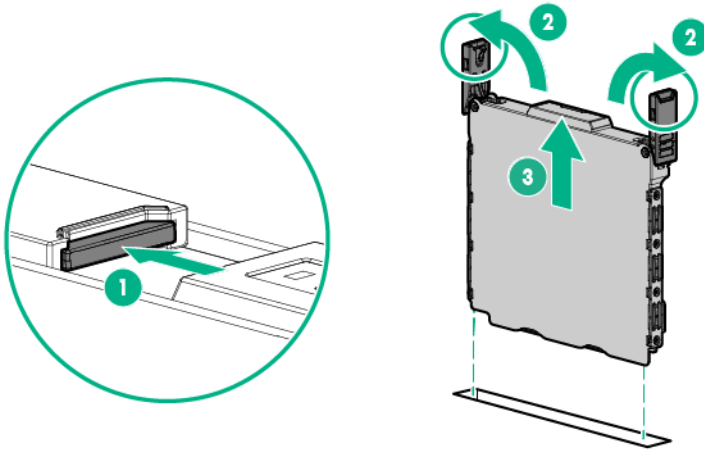
5. If necessary, power down the cartridge:

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

6. Extend the chassis from the rack (on page 8).

7. Remove the access panel (on page 9).

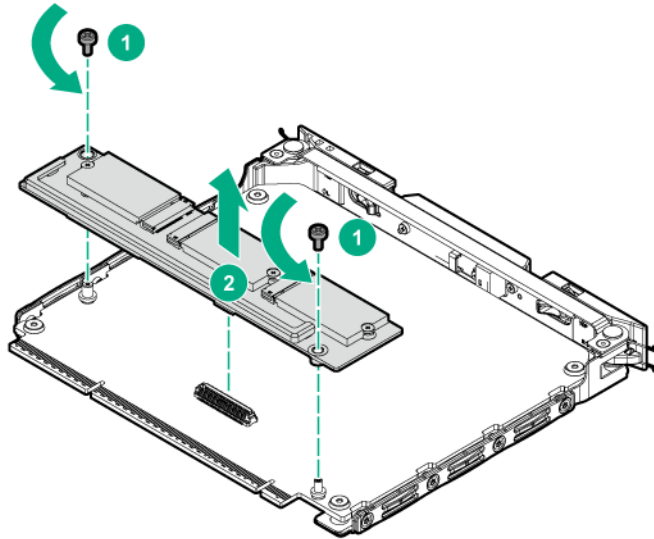
8. Remove the failed cartridge.



9. Remove the M.2 mezzanine assembly from the failed cartridge:

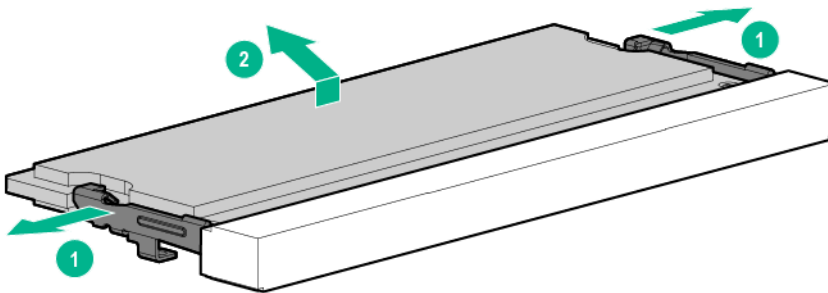
- a. Remove the screws securing the M.2 mezzanine.
Retain the screws for later use.

- b. Remove the M.2 mezzanine assembly from the cartridge.



