

HPE ProLiant DL360 Gen10 Plus Server Maintenance and Service Guide



Part Number: 30-C15B03A6-003
Published: October 2021
Edition: 3

HPE ProLiant DL360 Gen10 Plus Server Maintenance and Service Guide

Abstract

This guide describes identification and maintenance procedures, diagnostic tools, specifications, and requirements for hardware components and software. This guide is for an experienced service technician. Hewlett Packard Enterprise assumes you are qualified in the servicing of computer equipment, trained in recognizing hazards in products, and are familiar with weight and stability precautions.

Part Number: 30-C15B03A6-003

Published: October 2021

Edition: 3

© Copyright 2021 Hewlett Packard Enterprise Development LP

Notices

The information contained herein is subject to change without notice. The only warranties for Hewlett Packard Enterprise products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

Confidential computer software. Valid license from Hewlett Packard Enterprise required for possession, use, or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Links to third-party websites take you outside the Hewlett Packard Enterprise website. Hewlett Packard Enterprise has no control over and is not responsible for information outside the Hewlett Packard Enterprise website.

Acknowledgments

Intel[®], Itanium[®], Optane[™], Pentium[®], Xeon[®], Intel Inside[®], and the Intel Inside logo are trademarks of Intel Corporation in the U.S. and other countries.

Microsoft[®], Windows[®], and Windows Server[®] are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Linux[®] is the registered trademark of Linus Torvalds in the U.S. and other countries.

VMware ESXi[™] and VMware vSphere[®] are registered trademarks or trademarks of VMware, Inc. in the United States and/or other jurisdictions.

Red Hat[®] Enterprise Linux[®] are registered trademarks of Red Hat, Inc. in the United States and other countries.

microSD[®] is a trademark or a registered trademark of SD-3D in the United States, other countries of both.

All third-party marks are property of their respective owners.

Table of contents

1 Illustrated parts catalog

1.1 Mechanical components

- 1.1.1 Access panel spare parts
- 1.1.2 PCIe riser cage spare part
- 1.1.3 PCIe riser blank spare parts
- 1.1.4 Miscellaneous blank spare parts
- 1.1.5 Server ear and front bezel spare parts
- 1.1.6 Rack mounting hardware spare parts
- 1.1.7 Cable management arm spare parts

1.2 System components

- 1.2.1 DIMM spare parts
- 1.2.2 Persistent memory module spare parts
- 1.2.3 Processor spare parts
 - 1.2.3.1 Third Generation Intel Xeon Scalable Processors
 - 1.2.3.1.1 43XX processor spare parts
 - 1.2.3.1.2 53XX processor spare parts
 - 1.2.3.1.3 63xx processor spare parts
 - 1.2.3.1.4 83xx processor spare parts
- 1.2.4 Heatsink spare parts
- 1.2.5 Smart Array controller spare parts
- 1.2.6 PCIe riser board spare parts
 - 1.2.6.1 Pensando Distributed Services Platform spare parts
- 1.2.7 OCP 3.0 adapter spare parts
- 1.2.8 System board assembly spare parts
- 1.2.9 Expansion board spare parts
 - 1.2.9.1 Host bus adapter spare parts
 - 1.2.9.2 Infiniband adapter spare parts
 - 1.2.9.3 Ethernet adapter spare parts

1.3 Server options

- 1.3.1 Fan spare parts
- 1.3.2 Power supply spare parts
- 1.3.3 Battery and capacitor spare parts
- 1.3.4 NVMe drive spare parts
- 1.3.5 SAS drive spare parts
- 1.3.6 SATA drive spare parts
- 1.3.7 Systems Insight Display spare parts
- 1.3.8 Power switch spare parts
- 1.3.9 Display port/USB/optical spare parts
- 1.3.10 Drive backplane spare parts
- 1.3.11 Cable kit spare parts
- 1.3.12 Chassis intrusion detection switch spare parts
- 1.3.13 Accelerator and GPU spare parts

1.3.14 HPE NS204i-p NVMe OS Boot Device spare parts

1.3.15 HPE Trusted Platform Module 2.0 Gen10 Plus spare part

2 Customer self repair

3 Removal and replacement procedures

3.1 Required tools

3.2 Safety considerations

3.2.1 Electrostatic discharge

3.2.2 Server warnings and cautions

3.2.3 Rack warnings

3.3 Preparation procedures

3.3.1 Power up the server

3.3.2 Power down the server

3.3.3 Extend the server from the rack

3.3.4 Remove the server from the rack

3.3.5 Remove the access panel

3.3.6 Install the access panel

3.3.7 Releasing the cable management arm

3.4 Removing and replacing the bezel

3.5 Removing and replacing the cable management arm

3.6 Removing and replacing the easy install rails

3.7 Removing the hard drive blank

3.8 Removing a hot-plug SAS/SATA/NVMe drive

3.9 Removing and replacing a power supply blank

3.10 Removing and replacing the AC power supply

3.11 Removing and replacing a fan blank

3.12 Removing and replacing a fan

3.13 Removing and replacing a PCIe blank

3.14 Removing and replacing a riser cage

3.15 Removing and replacing an M.2 SSD

3.16 Removing and replacing the OCP 3.0 adapter

3.17 Removing and replacing an expansion board

3.18 Removing and replacing the Pensando DSP DSC-25 2p SFP28 card

3.18.1 Removing the Pensando DSP DSC-25 2p SFP28 card

3.18.2 Replacing the Pensando DSP DSC-25 2p SFP28 card

3.19 Removing and replacing the HPE NS204i-p NVMe OS Boot Device option

3.19.1 Removing and replacing the boot device

3.19.2 Removing and replacing a boot device drive

3.19.2.1 Relocating the M.2 drive retaining latches

3.20 Removing and replacing a primary riser card

3.21 Removing and replacing the serial port

3.22 Removing and replacing the intrusion detection switch

3.23 Removing and replacing a GPU in the primary riser

3.24 Removing and replacing a GPU in the secondary riser

3.25 Removing and replacing a storage controller

3.26 Removing and replacing a DIMM

3.26.1 DIMM-processor compatibility

3.27 Removing a DIMM or persistent memory module

3.27.1 Persistent memory module handling guidelines

3.27.2 Disabling encryption for a persistent memory module

3.28 Removing and replacing the system battery

3.29 Removing and replacing the Smart Storage Battery or Hybrid Capacitor

3.30 Removing and replacing a processor or heatsink

3.31 Removing and replacing the system board

3.32 Removing and replacing the LFF optical disk drive/display port/USB

3.33 Removing and replacing the SFF optical disk drive/display port/USB

3.34 Removing and replacing the LFF power switch module

3.35 Removing and replacing the Systems Insight Display power module

3.36 Removing and replacing the 2 SFF drive cage

3.37 Removing and replacing the 4 LFF drive backplane

3.38 Removing and replacing the 8 SFF drive backplane

3.39 HPE Trusted Platform Module 2.0 Gen10 Plus Option

4 Troubleshooting

4.1 Troubleshooting resources

5 Diagnostic tools

5.1 Product QuickSpecs

5.2 UEFI System Utilities

5.2.1 Selecting the boot mode

5.2.2 Secure Boot

5.2.3 Launching the Embedded UEFI Shell

5.3 Intelligent Provisioning

5.3.1 Intelligent Provisioning operation

5.4 HPE Insight Remote Support

5.5 HPE InfoSight for servers

5.6 USB support

5.6.1 External USB functionality

5.7 HPE Smart Storage Administrator

6 Cabling

6.1 Cabling guidelines

6.2 Front I/O cabling

6.3 Storage cabling

6.3.1 SFF cables

6.3.1.1 8SFF x1 Tri-Mode U.3 backplane + 2SFF NVMe backplane to type-p Tri-Mode controller

6.3.1.2 8SFF x4 + 2SFF backplanes to type-p controller

6.3.1.3 8SFF x4 + 2SFF backplanes to type-a and type-p controllers

6.3.1.4 2SFF x4 backplane to primary NVMe riser

6.3.1.5 8SFF x1 Tri-Mode U.3 backplane to type-p controller on slot 2

6.3.1.6 8SFF SAS/SATA backplane to system board and 2-port type-a controller

6.3.1.7 8SFF x4 backplane to 2-port type-p controller

6.3.1.8 8SFF x4 backplane direct attach

6.3.1.9 8SFF SAS/SATA backplane to embedded SATA

6.3.2 LFF cables

6.3.2.1 4LFF backplane to controllers

7 Component identification

7.1 Front panel components

7.2 Front panel LEDs and buttons

7.2.1 UID button functionality

7.2.2 Front panel LED power fault codes

7.2.3 Systems Insight Display LEDs

7.2.4 Systems Insight Display combined LED descriptions

7.3 Rear panel components

7.4 Rear panel LEDs

7.5 System board components

7.5.1 Heatsink and socket components

7.5.2 System maintenance switch descriptions

7.5.3 DIMM slot locations

7.5.4 DIMM label identification

7.5.5 Intel Optane persistent memory 200 series for HPE label identification

7.6 Drive numbering

7.7 HPE Basic Drive LED definitions

7.8 Hot-plug fans

7.9 DSC-25 2-port SFP28 card ports and LEDs

7.10 HPE NS204i-p NVMe OS Boot Device components

7.11 HPE NS204i-p NVMe OS Boot Device LED definitions

8 Specifications

8.1 Environmental specifications

8.2 Server specifications

8.3 Power supply specifications

8.3.1 HPE 500 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

8.3.2 HPE 800 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

8.3.3 HPE 800 W Flex Slot Titanium Hot-plug Low Halogen Power Supply

8.3.4 HPE 800 W Flex Slot Universal Hot-plug Low Halogen Power Supply

8.3.5 HPE 800 W Flex Slot -48 VDC Hot-plug Low Halogen Power Supply

8.3.6 HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

8.4 Hot-plug power supply calculations

9 Support and other resources

9.1 Accessing Hewlett Packard Enterprise Support

9.2 Accessing updates

9.3 Remote support

9.4 Warranty information

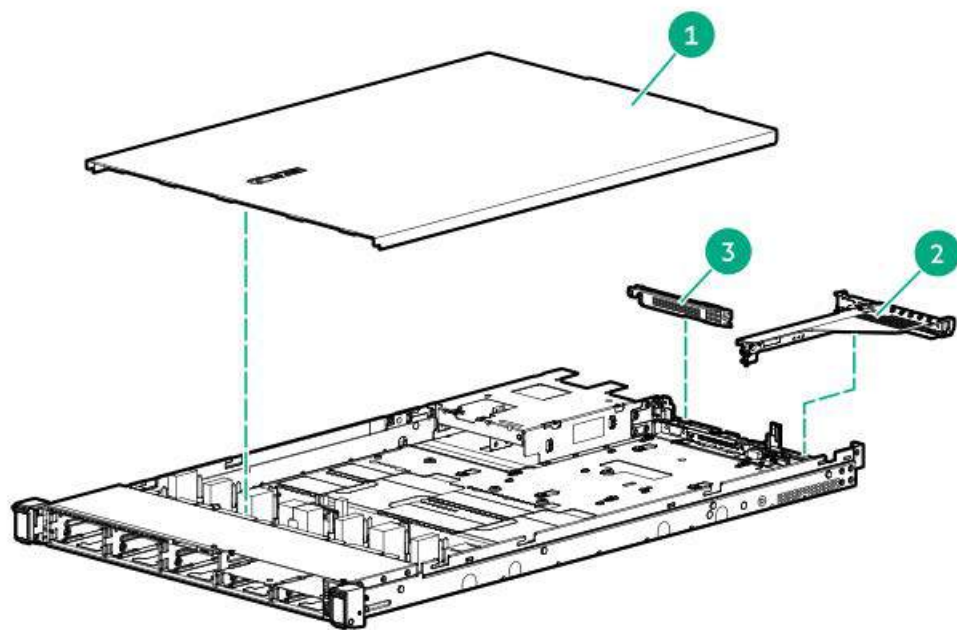
9.5 Regulatory information

9.6 Documentation feedback



Mechanical components

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported parts information, see the [Hewlett Packard Enterprise PartSurfer website](#).



Item	Description
1	Access panel spare parts
2	PCIe riser cage spare part
3	PCIe riser blank spare parts
4	Miscellaneous blank spare parts*
5	Server ear and front bezel spare parts*
6	Rack mounting hardware spare parts*
7	Cable management arm spare parts*

*Not shown

Access panel spare parts

Customer self repair: Mandatory

Description	Spare part number
Access panel	P38893-001



PCIe riser cage spare part

Customer self repair: Optional

Description	Spare part number
RISER, Tertiary, x16FH	P31223-001
RISER, x16LP	P31222-001
RISER, PCIe x16/x8/M.2	P28340-001

For primary riser board spares, see [PCIe riser board spare parts](#).



PCIe riser blank spare parts

Customer self repair: Mandatory

Description	Spare part number
PCIe riser blank, slotted	875537-001



Miscellaneous blank spare parts

Customer self repair: Mandatory

Description	Spare part number
OCP 3.0 adapter blank	P24101-001
Serial port blank	P40857-001
Quad NIC blank	P19929-001
Fan blanks, HPE Smart Storage Battery latch, retainers kit	875066-001



Server ear and front bezel spare parts

Customer self repair: Mandatory

Description	Spare part number
SFF left ear	P38894-001
LFF left ear	P43051-001
Right ear	P38895-001
1U Bezel	875561-001

Rack mounting hardware spare parts

Customer self repair: Mandatory

Description	Spare part number
SFF Easy Install Rail kit	P38898-001
LFF Easy Install Rail kit	P38899-001



Cable management arm spare parts

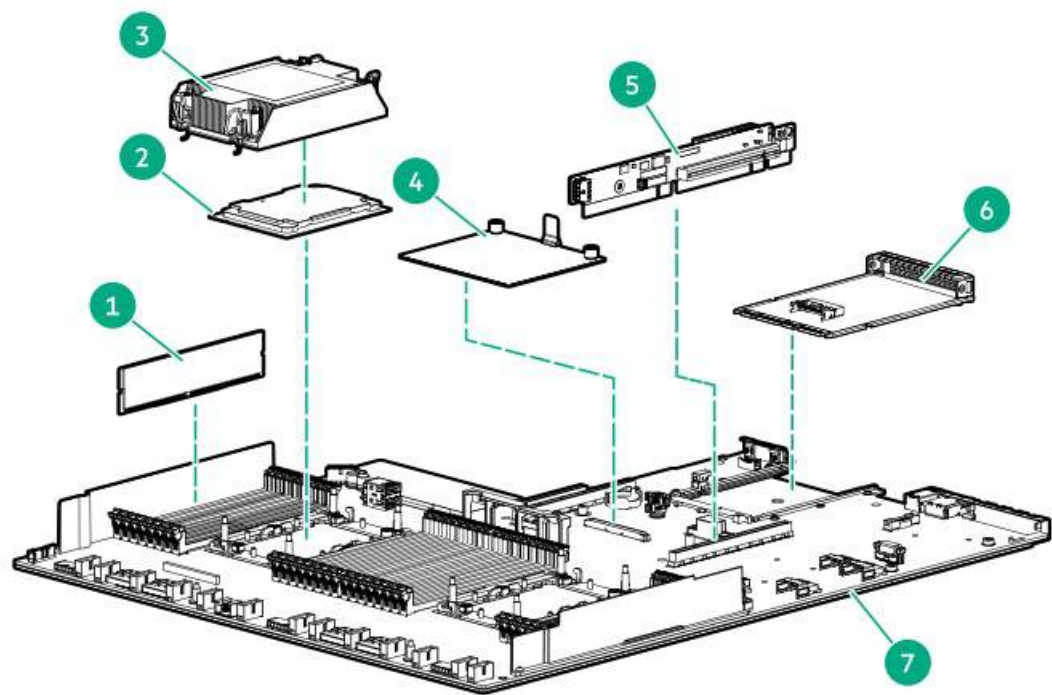
Customer self repair: Mandatory

Description	Spare part number
1U Cable Management Arm	P38900-001



System components

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported parts information, see the [Hewlett Packard EnterprisePartSurfer website](#).



Item	Description
1	DIMM spare parts HPEPersistent Memory module spare parts
2	Processor spare parts
3	Heatsink spare parts
4	Smart Array controller spare parts
5	PCIe riser board spare parts
6	OCP 3.0 adapter spare parts
7	System board assembly spare parts
8	Expansion board spare parts ¹ Host bus adapter spare parts Infiniband adapter spare parts Ethernet adapter spare parts

¹ Not shown

DIMM spare parts

Customer self repair: Mandatory

3200 MT/s DIMMs

Description	Spare part number
8GB 1Rx8 PC4-3200AA-R Smart Kit	P21671-001
16GB 1Rx4 PC4-3200AA-R Smart Kit	P21672-001
16GB 2Rx8 PC4-3200AA-R Smart Kit	P21673-001
32GB 2Rx4 PC4-3200AA-R Smart Kit	P21674-001
64GB 2Rx4 PC4-3200AA-R Smart Kit	P21676-001
128GB 4Rx4 PC4-3200AA-L Smart Kit	P21677-001
256GB 8Rx4 PC4-3200AA-L 3DS Smart	P21678-001
32GB 1Rx4 PC4-3200AA-R Smart Kit	P41682-001



Persistent memory module spare parts

Customer self repair: Mandatory

Description	Spare part number
Intel Optane 128GB PMem 200 for HPE	P31373-001
Intel Optane 256GB PMem 200 for HPE	P31374-001
Intel Optane 512GB PMem 200 for HPE	P31375-001







43XX processor spare parts

Customer self repair: Optional

Description	Spare part number
Intel Xeon Silver 4309Y processor (8C, 105W, 2.8GHz)	P44450-001
Intel Xeon Silver 4310 processor (2.1G, 12C, 120W)	P44449-001
Intel Xeon Silver 4314 processor (2.4G, 16C, 135W)	P44448-001
Intel Xeon Silver 4316 processor (2.3G, 20C, 150W)	P44447-001



53XX processor spare parts

Customer self repair: Optional

Description	Spare part number
Intel Xeon-G 5315Y 3.2G, 8C, 140W processor	P44443-001
Intel Xeon-G 5317 3.0G, 12C, 150W processor	P44442-001
Intel Xeon-G 5318N 2.1G, 24C, 135W	P44438-001
Intel Xeon-G 5318S 2.1G, 24C, 165W processor	P44433-001
Intel Xeon-G 5318Y 2.1G, 24C, 165W processor	P44446-001
Intel Xeon-G 5320 2.2G, 26C, 185W processor	P44445-001



63xx processor spare parts

Customer self repair: Optional

Description	Spare part number
Intel Xeon-G 6312U 2.4G, 24C, 185W processor	P44434-001
Intel Xeon-G 6342 2.8G, 24C, 230W processor	P44439-001
Intel Xeon-G 6334 3.6G, 8C, 165W processor	P44440-001
Intel Xeon-G 6326 2.9G, 16C, 185W processor	P44441-001
Intel Xeon-G 6336Y 2.4G, 24C, 185W processor	P44444-001
Intel Xeon-G 6330 2.0GHz 28c 205W processor	P41711-001
Intel Xeon-G 6338 2.0GHz 32c 205W processor	P41712-001
Intel Xeon-G 6346 3.1GHz 16c 205W processor	P41714-001
Intel Xeon-G 6354 3.0GHz 18c 205W processor	P41715-001
Intel Xeon-G 6348 2.6GHz 28c 235W processor	P41716-001
Intel Xeon-G 6338N 2.2GHz 32c 185W processor	P41725-001
Intel Xeon-G 6330N 2.2GHz 28c 165W processor	P41726-001
Intel Xeon-G 6314U 2.3GHz 32c 205W processor	P41727-001



83xx processor spare parts

Customer self repair: Optional

Description	Spare part number
Intel Xeon-P 8352Y 2.2GHz 32c 205W processor	P41713-001
Intel Xeon-P 8352M 2.3GHz 32c 185W processor	P46146 -001
Intel Xeon-P 8358 2.6GHz 32c 250W processor	P41717-001
Intel Xeon-P 8360Y 2.4GHz 36c 250W processor	P41718-001
Intel Xeon-P 8362 2.8GHz 32c 265W processor	P46147 -001
Intel Xeon-P 8368 2.4GHz 38c 270W processor	P41719-001
Intel Xeon-P 8380 2.3GHz 40c 270W processor	P41720-001
Intel Xeon-P 8358P 2.6GHz 32c 240W processor	P41721-001
Intel Xeon-P 8352V 2.1GHz 36c 195W processor	P41722-001
Intel Xeon-P 8351N 2.4GHz 36c 225W processor	P41724-001
Intel Xeon-P 8352S 2.2GHz 32c 205W processor	P41728-001



Heatsink spare parts

Customer self repair: Optional

Description	Spare part number
Standard heatsink	P31216-001
Performance heatsink	P31215-001



Smart Array controller spare parts

Customer self repair: **Mandatory**

Description	Spare part number
HPE Smart Array P816i-a SR Gen10 Controller	836261-001
HPE Smart Array P408i-a SR Gen10 Controller	836260-001
HPE Smart Array E208i-a SR Gen10 Controller	836259-001
HPE Smart Array P408i-p SR Gen10 Controller	836269-001
HPE Smart Array P408e-p SR Gen10 Controller	836270-001
HPE Smart Array E208i-p SR Gen10 Controller	836266-001
HPE Smart Array E208e-p SR Gen10 Controller	836267-001
Broadcom MegaRAID MR216i-a Tri-Mode Gen10 Plus Controller	P28348-001
Broadcom MegaRAID MR216i-p Tri-Mode Gen10 Plus Controller	P28336-001
Broadcom MegaRAID MR416i-a Tri-Mode Gen10 Plus Controller	P28335-001
Broadcom MegaRAID MR416i-p Tri-Mode Gen10 Plus Controller	P17303-001
Microchip SmartRAID SR416i-a Tri-Mode Gen10 Plus Controller	P13928-001
Microchip SmartRAID SR932i-p Tri-Mode Gen10 Plus Controller	P04223-001

PCIe riser board spare parts

Customer self repair: Optional

Description	Spare part number
Primary PCIe riser board	P31228-001
2x4 NVMe, x16x8 GPU riser board	P31229-001



Pensando Distributed Services Platform spare parts

Customer self repair: Optional

Description	Spare part number
Pensando Distributed Services Platform DSC-25 Enterprise 10/25Gb 2-port SFP28 Card	P27682-001



OCP 3.0 adapter spare parts

Customer self repair: Optional

Description	Spare part number
HPE ProLiant DL300 Gen10 Plus OCP x16 Enablement Kit	P24037-001
Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter	P14487-001
Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter	P13640-001
Marvell QL41132HQRJ Ethernet 10Gb 2-port BASE-T OCP3 Adapter	P13345-001
Intel X710-DA2 Ethernet 10Gb 2-port SFP+ OCP3 Adapter	P31327-001
Marvell QL41132HQU Ethernet 10Gb 2-port SFP+ OCP3 Adapter	P11586-001
Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter	P24113-001
Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter	P14484-001
Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter	P14485-001
Mellanox MCX562A-ACAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter	P12619-001
Marvell QL41232HQU Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter	P11710-001
Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ OCP3 Adapter	P26256-B21
HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 OCP3 PCIe4 x16 Adapter	P31323-B21
HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 OCP3 PCIe4 x16 Adapter	P31348-B21

System board assembly spare parts

Customer self repair: Optional

Description	Spare part number
System board for third-generation Intel Xeon scalable processors	P31231-001





Host bus adapter spare parts

Customer self repair: **Mandatory**

Description	Spare part number
HPE SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter	870001-001
HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	870002-001
HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter	P31338-001
HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	869999-001
HPE SN1610E 32Gb 1-port Fibre Channel Host Bus Adapter	P14421-001
HPE SN1610E 32Gb 2-port Fibre Channel Host Bus Adapter	P14422-001
HPE SN1100Q 16Gb Single Port Fibre Channel Host Bus Adapter	863010-001
HPE SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter	853011-001
HPE SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter	868141-001
HPE SN1610Q 32Gb 1-port Fibre Channel Host Bus Adapter	P14419-001
HPE SN1610Q 32Gb 2-port Fibre Channel Host Bus Adapter	P14420-001

Infiniband adapter spare parts

Customer self repair: **Mandatory**

Description	Spare part number
HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 MCX653105A-HDAT Adapter	P24754-001
HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 MCX653106A-HDAT Adapter	P36072-001
HPE 100Gb 1-port OP101 QSFP28 x16 PCIe Gen3 with Intel Omni-Path Architecture Adapter	829335-B21
HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe4 x16 MCX653105A-ECAT Adapter	841703-001
HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe4 x16 MCX653106A-ECAT Adapter	P24752-001



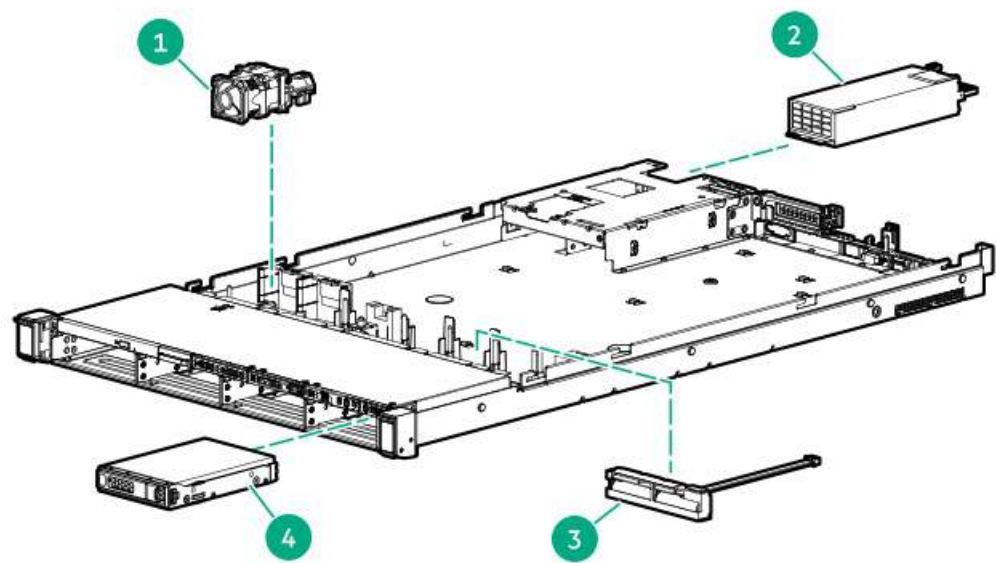
Ethernet adapter spare parts

Customer self repair: Mandatory

Description	Spare part number
Intel I350-T4 Ethernet 1Gb 4-port BASE-T Adapter	P22200-001
Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter	P26987-001
Marvell QL41132HLRJ Ethernet 10Gb 2-port BASE-T Adapter	P11688-001
Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ Adapter	P26874-001
Intel X710-DA2 Ethernet 10Gb 2-port SFP+ Adapter	P31328-001
Marvell QL41132HLCU Ethernet 10Gb 2-port SFP+ Adapter	P22199-001
Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter	P26871-001
Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter	P14483-001
Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter	P10582-001
Mellanox MCX512F-ACHT Ethernet 10/25Gb 2-port SFP28 Adapter	P16004-001
Marvell QL41232HLCU Ethernet 10/25Gb 2-port SFP28 Adapter	P23451-001
Xilinx X2522-25G-PLUS Ethernet 10/25Gb 2-port SFP28 Adapter	P22204-001
Xilinx X2522-25G Ethernet 10/25Gb 2-port SFP28 Adapter	P24737-001
HPE Ethernet 100Gb 1-port QSFP28 PCIe3 x16 MCX515A-CCAT Adapter	P36071-001
Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter	P26155-001
Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter	P22201-001
Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 Adapter	P14488-001
Marvell QL41134HLCU Ethernet 10Gb 4-port SFP+ Adapter	P13346-001
Mellanox MCX6314 Ethernet 10/25GbE 2-port SFP28 OCP3 Adapter	P42933-001
Mellanox MCX631102 Ethernet 10/25GbE 2-port SFP28 Adapter	P42934-001

Server options

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported parts information, see the [Hewlett Packard Enterprise PartSurfer website](#).



Item	Description
1	Fan spare parts
2	Power supply spare parts
3	Battery and capacitor spare parts
4	NVMe drive spare parts
5	SAS drive spare parts ¹
6	SATA drive spare parts ¹
7	Systems Insight Display spare parts ¹
8	Power switch spare parts ¹
9	Display port/USB/Optical spare parts ¹
10	Drive backplane spare parts ¹
11	Cable kit spare parts ¹
12	Accelerator and GPU spare parts ¹
13	HPE Trusted Platform Module 2.0 Gen10 Plus spare part ¹

¹ Not shown

Fan spare parts

Customer self repair: Mandatory

Description	Spare part number
Standard fans	P31214-001
High-performance fans	P31213-001

Power supply spare parts

Customer self repair: Mandatory

Description	Spare part number
800W Flex-slot 277VDC	866727-001
800W Flex-slot 48VDC	866728-001
500W Flex-slot Platinum	866729-001
800W Flex-slot Platinum	866730-001
800W Flex-slot High Efficiency Titanium 96%	866793-001
1600W Flex-slot Platinum	863373-001



Battery and capacitor spare parts

Customer self repair: Mandatory

Description	Spare part number
HPE Smart Storage Hybrid Capacitor	P07473-001
HPE Smart Storage Battery	878643-001
System battery	319603-001



NVMe drive spare parts

Customer self repair: **Mandatory**

Description	Spare part number
HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	P41513-001
HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	P41565-001
HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	P41491-001
HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	P41510-001
HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	P41564-001
HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	P41490-001
HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	P41509-001
HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM6 SSD	P41516-001
HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	P42592-001
HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	P41563-001
HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	P41489-001
HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	P41508-001
HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM6 SSD	P41515-001
HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	P42591-001
HPE 960GB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	P41562-001
HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	P41487-001
HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	P41570-001
HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	P41494-001
HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	P41514-001
HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	P41520-001
HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	P41569-001
HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	P41493-001
HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	P41513-001
HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	P41519-001

Description	Spare part number
HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	P42594-001
HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	P41568-001
HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	P41492-001
HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	P41512-001
HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	P41518-001
HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	P42593-001
HPE 800GB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	P41567-001
HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	P41488-001
HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	P41511-001
HPE 800GB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	P41517-001
HPE 4TB NVMe Gen3 High Performance Read Intensive SFF BC U.2 P4510 SSD	P41546-001
HPE 2TB NVMe Gen3 High Performance Read Intensive SFF BC U.2 P4510 SSD	P41545-001
HPE 6.4TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	P41549-001
HPE 3.2TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	P41548-001
HPE 1.6TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	P41547-001
HPE 750GB NVMe Gen3 High Performance Low Latency Write Intensive SFF BC U.2 P4800X SSD	P41551-001
HPE 375GB NVMe Gen3 High Performance Low Latency Write Intensive SFF BC U.2 P4800X SSD	P41550-001
HPE 480GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi-Vendor SSD	P41538-001

SAS drive spare parts

Customer self repair: **Mandatory**

LFF drives

Description	Spare part number
HPE 1.6TB SAS MU LFF LPC PM6 SSD	P41502-001
HPE 600GB SAS 15K LFF LPC HDD	P40783-001

SFF drives

Description	Spare part number
HPE 960GB SAS MU SFF BC VS MV SSD	P41535-001
HPE 1.92TB SAS MU SFF BC VS MV SSD	P41536-001
HPE 3.84TB SAS MU SFF BC VS MV SSD	P41537-001
HPE 960GB SAS RI SFF BC VS MV SSD	P41531-001
HPE 1.92TB SAS RI SFF BC VS MV SSD	P41532-001
HPE 3.84TB SAS RI SFF BC VS MV SSD	P41533-001
HPE 7.68TB SAS RI SFF BC VS MV SSD	P41534-001
HPE 800GB SAS MU SFF BC PM6 SSD	P41500-001
HPE 1.6TB SAS MU SFF BC PM6 SSD	P41501-001
HPE 3.2TB SAS MU SFF BC PM6 SSD	P41503-001
HPE 6.4TB SAS MU SFF BC PM6 SSD	P41504-001
HPE 800GB SAS MU SFF BC PM1645a SSD	P41558-001
HPE 1.6TB SAS MU SFF BC PM1645a SSD	P41559-001
HPE 3.2TB SAS MU SFF BC PM1645a SSD	P41560-001
HPE 6.4TB SAS MU SFF BC PM1645a SSD	P41561-001
HPE 800GB SAS MU SFF BC SS540 SSD	P41571-001
HPE 1.6TB SAS MU SFF BC SS540 SSD	P41572-001
HPE 3.2TB SAS MU SFF BC SS540 SSD	P41573-001
HPE 960GB SAS RI SFF BC PM6 SSD	P41495-001
HPE 1.92TB SAS RI SFF BC PM6 SSD	P41496-001
HPE 3.84TB SAS RI SFF BC PM6 SSD	P41497-001
HPE 7.68TB SAS RI SFF BC PM6 SSD	P41498-001
HPE 15.3TB SAS RI SFF BC PM6 SSD	P41499-001
HPE 960GB SAS RI SFF BC PM1643a SSD	P41554-001
HPE 1.92TB SAS RI SFF BC PM1643a SSD	P41555-001
HPE 3.84TB SAS RI SFF BC PM1643a SSD	P41556-001
HPE 7.68TB SAS RI SFF BC PM1643a SSD	P41557-001
HPE 400GB SAS WI SFF BC PM6 SSD	P41505-001
HPE 800GB SAS WI SFF BC PM6 SSD	P41506-001
HPE 800GB SAS WI SFF BC SS540 SSD	P41575-001
HPE 1.6TB SAS WI SFF BC PM6 SSD	P41507-001
HPE 400GB SAS WI SFF BC SS540 SSD	P41574-001
HPE 300GB SAS 15K SFF BC HDD	P30561-001