10. Remove the DIMMs from the failed cartridge:

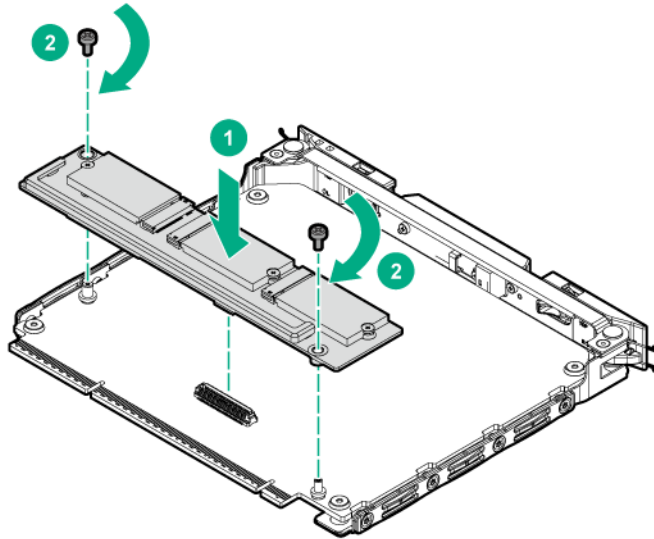
- a. Open the DIMM slot latches.
b. Remove the DIMM.



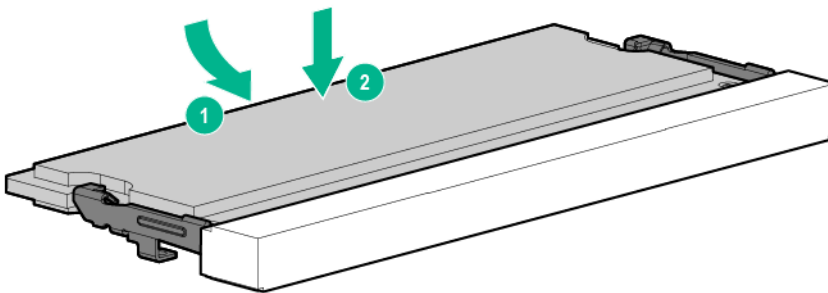
11. Install the M.2 mezzanine assembly from the failed cartridge onto the replacement cartridge:

- a. Align the M.2 mezzanine assembly onto the connector pin, and then seat the M.2 mezzanine by pressing down firmly onto the middle of the connector.

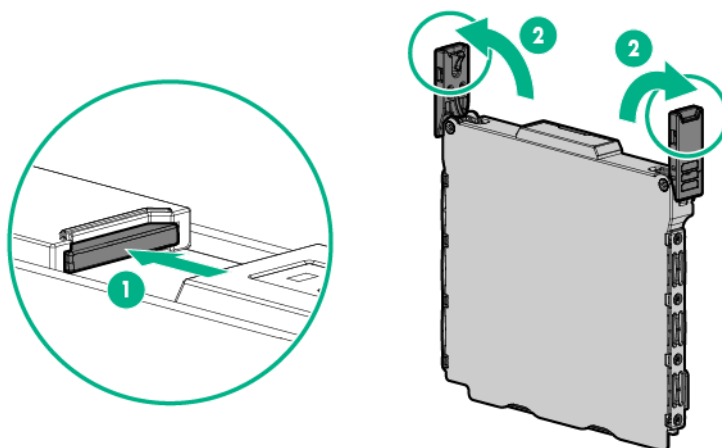
- b. Install the screws on the M.2 mezzanine.



- 12. Install the DIMMs from the failed cartridge onto the replacement cartridge:
 - a. Insert the DIMM into the slot.
 - b. Press the DIMM down until it locks into place.



13. Prepare the replacement cartridge for installation.



14. Install the cartridge (on page 11).
15. Install the access panel (on page 11).
16. Allow the chassis manager to discover the replacement cartridge.
The link LED ("Cartridge LEDs and buttons" on page 5) flashes when this process is complete.
17. To preserve the warranty entitlement for the replacement cartridge, complete the following steps:
 - a. Assign the original serial number to the replacement cartridge using the following command:
`SET CARTRIDGE SN <original SN> C<x>`
 - b. Assign the original product ID number to the replacement cartridge using the following command:
`SET CARTRIDGE PID <original PID> C<x>`
18. Slide the chassis back into the rack ("Extend the chassis from the rack" on page 8).
19. Power up the cartridge ("Powering up the cartridge" on page 15).