Description	Spare part number
HPE 2.4TB SAS 10K SFF BC 512e HDD	P30562-001
HPE 2TB SAS 7.2K SFF BC 512e HDD	P30575-001
HPE 1.2TB SAS 10K SFF BC HDD	P30563-001
HPE 300GB SAS 10K SFF BC HDD	P40785-001
HPE 900GB SAS 15K SFF BC HDD	P40784-001

SATA drive spare parts

Customer self repair: **Mandatory**

SFF drives

Description	Spare part number
HPE 960GB SATA MU SFF BC SED 5300M SSD	P42597-001
HPE 1.92TB SATA MU SFF BC SED 5300M SSD	P42598-001
HPE 480GB SATA RI SFF BC SED 5300P SSD	P42595-001
HPE 1.92TB SATA RI SFF BC SED 5300P SSD	P42596-001
HPE 480GB SATA MU SFF BC MV SSD	P41527-001
HPE 960GB SATA MU SFF BC MV SSD	P41528-001
HPE 1.92TB SATA MU SFF BC MV SSD	P41529-001
HPE 3.84TB SATA MU SFF BC MV SSD	P41530-001
HPE 240GB SATA RI SFF BC MV SSD	P41521-001
HPE 480GB SATA RI SFF BC MV SSD	P41522-001
HPE 960GB SATA RI SFF BC MV SSD	P41523-001
HPE 1.92TB SATA RI SFF BC MV SSD	P41524-001
HPE 3.84TB SATA RI SFF BC MV SSD	P41525-001
HPE 7.68TB SATA RI SFF BC MV SSD	P41526-001
HPE 480GB SATA MU SFF BC S4610 SSD	P41543-001
HPE 3.84TB SATA MU SFF BC S4610 SSD	P41544-001
HPE 1.92TB SATA RI SFF BC S4510 SSD	P41541-001
HPE 3.84TB SATA RI SFF BC S4510 SSD	P41542-001
HPE 7.68TB SATA VRO SFF BC 5210 SSD	P41553-001
HPE 2TB SATA 7.2K SFF BC 512e HDD	P30573-001
HPE 1TB SATA 7.2K SFF BC HDD	P30574-001
HPE 480GB SATA MU SFF BC PM897 SSD	P46049-001
HPE 960GB SATA MU SFF BC PM897 SSD	P46050-001
HPE 1.92TB SATA MU SFF BC PM897 SSD	P46051-001
HPE 480GB SATA MU SFF SC PM897 SSD	P48131-001
HPE 960GB SATA MU SFF SC PM897 SSD	P48132-001
HPE 1.92TB SATA MU SFF SC PM897 SSD	P48133-001
HPE 480GB SATA RI SFF SC PM893 SSD	P48134-001
HPE 960GB SATA RI SFF SC PM893 SSD	P48135-001
HPE 1.92TB SATA RI SFF SC PM893 SSD	P48136-001
HPE 3.84TB SATA RI SFF SC PM893 SSD	P48137-001

Systems Insight Display spare parts

Customer self repair: Mandatory

Description	Spare part number
SFF Systems Insight Display	P38903-001
LFF Systems Insight Display	P38904-001



Power switch spare parts

Customer self repair: Mandatory

Description	Spare part number
SFF Power/UID power switch	P31220-001
LFF Power/UID power switch	P38933-001



Display port/USB/optical spare parts

Customer self repair: Mandatory

Description	Spare part number
SFF display port/USB/optical drive blank	P41232-001
SFF display port/USB/optical disk drive	875560-001
LFF display port/USB Option	P41233-001



Drive backplane spare parts

Customer self repair: Mandatory

Description	Spare part number
8SFF U.3 x1 drive backplane	P40444-001
8SFF U.3 x4 drive backplane	P40445-001
8SFF x1 SAS/SATA drive backplane	P31227-001
8SFF U.2 x4 NVMe drive backplane	P31225-001
2SFF SAS/SATA drive cage	P31217-001
2SFF U.3 NVMe drive cage	P31219-001
2SFF U.2 NVMe drive cage	P31218-001



Cable kit spare parts

Customer self repair: **Mandatory**

Description	Spare part number
2SFF/8SFF cable kit	P38905-001
• 8SFF SAS/SATA power cable • 2SFF to 8SFF power cable • 2SFF SATA to embedded SATA port 3 cable • 8SFF SAS/SATA to embedded SATA cable • 2SFF SAS/SATA to type-a controller • 2SFF SAS/SATA to type-p controller	
4LFF cable kit	P38911-001
• 4LFF power cable • 4LFF SATA to embedded SATA port 2	
Direct attach NVMe cable kit	P38920-001
• 8SFF x8 NVMe • 10SFF x8 NVMe • 2SFF NVMe • 2SFF NVMe	
Tri-mode NVMe cable kit	P38924-001
• 8SFF NVMe • 8SFF NVMe2 • 8SFF NVMe3 • 8SFF NVMe4 • 8SFF x2 NVMe • 8SFF x2 NVMe2 • 2SFF NVMe	
OCP x16 enablement cable	P38932-001
Intrusion Detection switch cable	875570-001
Serial port cable	P38918-001
8SFF Mini-SAS cable	P38919-001



Chassis intrusion detection switch spare parts

Customer self repair: Mandatory

Description	Spare part number
Chassis intrusion detection switch kit	P24555-001



Accelerator and GPU spare parts

Customer self repair: Mandatory

Description	Spare part number
HPE DL360 Gen10 Plus 2P FH GPU v2 Enable Kit	P31223-001



HPE NS204i-p NVMe OS Boot Device spare parts

Customer self repair: Mandatory

Description	Spare part number
HPE NS204i-p NVMe OS Boot Device	P14379-001
480 GB NVMe x4 RI M.2 22110 DS SSD	P24886-001



HPE Trusted Platform Module 2.0 Gen10 Plus spare part

Customer self repair: No

Description	Spare part number
HPE Trusted Platform Module 2.0 Gen10 Plus	P23625-001



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.

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.

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.

Service de garantie "pièces seules"

Votre garantie limitée Hewlett Packard Enterprise peut inclure un service de garantie "pièces seules". Dans ce cas, les pièces de rechange fournies par Hewlett Packard Enterprise ne sont pas facturées.

Dans le cadre de ce service, la réparation des pièces CSR 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.

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.

Servizio di garanzia per i soli componenti

La garanzia limitata Hewlett Packard Enterprise può includere un servizio di garanzia per i soli componenti. Nei termini di garanzia del servizio per i soli componenti, Hewlett Packard Enterprise fornirà gratuitamente le parti di ricambio.

Per il servizio di garanzia per i soli componenti è obbligatoria la formula CSR che prevede la riparazione da parte del cliente. Se il cliente invece richiede la sostituzione ad Hewlett Packard Enterprise dovrà sostenere le spese di spedizione e di manodopera per il servizio.

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.

Parts-only Warranty Service (Garantieservice ausschließlich für Teile)

Hire Hewlett Packard Enterprise Garantie umfasst möglicherweise einen Parts-only Warranty Service (Garantieservice ausschließlich für Teile). Gemäß den Bestimmungen des Parts-only Warranty Service stellt Hewlett Packard Enterprise Ersatzteile kostenlos zur Verfügung.

Für den Parts-only Warranty Service ist das CSR-Verfahren zwingend vorgegeben. Wenn Sie den Austausch dieser Teile von Hewlett Packard Enterprise vornehmen lassen, werden Ihnen die Anfahrt- und Arbeitskosten für diesen Service berechnet.

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.

Servicio de garantía exclusivo de componentes

La garantía limitada de Hewlett Packard Enterprise puede que incluya un servicio de garantía exclusivo de componentes. Según las condiciones de este servicio exclusivo de componentes, Hewlett Packard Enterprise le facilitará los componentes de repuesto sin cargo adicional alguno.

Para este servicio de garantía exclusivo de componentes, es obligatoria la sustitución de componentes por parte del usuario (CSR). 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.

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 garantievorwaarden 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.

Garantieservice "Parts Only"

Het is mogelijk dat de Hewlett Packard Enterprise garantie alleen de garantieservice "Parts Only" omvat. Volgens de bepalingen van de Parts Only garantieservice zal Hewlett Packard Enterprise kosteloos vervangende onderdelen ter beschikking stellen.

Voor de Parts Only garantieservice is vervanging door CSR-onderdelen verplicht. Als u Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, worden u voor deze service reiskosten en arbeidsloon in rekening gebracht

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.

Serviço de garantia apenas para peças

A garantia limitada da Hewlett Packard Enterprise pode incluir um serviço de garantia apenas para peças. Segundo os termos do serviço de garantia apenas para peças, a Hewlett Packard Enterprise fornece as peças de reposição sem cobrar nenhuma taxa.

No caso desse serviço, a substituição de peças CSR é obrigatória. Se desejar que a Hewlett Packard Enterprise substitua essas peças, serão cobradas as despesas de transporte e mão-de-obra do serviço.

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サポートセンター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。

部品のみ保証サービス

Hewlett Packard Enterprise保証サービスには、部品のみ保証サービスが適用される場合があります。このサービスでは、交換部品は無償で提供されます。

部品のみ保証サービスにおいては、CSR部品をお客様により交換作業していただくことが必須になります。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、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のご負担となります。

客户自行维修

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

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

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

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

有关 Hewlett Packard Enterprise 客户自行维修计划的详细信息，请与您当地的服务提供商联系。

仅部件保修服务

您的 Hewlett Packard Enterprise 有限保修服务可能涉及仅部件保修服务。根据仅部件保修服务条款的规定，Hewlett Packard Enterprise 将免费提供更换的部件。

仅部件保修服务要求进行 CSR 部件更换。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。

客戶自行維修

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

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

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

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

如需 Hewlett Packard Enterprise 的 CSR 方案詳細資訊，請連絡您當地的服務供應商。

僅限零件的保固服務

您的「Hewlett Packard Enterprise 有限保固」可能包含僅限零件的保固服務。在僅限零件的保固服務情況下，Hewlett Packard Enterprise 將免費提供替換零件。

針對僅限零件的保固服務，CSR 零件替換是強制性的。如果您要求 Hewlett Packard Enterprise 更換這些零件，Hewlett Packard Enterprise 將會向您收取此服務所需的外出費用與勞動成本。

고객 셀프 수리

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

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

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

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

Hewlett Packard Enterprise CSR 프로그램에 대한 자세한 내용은 가까운 서비스 제공업체에 문의하십시오.

부품 제공 보증 서비스

Hewlett Packard Enterprise 제한 보증에는 부품 제공 보증 서비스가 포함될 수 있습니다. 이러한 경우 Hewlett Packard Enterprise는 부품 제공 보증 서비스의 조건에 따라 교체 부품만을 무료로 제공합니다.

부품 제공 보증 서비스 제공 시 CSR 부품 교체는 의무 사항입니다. 사용자가 Hewlett Packard Enterprise에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.

Required tools

The following tools might be required to perform some procedures:

- T-10/T-15/T-30 Torx screwdriver
- HPE Insight Diagnostics software

Safety considerations

Before performing service procedures, review all the safety information.



Electrostatic discharge

Be aware of the precautions you must follow when setting up the system or handling components. 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 system or component.

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

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

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

WARNING:

This server is heavy. To reduce the risk of personal injury or damage to the equipment:

- Observe local occupational health and safety requirements and guidelines for manual material handling.
 - Get help to lift and stabilize the product during installation or removal, especially when the product is not fastened to the rails. Hewlett Packard Enterprise recommends that a minimum of two people are required for all rack server installations. If the server is installed higher than chest level, a third person may be required to help align the server.
 - Use caution when installing the server in or removing the server from the rack; it is unstable when not fastened to the rails.
-

WARNING:

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

WARNING:

To reduce the risk of personal injury, electric shock, or damage to the equipment, remove the power cord to remove power from the server. The front panel Power On/Standby button does not completely shut off system power. Portions of the power supply and some internal circuitry remain active until AC/DC power is removed.

WARNING:

To reduce the risk of fire or burns after removing the energy pack:

- Do not disassemble, crush, or puncture the energy pack.
- Do not short external contacts.
- Do not dispose of the energy pack in fire or water.
- Do not expose the energy pack to low air pressure as it might lead to explosion or leakage of flammable liquid or gas.
- Do not expose the energy pack to temperatures higher than 60°C (140°F).

After power is disconnected, battery voltage might still be present for 1s to 160s.

CAUTION:

Protect the server from power fluctuations and temporary interruptions with a regulating uninterruptible power supply. This device protects the hardware from damage caused by power surges and voltage spikes and keeps the system in operation during a power failure.

CAUTION:

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

Rack warnings

-
-  **WARNING:** To reduce the risk of personal injury or damage to the equipment, be sure that:
- The leveling jacks are extended to the floor.
 - The full weight of the rack rests on the leveling jacks.
 - The stabilizing feet are attached to the rack if it is a single-rack installation.
 - The racks are coupled together in multiple-rack installations.
 - Only one component is extended at a time. A rack may become unstable if more than one component is extended for any reason.
-

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

-
-  **WARNING:**
- To reduce the risk of personal injury or damage to the equipment, adequately stabilize the rack before extending a component outside the rack. Extend only one component at a time. A rack may become unstable if more than one component is extended.
-

-
-  **WARNING:**
- When installing a server in a telco rack, be sure that the rack frame is adequately secured at the top and bottom to the building structure.
-

Preparation procedures

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

- Extend the server from the rack.

If you are performing service procedures in a Hewlett Packard Enterprise, Compaq branded, Telco, or third-party rack cabinet, you can use the locking feature of the rack rails to support the server and gain access to internal components.

For more information about Telco rack solutions, refer to the [RackSolutions.com website](http://RackSolutions.com).

- Power down the server.

If you must remove a server from a rack or a non-hot-plug component from a server, power down the server.

- Remove the server from the rack.

If the rack environment, cabling configuration, or the server location in the rack creates awkward conditions, remove the server from the rack.

Power up the server

To power up the server, use one of the following methods:

- Press the Power On/Standby button.
- Use the virtual power button through iLO.

Power down the server

Before powering down the server for any upgrade or maintenance procedures, perform a backup of critical server data and programs.

(i) IMPORTANT:

When the server is in standby mode, auxiliary power is still being provided to the system.

To power down the server, use one of the following methods:

- Press and release the Power On/Standby button.
This method initiates a controlled shutdown of applications and the OS before the server enters standby mode.
- Press and hold the Power On/Standby button for more than 4 seconds to force the server to enter standby mode.
This method forces the server to enter standby mode without properly exiting applications and the OS. If an application stops responding, you can use this method to force a shutdown.
- Use a virtual power button selection through iLO.
This method initiates a controlled remote shutdown of applications and the OS before the server enters standby mode.

Before proceeding, verify that the server is in standby mode by observing that the system power LED is amber.

Extend the server from the rack



NOTE:

If the cable management arm option is installed, you can extend the server without powering down the server or disconnecting peripheral cables and power cords. These steps are only necessary with the standard cable management solution.

Procedure

1. Power down the server.
2. Disconnect all peripheral cables and power cords.
3. Loosen the front panel thumbscrews.
4. Extend the server on the rack rails until the server rail-release latches engage.



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.



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.

5. After the installation or maintenance procedure, slide the server into the rack:
 - a. Slide the server fully into the rack.
 - b. Secure the server by tightening the thumbscrews.
6. Connect the peripheral cables and power cords.

Remove the server from the rack

To remove the server from a Hewlett Packard Enterprise, Compaq-branded, Telco, or third-party rack:

Procedure

1. Power down the server.
2. Extend the server from the rack.
3. Disconnect the cabling and remove the server from the rack. For more information, see the documentation that ships with the rack mounting option.
4. Place the server on a sturdy, level surface.

Remove the access panel

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

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

Procedure

1. Power down the server.
2. Extend the server from the rack.
3. Open or unlock the locking latch, slide the access panel to the rear of the chassis, and remove the access panel.

Install the access panel

Procedure

1. Place the access panel on top of the server with the latch open.

Allow the panel to extend past the rear of the server approximately 1.25 cm (0.5 in).

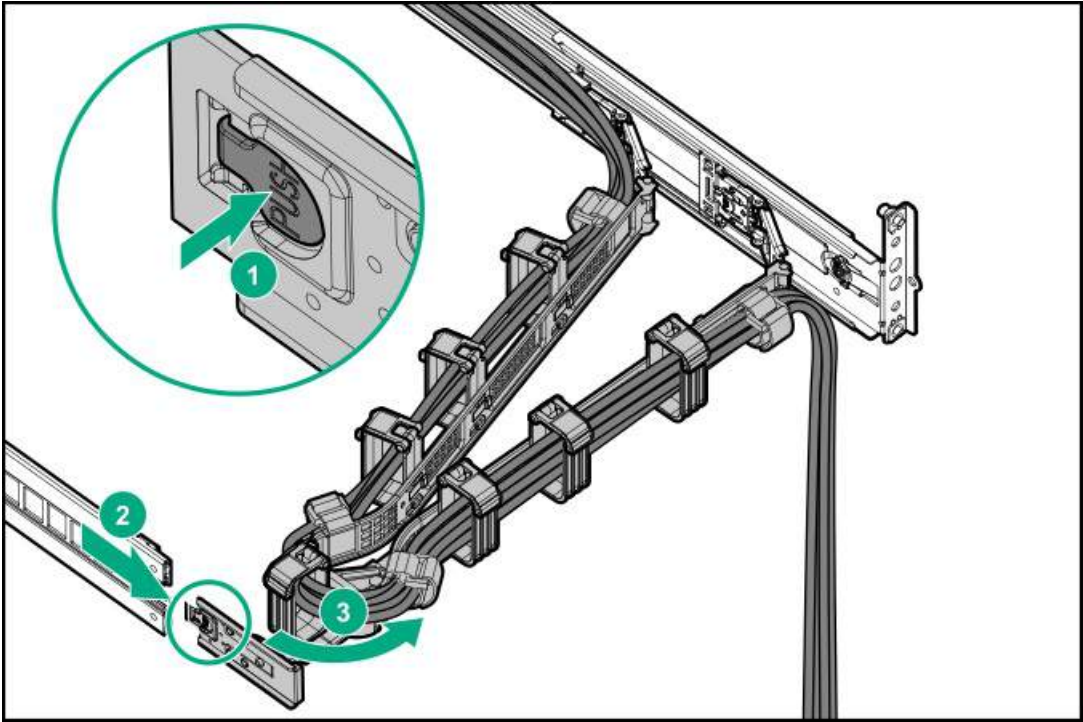
2. Push down on the latch.

The access panel slides to a closed position.

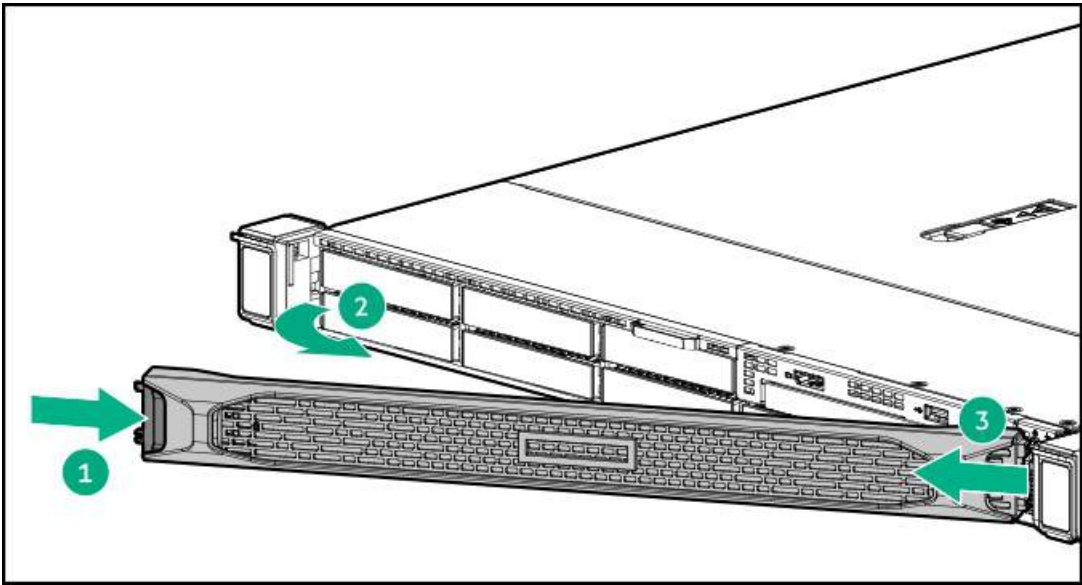
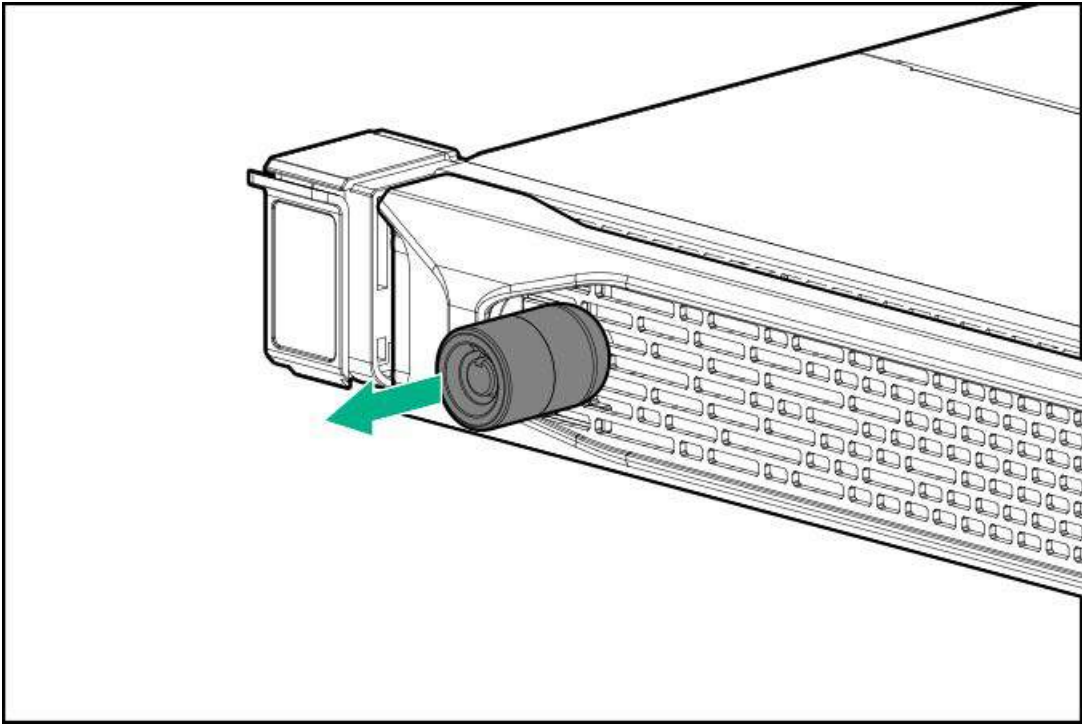
3. Tighten the security screw on the latch, if needed.

Releasing the cable management arm

Release the cable management arm and then swing the arm away from the rack.



Removing and replacing the bezel

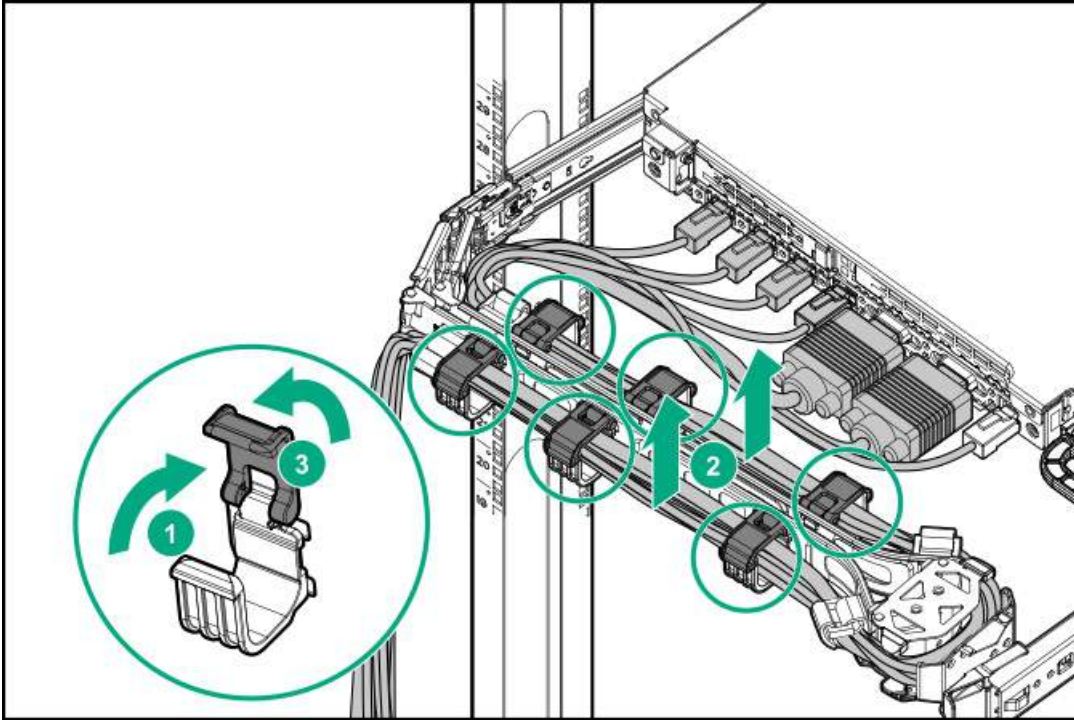


Removing and replacing the cable management arm

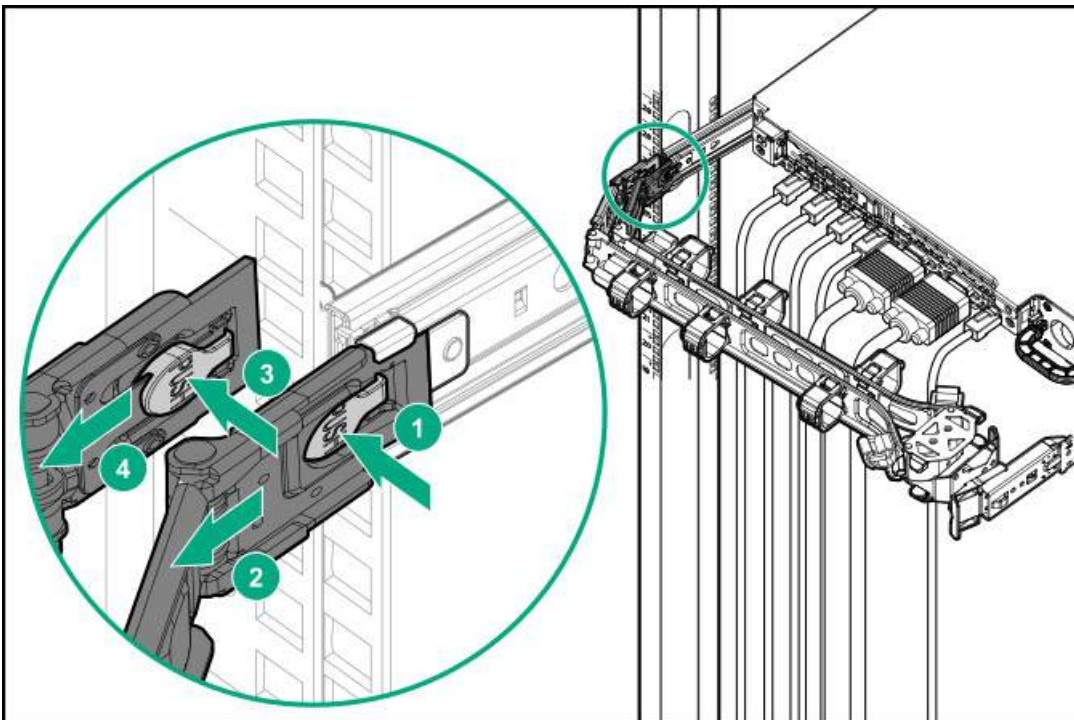
CAUTION: Support the CMA during the removal/replacement procedure. Do not allow the CMA to hang by its own weight during the procedure.

Procedure

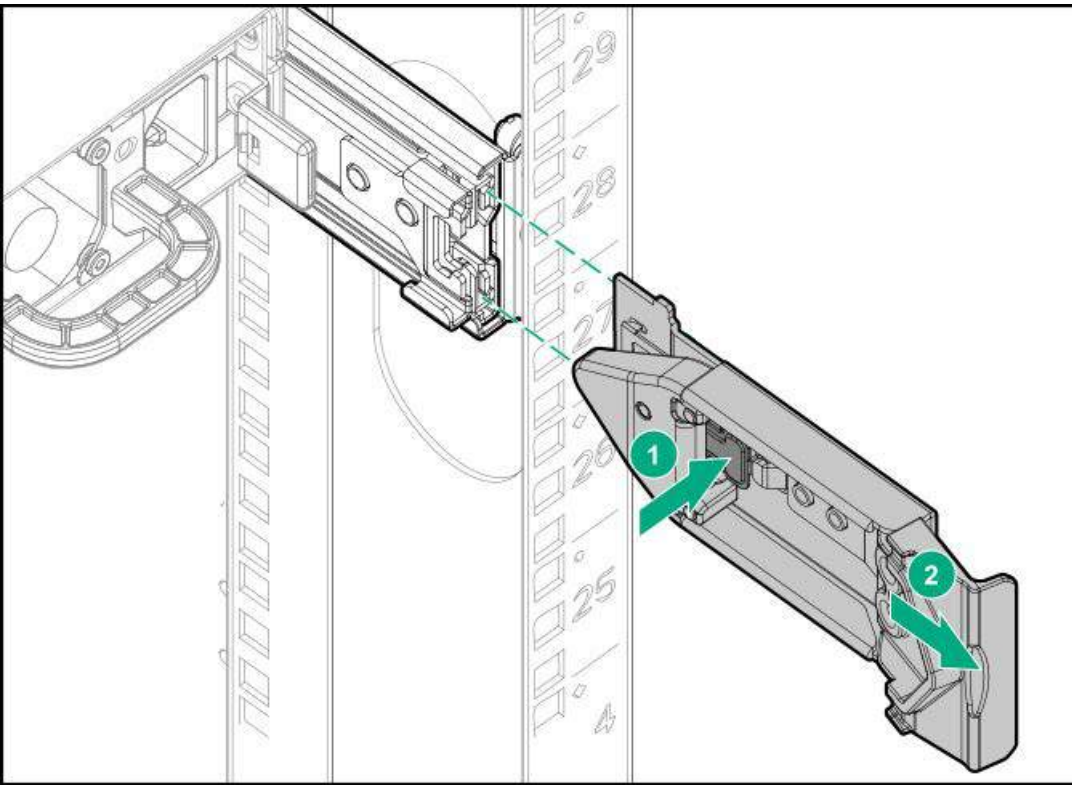
1. Extend the server from the rack.
2. Open the cable clamps and remove the cables routed through the CMA.



3. Release the CMA.



4. Remove the CMA latch.



To replace the component, reverse the removal procedure.

Removing and replacing the easy install rails

WARNING:

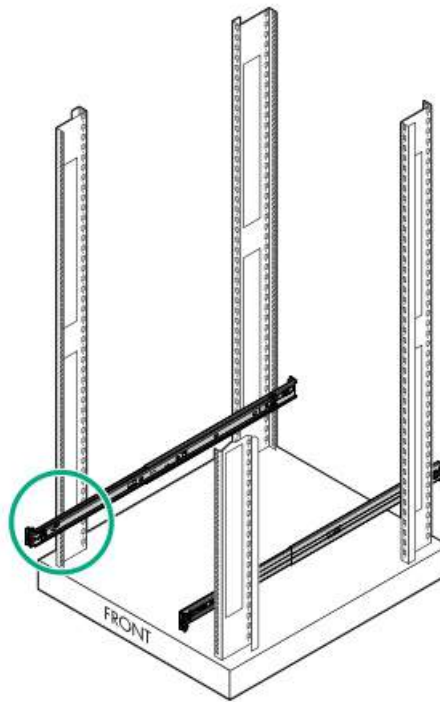
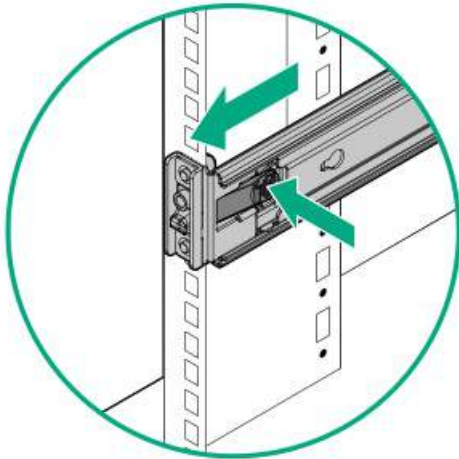
To reduce the risk of personal injury or damage to the equipment, you must adequately support the enclosure during installation and removal.