DIMMs

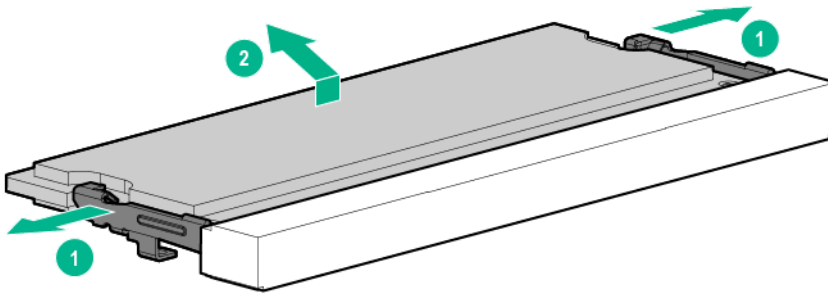
Preparing to replace a DIMM

1. Identify the failed DIMM by checking the iLO CM IML ("HPE Moonshot iLO CM Integrated Management Log" on page 19).
2. To locate the failed DIMM, see "Cartridge components (on page 6)".
3. Back up all data on the cartridge.

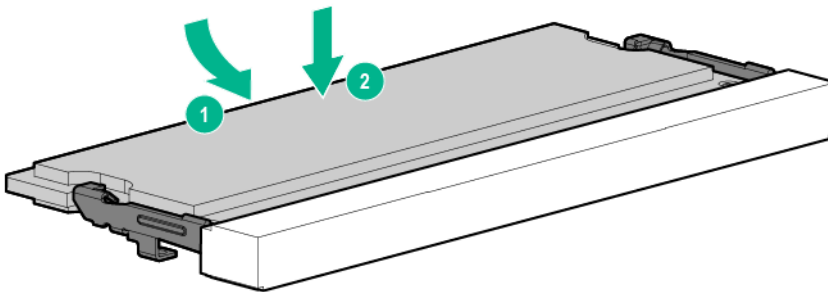
Replacing a DIMM

1. Power down the cartridge (on page 8).
2. Extend the chassis from the rack (on page 8).
3. Remove the access panel (on page 9).
4. Remove the cartridge ("Removing the cartridge" on page 10).
5. Remove a DIMM:
 - a. Open the DIMM slot latches.

- b. Remove the DIMM.



6. Install a DIMM:
 - a. Insert the DIMM into the slot.
 - b. Press the DIMM down until it locks into place.



7. Install the cartridge (on page 11).
8. Install the access panel (on page 11).
9. Slide the chassis back into the rack ("[Extend the chassis from the rack](#)" on page 8).
10. Power up the cartridge ("[Powering up the cartridge](#)" on page 15).

M.2 mezzanine

Preparing to replace the M.2 mezzanine

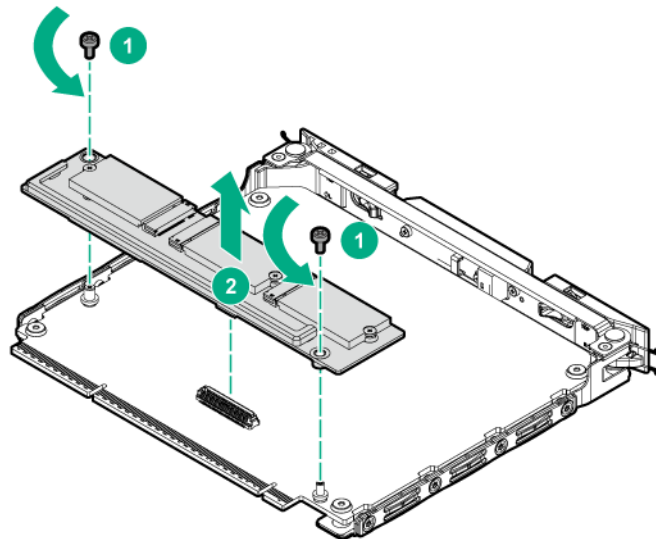
- Prepare a No. 2 Phillips screwdriver.
- Back up all data on the cartridge.