Prerequisites

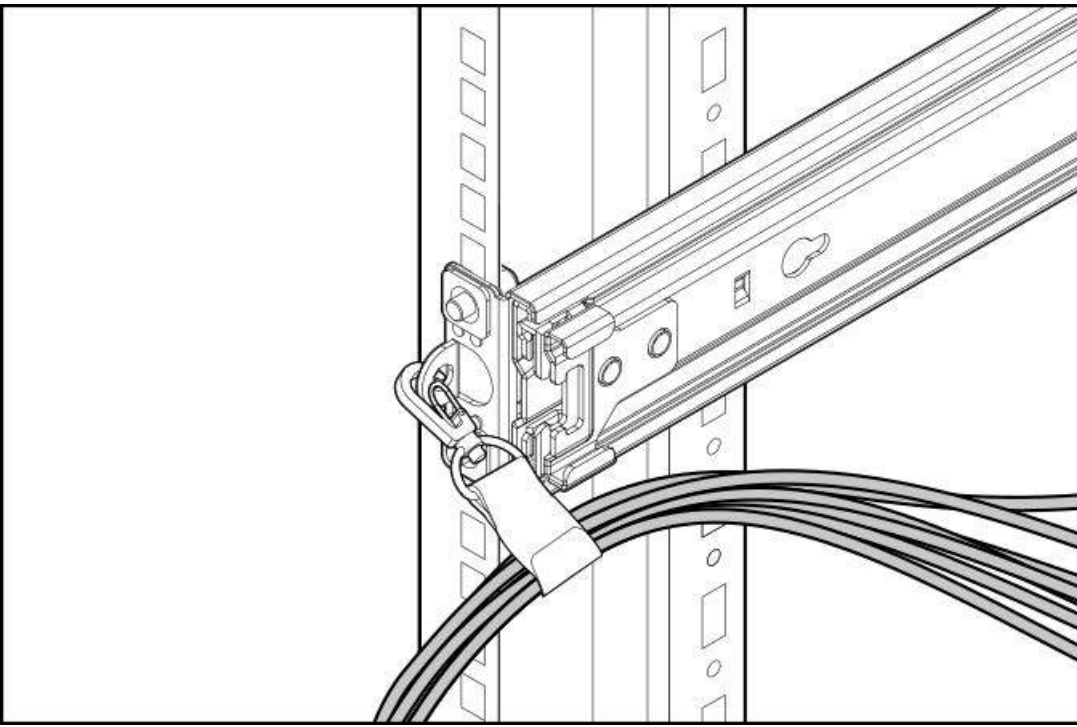
Before you begin, be sure that you have appropriate screwdriver for the screws in the rack.

Procedure

1. Power down the server.
2. Extend the server from the rack.
3. Disconnect the cabling.
4. Remove the server from the rack.
5. Place the server on a sturdy, level surface.
6. Remove the front of the rail.



7. Secure the cables.



To replace the component, reverse the removal procedure.

Removing the hard drive blank

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

Figure 1: Removing an SFF drive blank

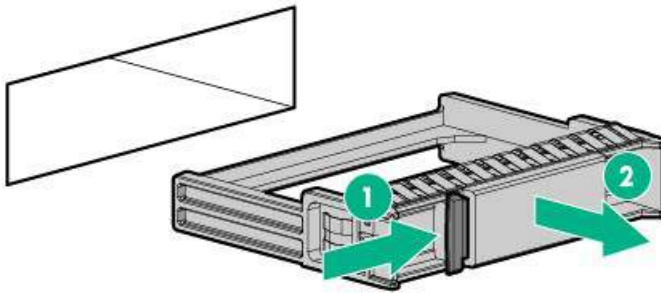
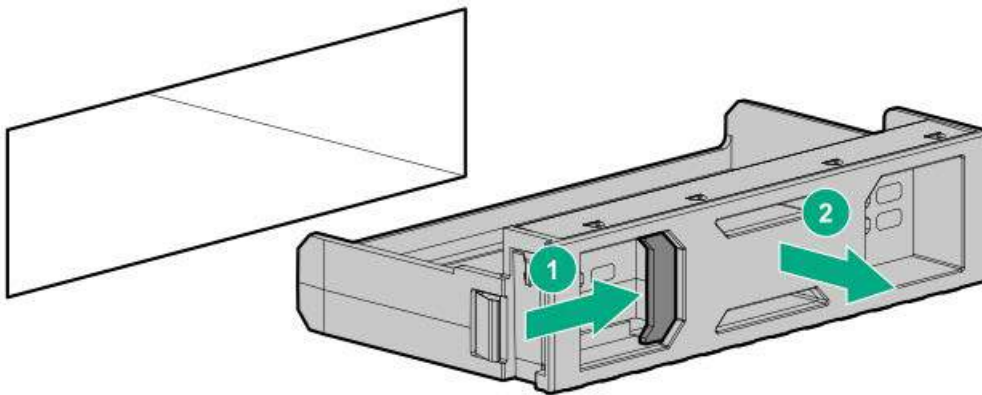


Figure 2: Removing an LFF drive blank



To replace the component, reverse the removal procedure.

Removing a hot-plug SAS/SATA/NVMe drive

CAUTION: For proper cooling, do not operate the server without the access panel, baffles, expansion slot covers, or blanks installed. If the server supports hot-plug components, minimize the amount of time the access panel is open.

1. Determine the status of the drive from the [hot-plug drive LED definitions](#).
2. Back up all server data on the drive.
3. Remove the drive.

Figure 3: SFF drive

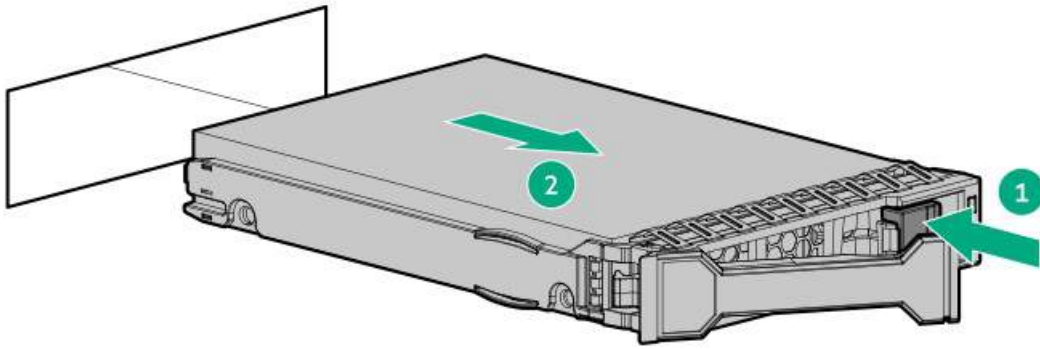
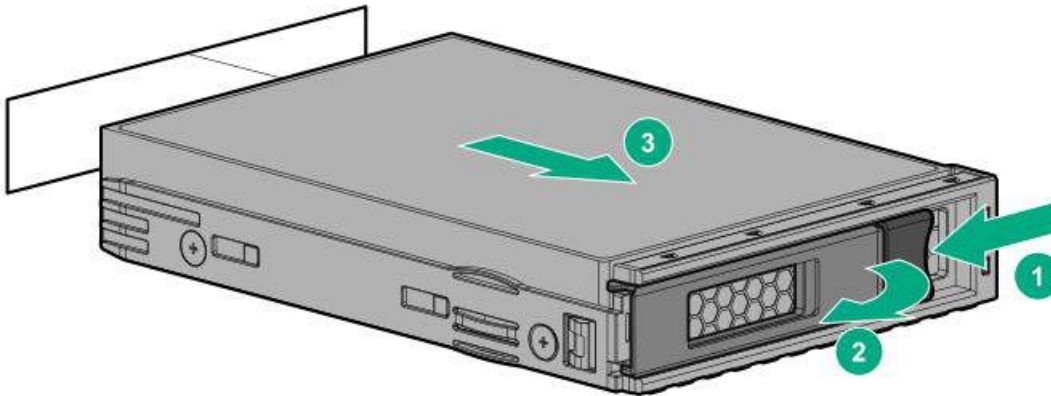


Figure 4: LFF drive



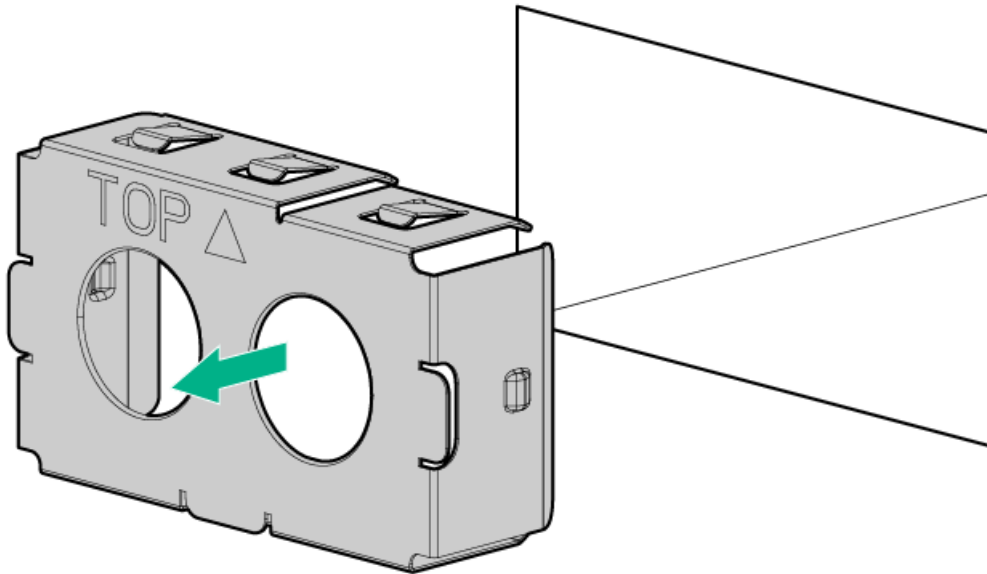
Removing and replacing a power supply blank

⚠ WARNING: To reduce the risk of personal injury from hot surfaces, allow the power supply or power supply blank to cool before touching it.

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

Procedure

1. Remove the power supply blank.



2. Immediately install the replacement power supply blank spare.

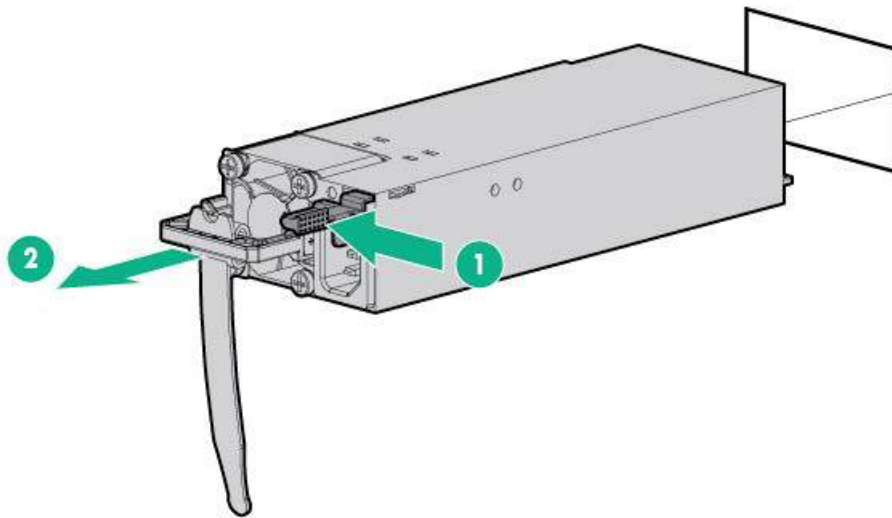
Removing and replacing the AC power supply

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

Procedure

1. Power down the server ([Power down the server](#)).
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Access the product rear panel ([Releasing the cable management arm](#)).
4. Remove the power supply.

WARNING: To reduce the risk of personal injury from hot surfaces, allow the power supply or power supply blank to cool before touching it.



To replace the component, reverse the removal procedure.

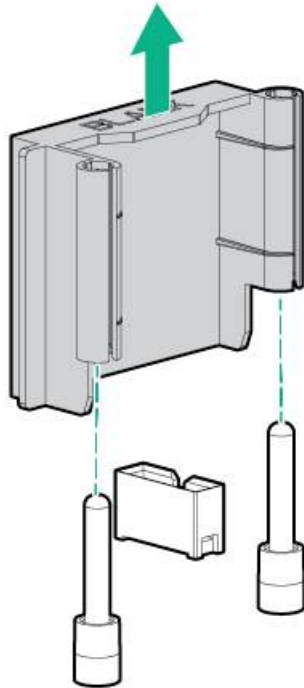
Removing and replacing a fan blank

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

IMPORTANT: For optimum cooling, install fans in all primary fan locations.

Procedure

1. Extend the server from the rack.
2. Remove the access panel.
3. Remove the fan blank.



To replace the component, reverse the removal procedure.

Removing and replacing a fan

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

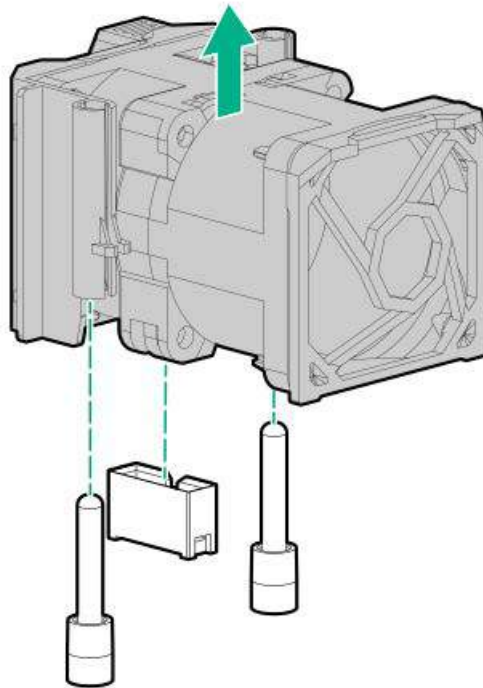
IMPORTANT: For optimum cooling, install fans in all primary fan locations.

Procedure

1. Extend the server from the rack.
2. Remove the access panel.
3. Remove the fan.

IMPORTANT: When a hot-plug fan is removed, the other fans in the server will increase speed to compensate.

CAUTION: To avoid server shutdown, a fan must be replaced within 60 seconds of being removed.



To replace the component, reverse the removal procedure.

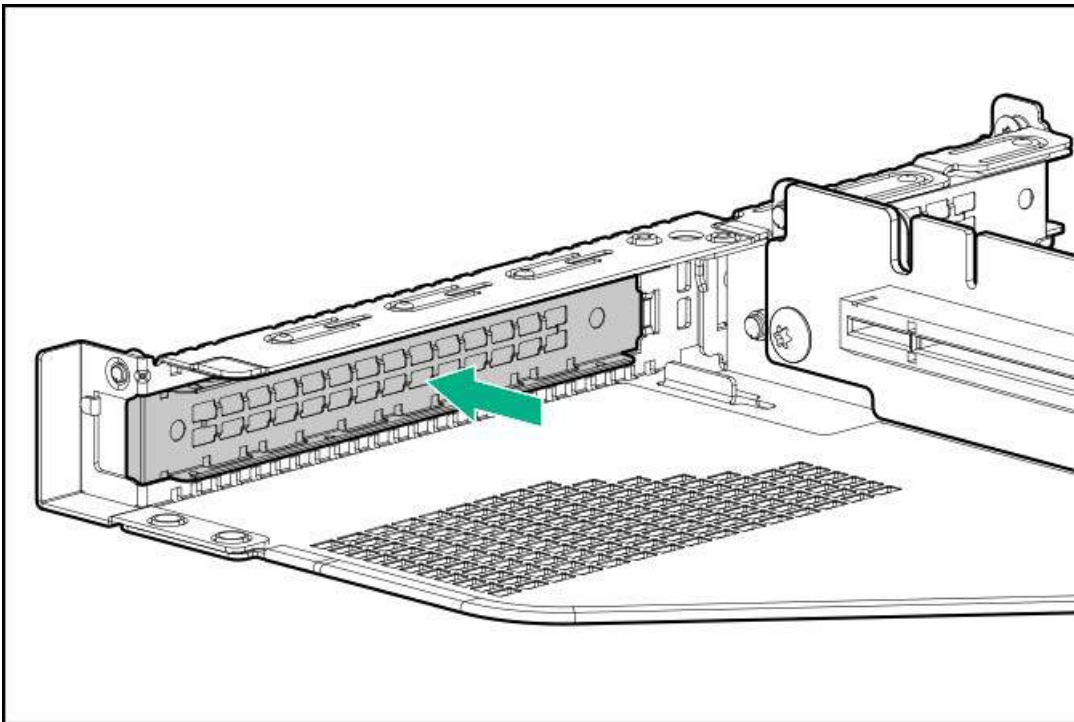
Removing and replacing a PCIe blank

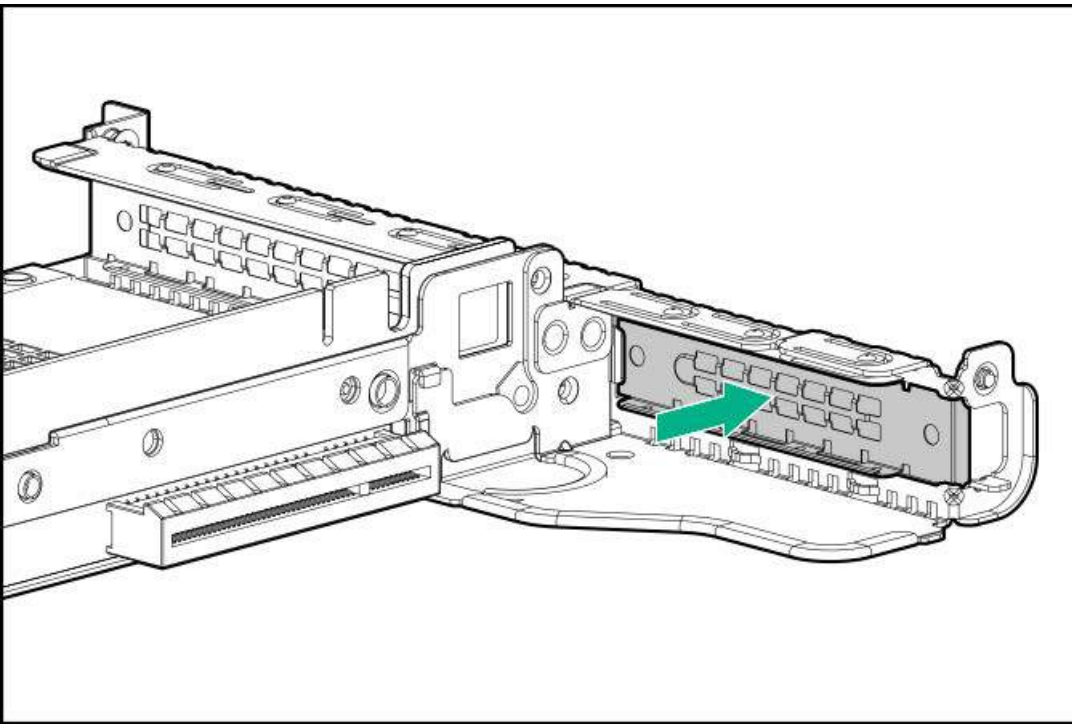
CAUTION: To prevent damage to the server or expansion boards, power down the server and remove all AC power cords before removing or installing the PCI riser cage.

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove the access panel.
5. Remove the riser cage.
6. Remove the riser blank.

To remove blanks from the primary riser:

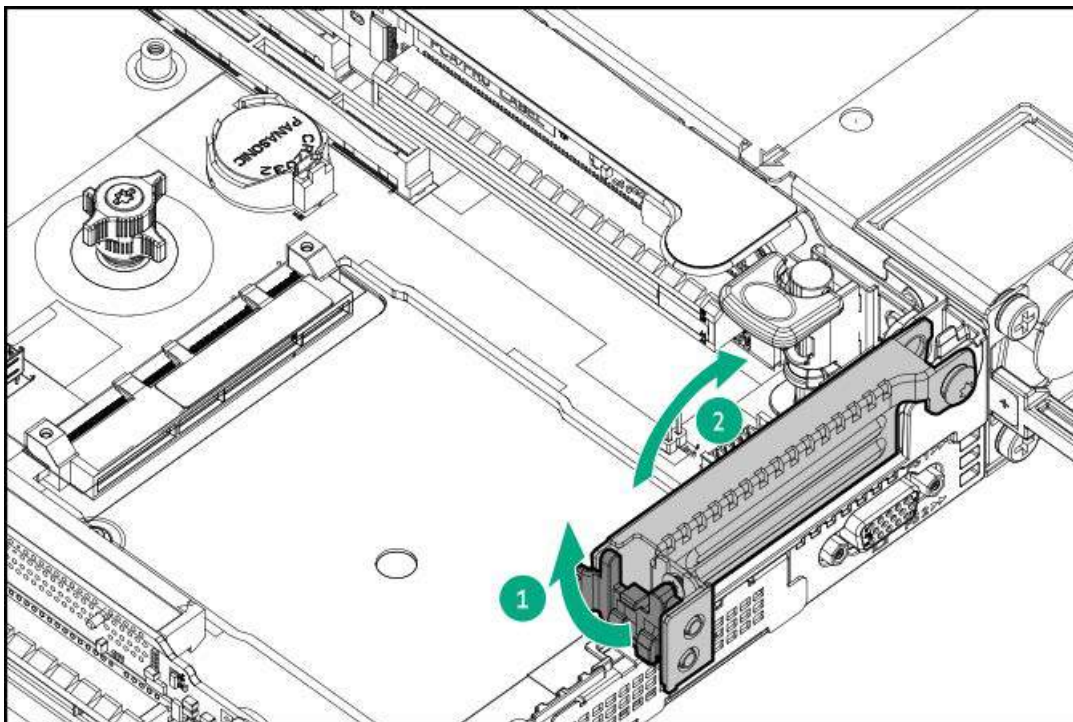




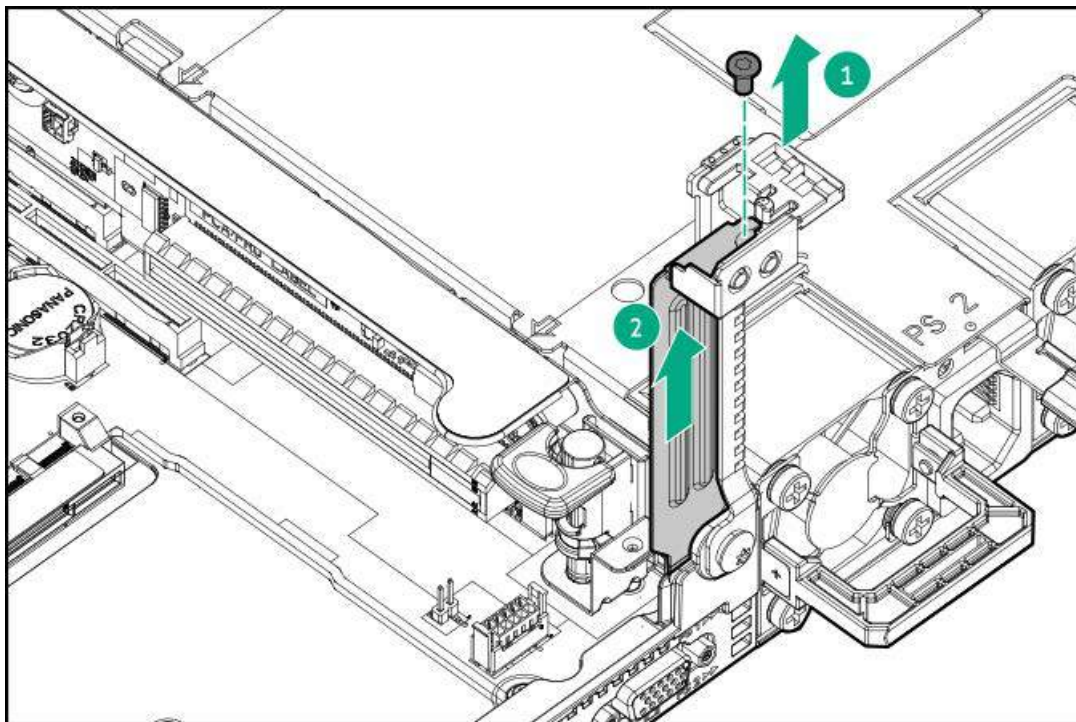
To remove blanks from the secondary riser:

- a. Lift the rear wall latch.

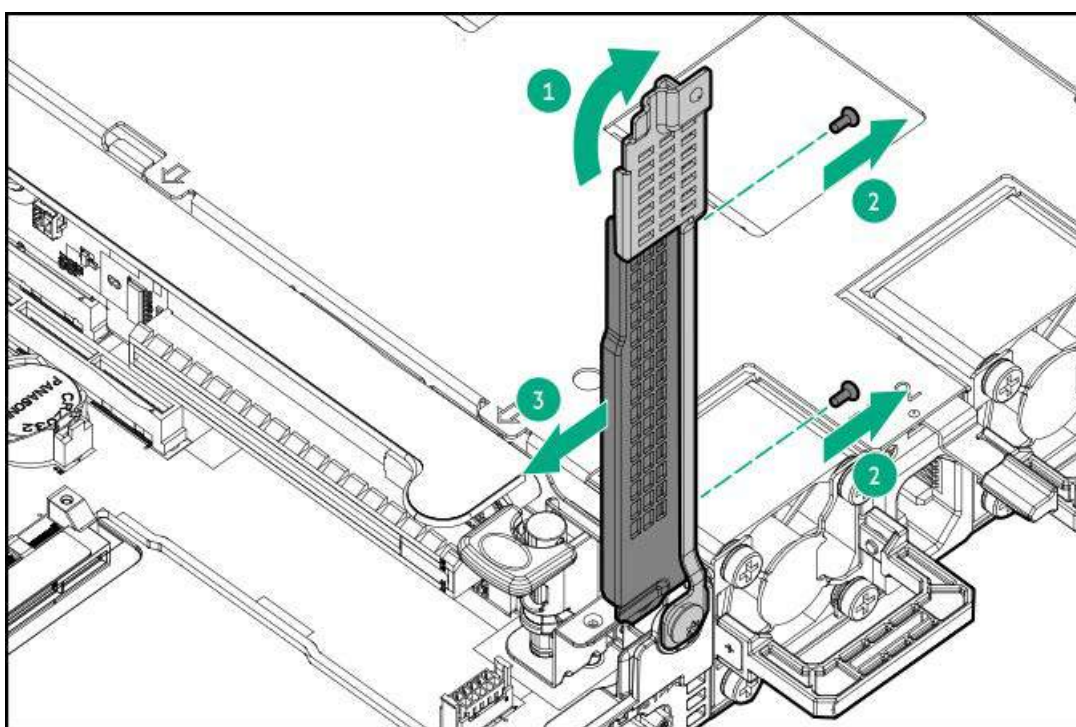
Half-height



- b. Remove the riser blank.



Full-height



To replace the component, reverse the removal procedure.

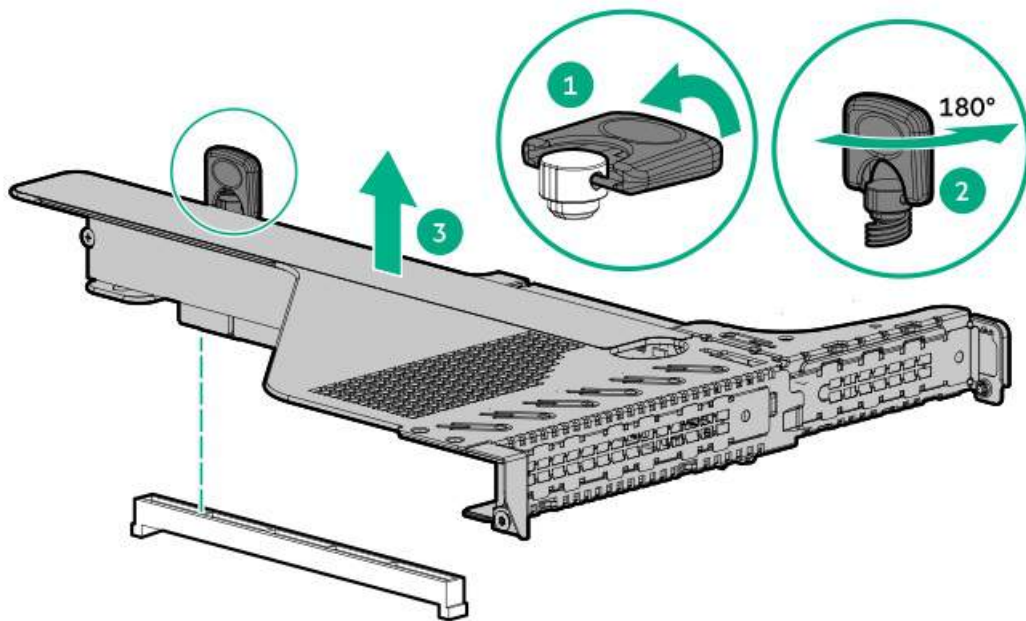
Removing and replacing a riser cage

CAUTION: To prevent damage to the server or expansion boards, power down the server and remove all AC power cords before removing or installing the PCI riser cage.

Procedure

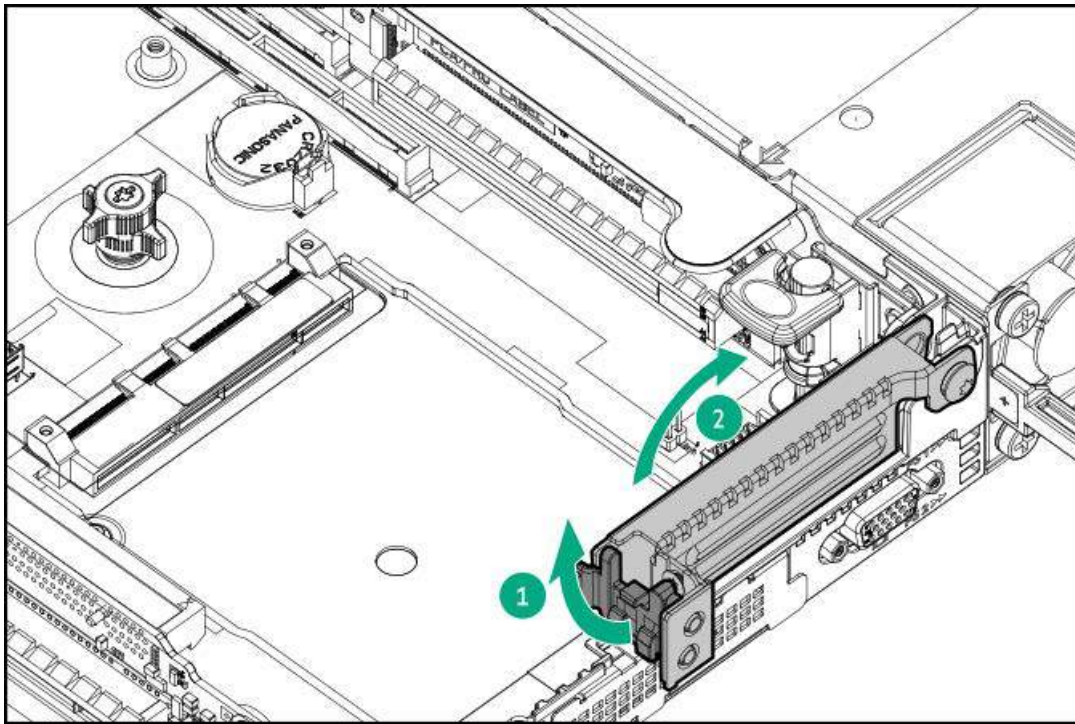
1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove the access panel.
5. Remove the riser cage.

To remove the primary riser cage:

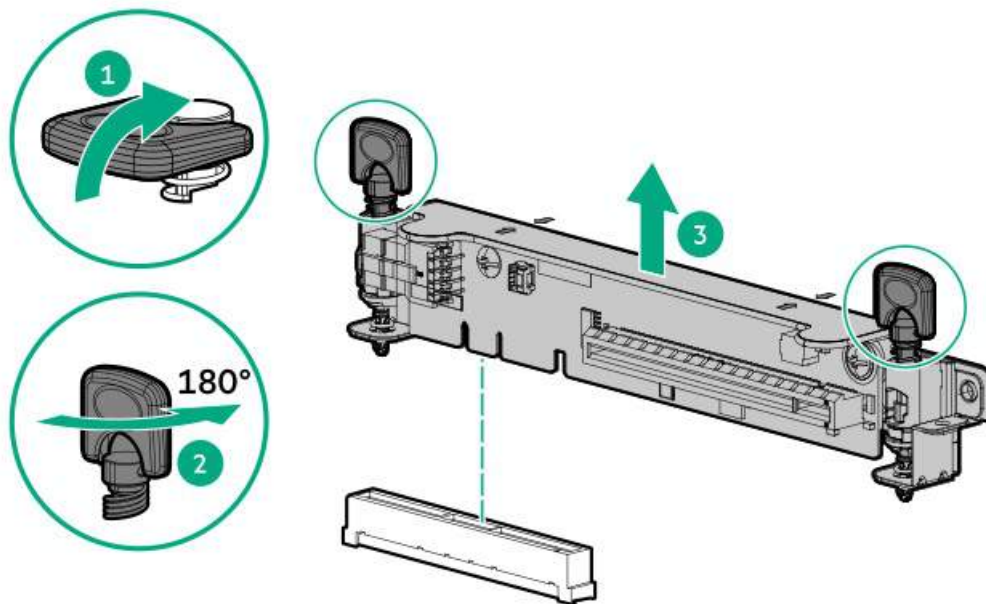


To remove the secondary riser cage:

- a. Remove the primary riser cage.
- b. Open the secondary rear wall.



- c. Remove any expansion boards.
- d. Remove the riser cage.