Replacing the M.2 mezzanine

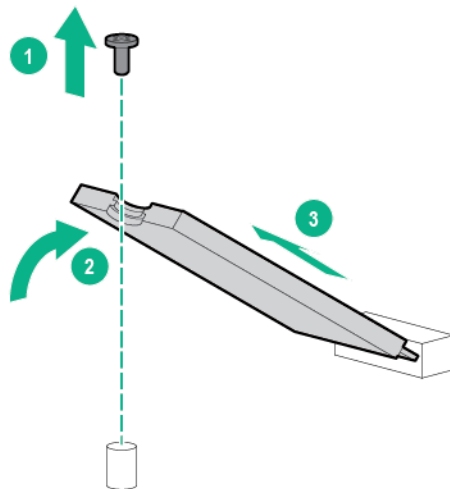
1. Power down the cartridge (on page 8).
2. Extend the chassis from the rack (on page 8).
3. Remove the access panel (on page 9).
4. Remove the cartridge ("[Removing the cartridge](#)" on page 10).
5. Remove the M.2 mezzanine assembly:
 - a. Remove the screws securing the M.2 mezzanine.

Retain the screws for later use.

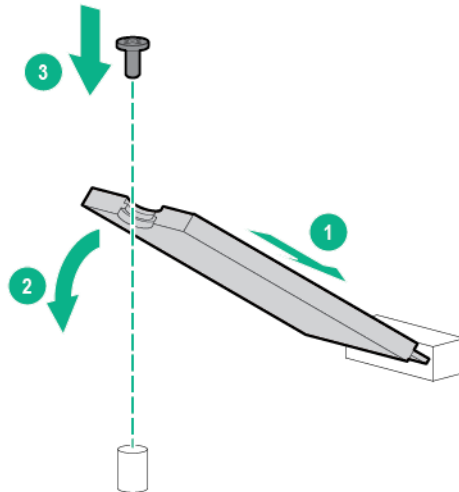
- b. Remove the M.2 mezzanine assembly from the cartridge.



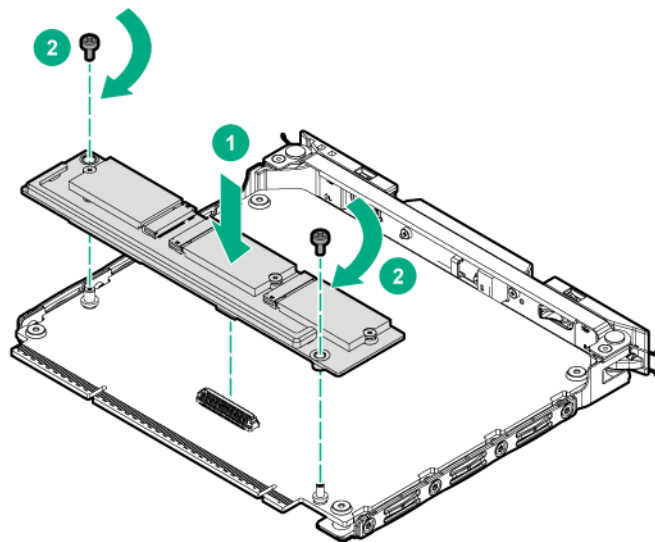
- 6. Remove all M.2 SSDs from the failed M.2 mezzanine.



7. Install all M.2 SSDs onto the replacement M.2 mezzanine



8. Install the M.2 mezzanine assembly:
 - a. Align the M.2 mezzanine assembly onto the connector pin, and then seat the M.2 mezzanine by pressing down firmly onto the middle of the connector.
 - b. Install the screws on the M.2 mezzanine.



9. Install the cartridge (on page 11).
10. Install the access panel (on page 11).
11. Slide the chassis back into the rack ("[Extend the chassis from the rack](#)" on page 8).
12. Power up the cartridge ("[Powering up the cartridge](#)" on page 15).

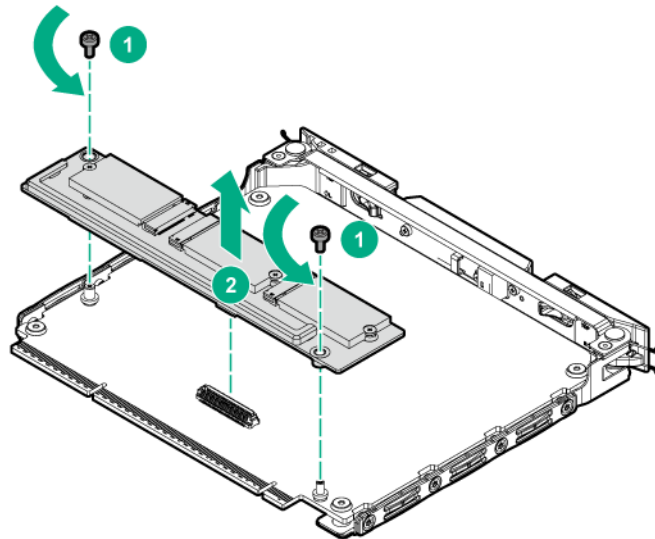
M.2 SSDs

Preparing to replace a M.2 SSD

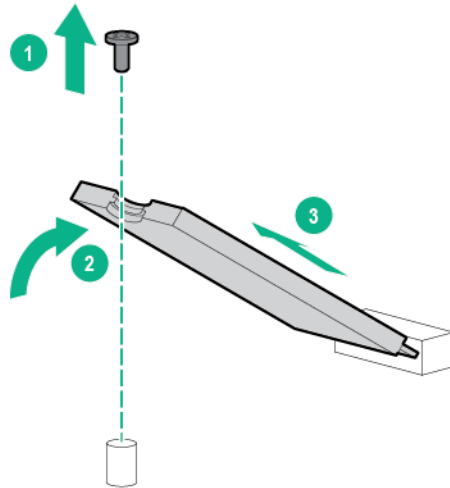
1. Identify the failed SSD by checking the iLO CM IML ("[HPE Moonshot iLO CM Integrated Management Log](#)" on page 19).
2. To locate the failed M.2 SSD, see "M.2 SSD location ("[M.2 SSD locations](#)" on page 6)."
3. Back up all data on the cartridge.
4. Prepare a No. 2 Phillips screwdriver.

Replacing a M.2 SSD

1. Power down the cartridge (on page 8).
2. Extend the chassis from the rack (on page 8).
3. Remove the access panel (on page 9).
4. Remove the cartridge ("[Removing the cartridge](#)" on page 10).
If you remove the node 3 M.2 SSD, see "M.2 SSD locations (on page 6)."
 - a. Remove the screws securing the M.2 mezzanine.
Retain the screws for later use.
 - b. Remove the M.2 mezzanine assembly from the cartridge.



5. Remove the SSD.



To replace the component, reverse the removal procedure.

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

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Бостандық ауданы, Әл-Фараби даңғылы, 77/7, Телефон/факс: +7 727 355 35 50

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 must 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)

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>)

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

ACPI

Advanced Configuration and Power Interface

CM

chassis management

CMU

HPE Insight Cluster Management Utility

CSR

Customer Self Repair

ESD

electrostatic discharge

IML

Integrated Management Log

IPMI

Intelligent Platform Management Interface

iSSD

integrated solid state drive

PDU

power distribution unit

PXE

preboot execution environment

SATA

serial ATA

SSD

solid-state drive

UID

unit identification

UPS

uninterruptible power system

Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback (<mailto:docsfeedback@hpe.com>). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.

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