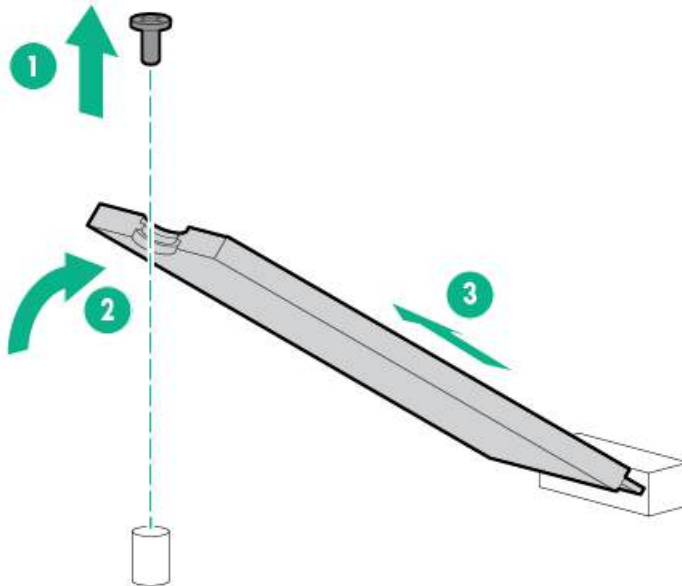
To replace the component, reverse the removal procedure.

Removing and replacing an M.2 SSD

This procedure is for drives on the system board, riser, or expansion card. Do not use this procedure on uFF drives.

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove the access panel.
5. Remove the primary riser cage.
6. Remove the M.2 SSD.



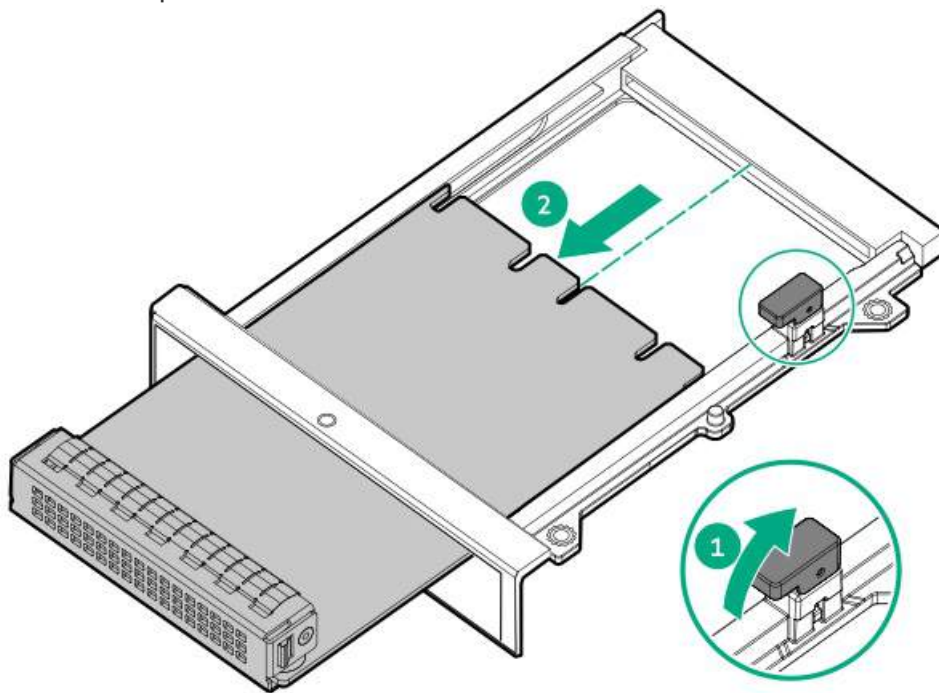
To replace the component, reverse the removal procedure.

Removing and replacing the OCP 3.0 adapter

⚠ WARNING: To reduce the risk of personal injury, electric shock, or damage to the equipment, remove power from the server by removing the power cord. The front panel Power On/Standby button does not shut off system power. Portions of the power supply and some internal circuitry remain active until AC power is removed.

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect any external cables that are connected to the expansion board.
4. Do one of the following:
 - Extend the server from the rack.
 - Remove the server from the rack.
5. Remove the access panel.
6. If installed, remove the secondary riser cage.
7. Remove the OCP 3.0 adapter.



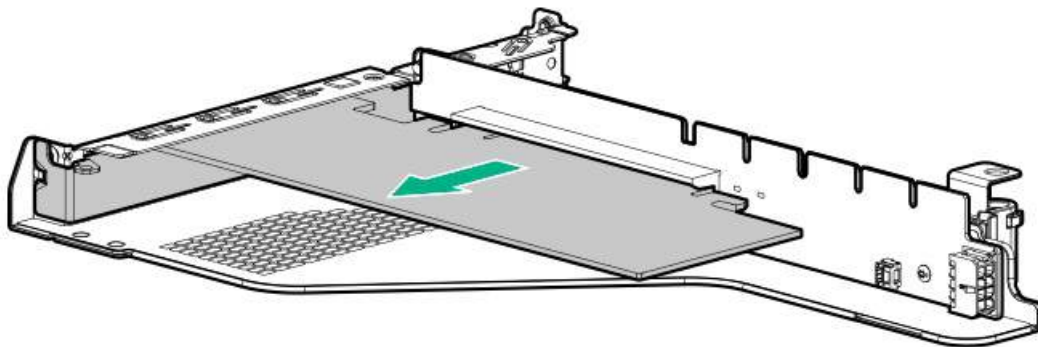
To replace the component, reverse the removal procedure.

Removing and replacing an expansion board

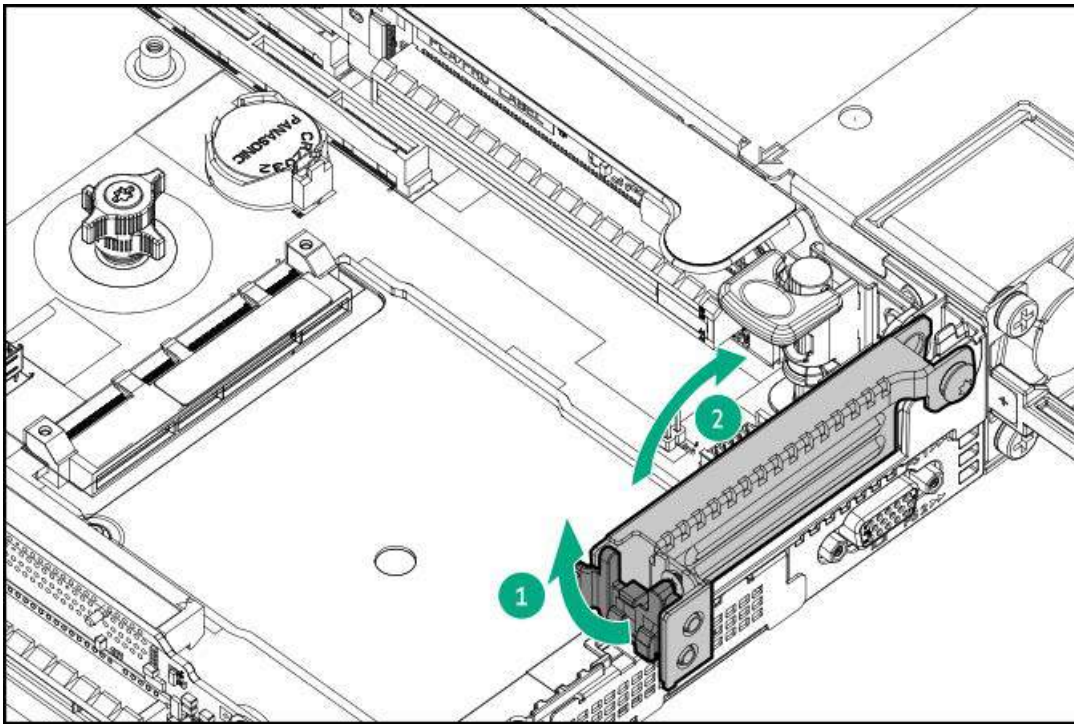
⚠ WARNING: To reduce the risk of personal injury, electric shock, or damage to the equipment, remove power from the server by removing the power cord. The front panel Power On/Standby button does not shut off system power. Portions of the power supply and some internal circuitry remain active until AC power is removed.

Procedure

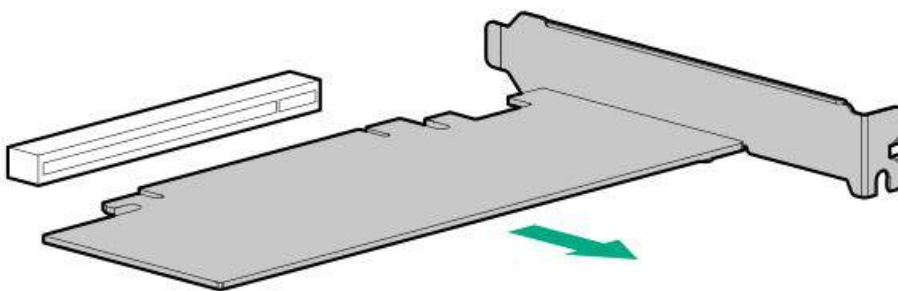
1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove the access panel.
5. Do one of the following:
 - Primary riser cage:
 - a. Remove the riser cage.
 - b. If a retaining screw is installed, remove the screw.
 - c. Remove the expansion board.



- Secondary riser:
 - a. Lift the secondary rear wall.



b. Remove the expansion card.



To replace the component, reverse the removal procedure.



Removing the Pensando DSP DSC-25 2p SFP28 card

Procedure

1. Observe the following alerts:

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

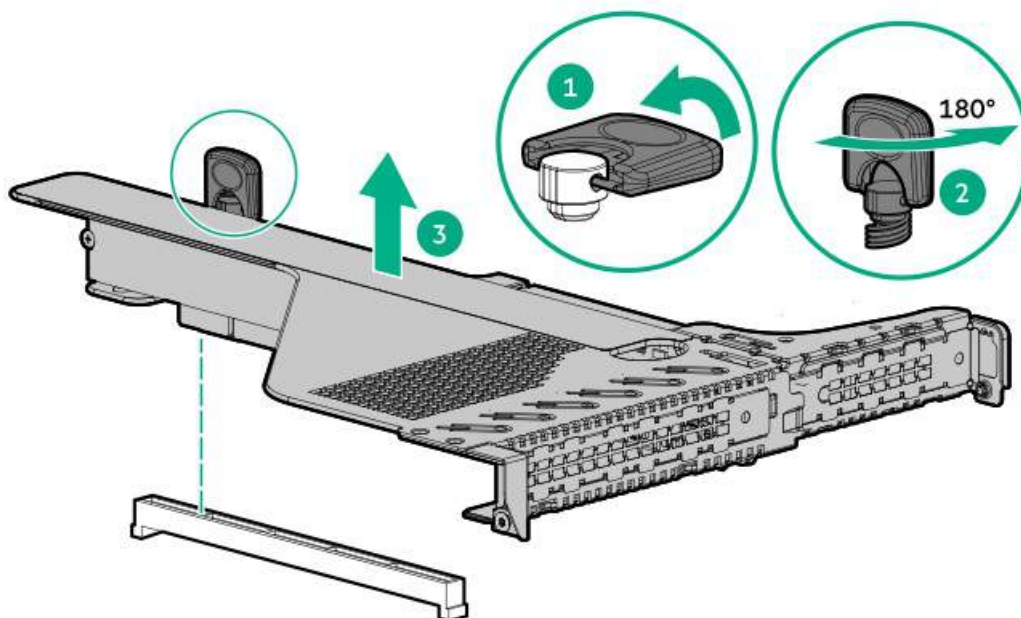
⚠ CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

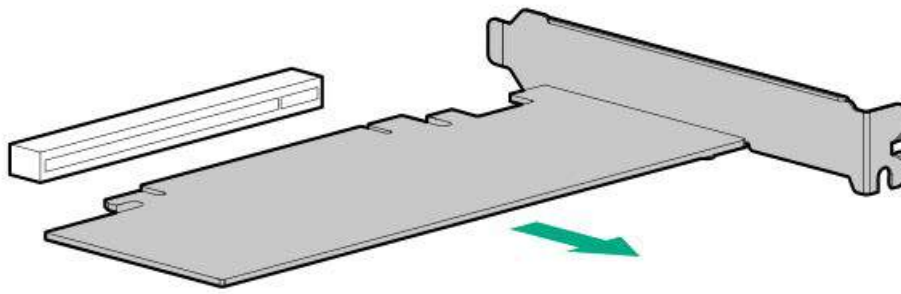
⚠ CAUTION:

To prevent improper cooling and thermal damage, do not operate the server unless all PCI slots have either an expansion slot cover or an expansion board installed.

2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Extend the server from the rack.
5. Remove the server from the rack.
6. Remove the access panel.
7. Remove the primary PCIe riser cage.



8. Remove the DSC-25 card from the slot.



To replace the component,

Replacing the Pensando DSP DSC-25 2p SFP28 card

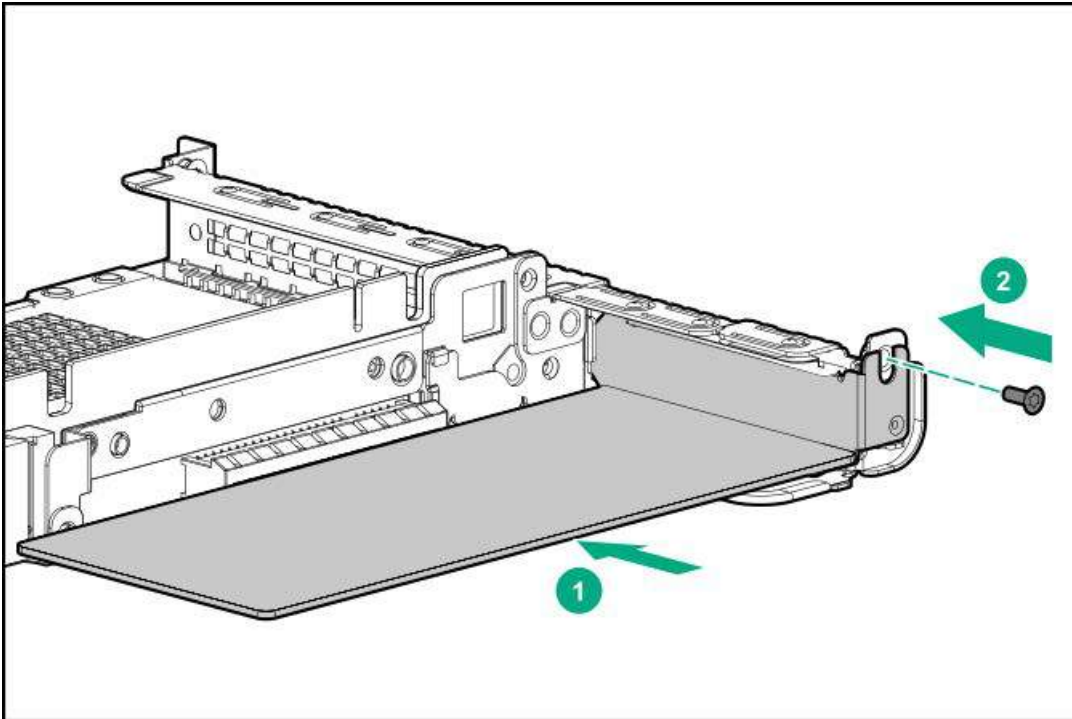
Prerequisites

Before installing this option, be sure you have the following:

- The components included with the hardware option kit.
- T-10 Torx screwdriver.

Procedure

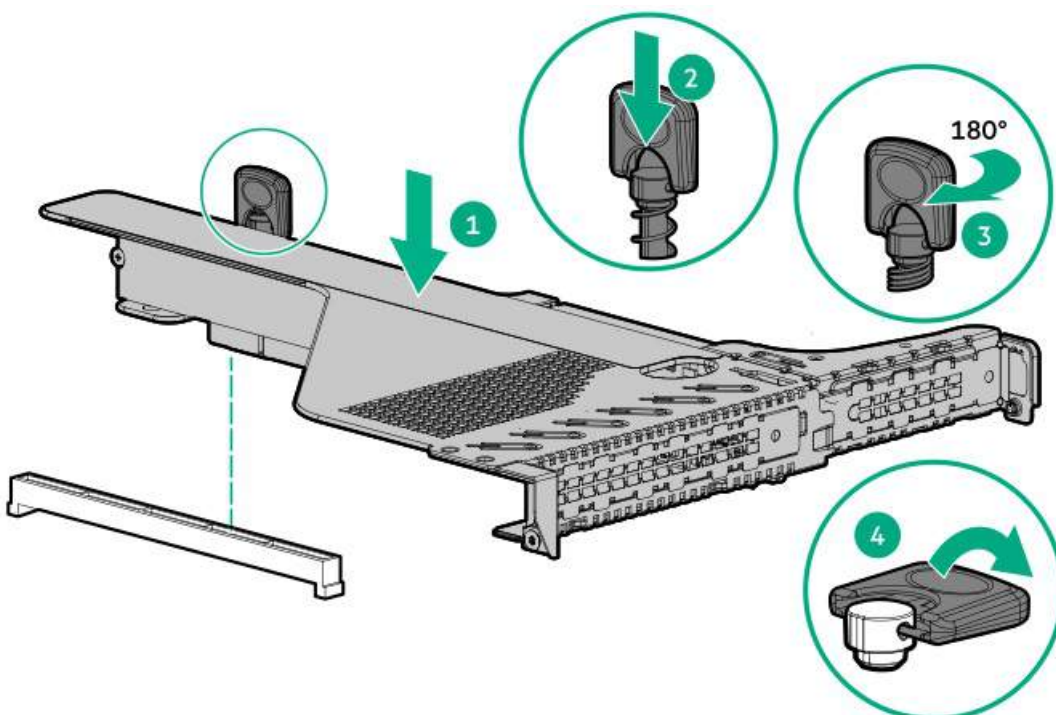
1. Install the DSC-25 card into the PCIe slot.



2. Install the PCIe riser cage into the server.

⚠ CAUTION:

Do not twist the cable service loop during installation.



3. Install the access panel.

4. Slide the server into the rack.
5. Connect each power cord to the server.
6. Connect each power cord to the power source.
7. Power up the server.
8. Admit the new card to the Pensando Policy and Services Manager (PSM).

For more information, see the replacement instructions for the card on the Hewlett Packard Enterprise website

<https://www.hpe.com/support/hpesc>



Removing and replacing the boot device

Prerequisites

Before installing this option, be sure you have the following:

- The components included with the hardware option kit.
- T-10 Torx screwdriver.

Procedure

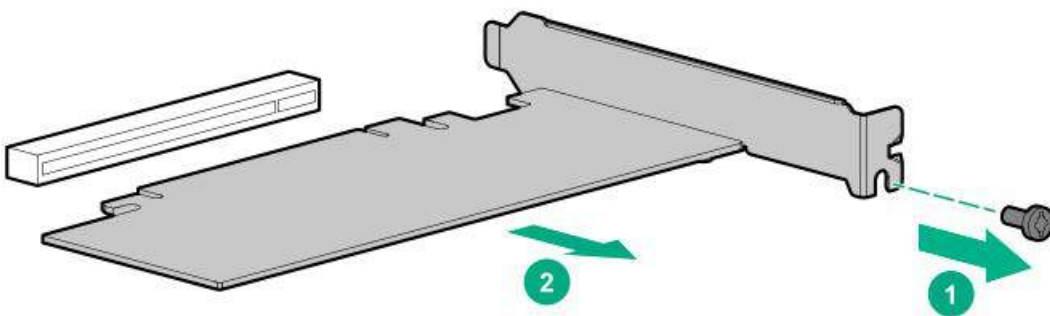
1. Observe the following alerts:

⚠ CAUTION:

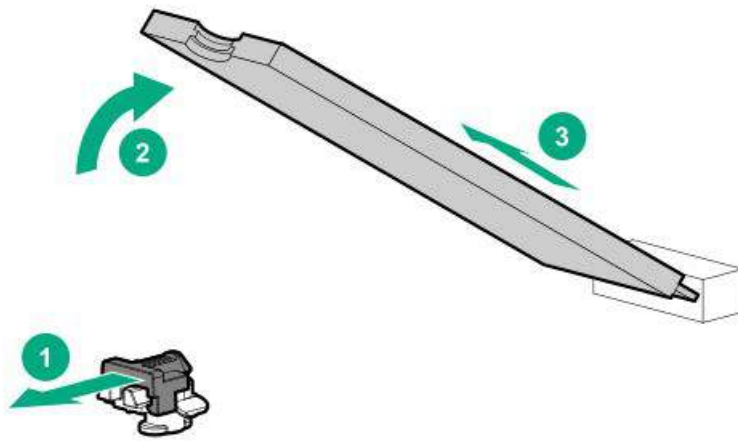
The boot device and the drives installed on the boot device are not hot-pluggable. To remove the boot device, or a drive from the boot device, you must first power down the server.

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

2. Back up all server data.
3. Power down the server.
4. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
5. Do one of the following:
 - Extend the server from the rack.
 - Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the PCIe riser cage, if necessary.
9. Remove the boot device.



10. Remove the drives from the boot device.



Retain these drives for installation onto the replacement boot device.

To replace the component, reverse the removal procedure.

Removing and replacing a boot device drive

The boot device supports two physical drive sizes:

- 22110 (110 mm)
- 2280 (80 mm)

Two drives of the same physical size, or one of each size, can be installed at the same time. Depending on the replacement drive size, you might need to relocate the M.2 drive retaining latches on the boot device.

Prerequisites

Review the boot device drive bay LEDs to determine the failed drive.

Procedure

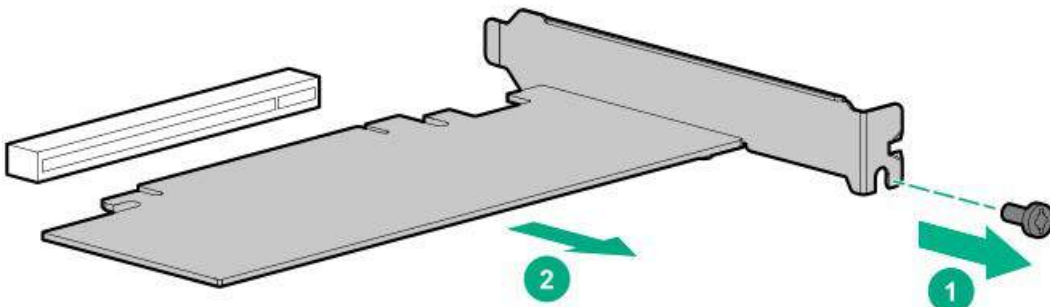
1. Observe the following alerts:

⚠ CAUTION:

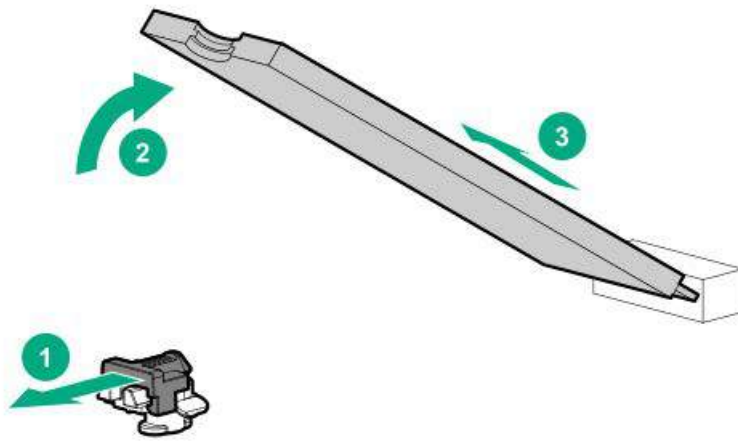
The boot device and the drives installed on the boot device are not hot-pluggable. To remove the boot device, or a drive from the boot device, you must first power down the server.

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

2. Back up all server data.
3. Power down the server.
4. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
5. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the riser cage.
9. Remove the boot device.



10. Remove the failed drive from the boot device.

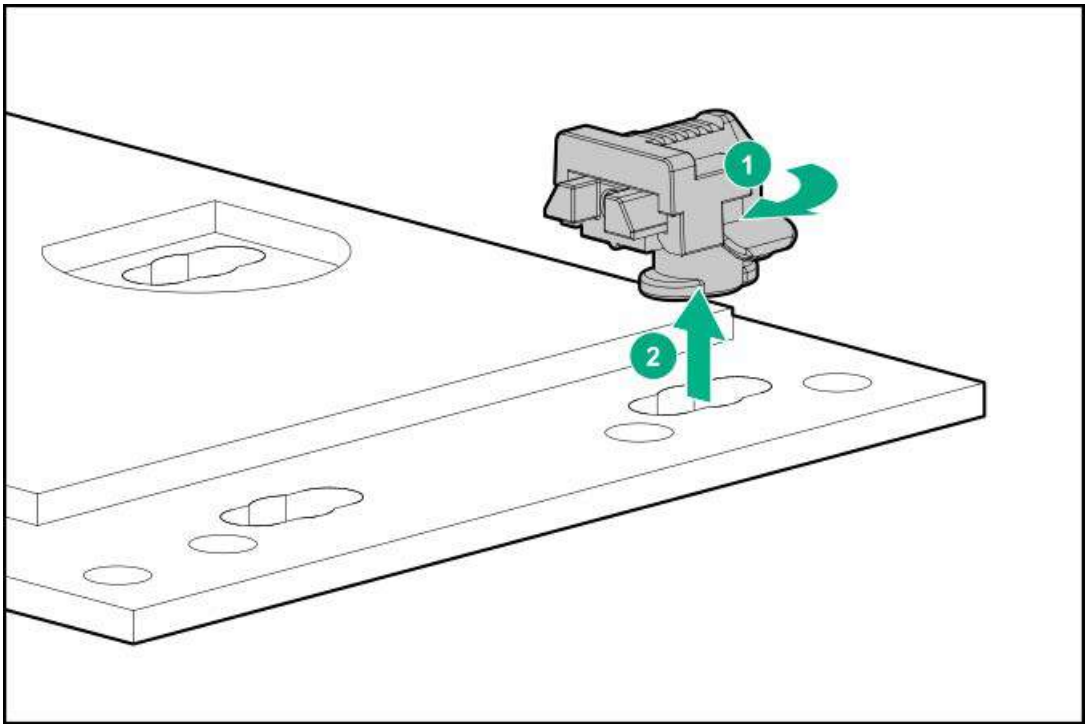


To replace the component, reverse the removal procedure.

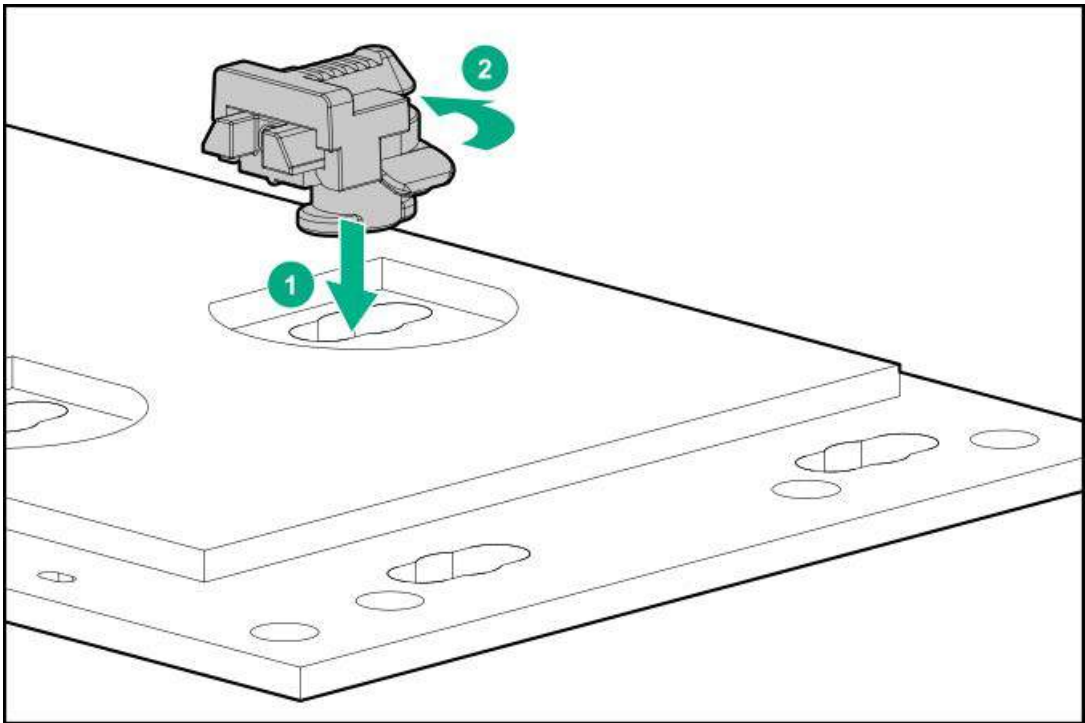
Relocating the M.2 drive retaining latches

Procedure

1. If your spare kit includes an 80 mm replacement drive, remove the retaining latch from its current location.



2. Install the retaining latch at the 80 mm drive location.



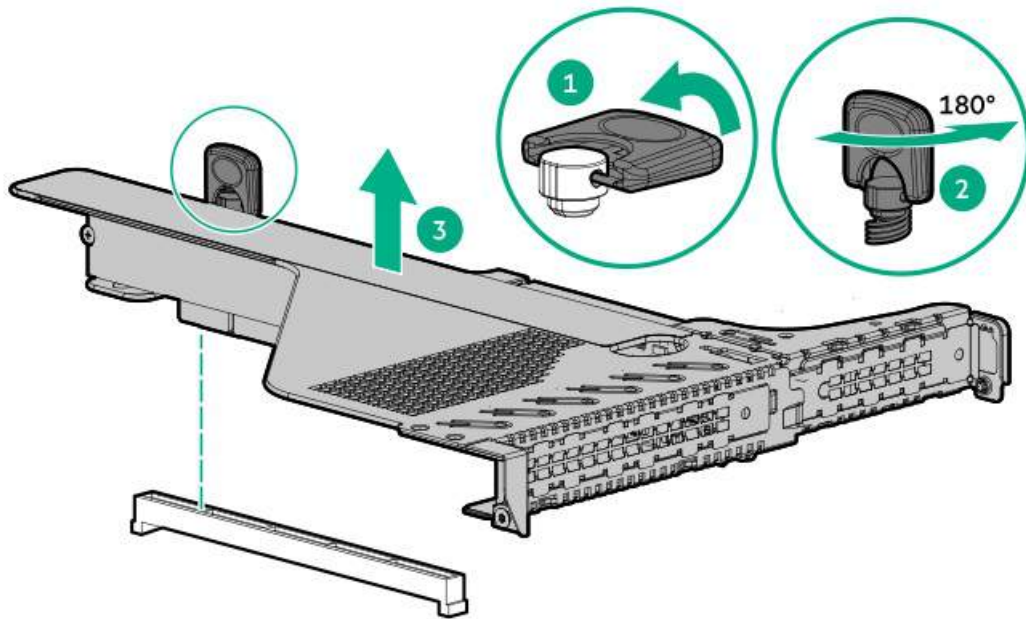
Removing and replacing a primary riser card

Secondary risers are spared with the riser cage.

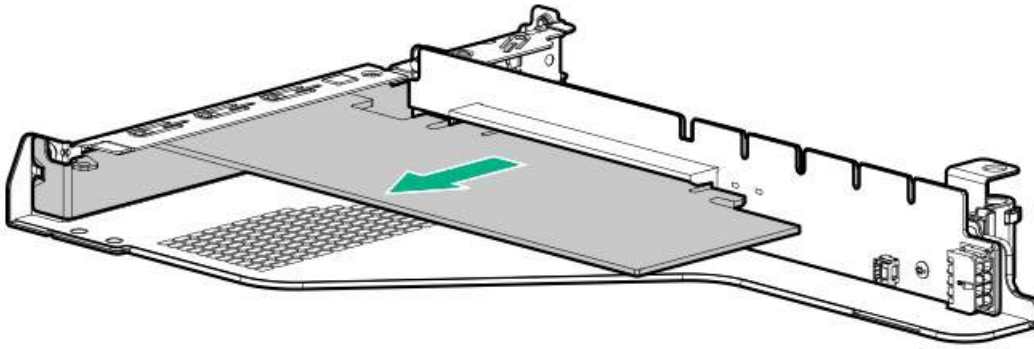
CAUTION: To prevent damage to the server or expansion boards, power down the server and remove all AC power cords before removing or installing the PCI riser cage.

Procedure

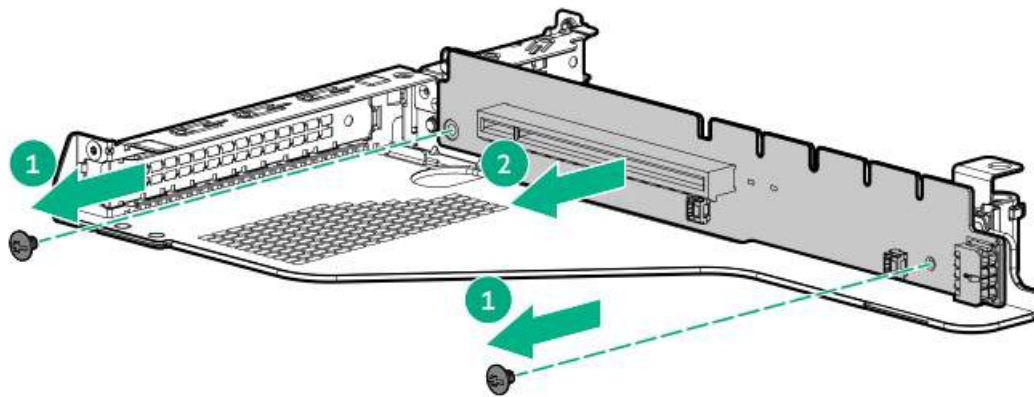
1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove the access panel.
5. Remove the riser cage.



6. Remove all expansion boards.



7. Remove the riser.

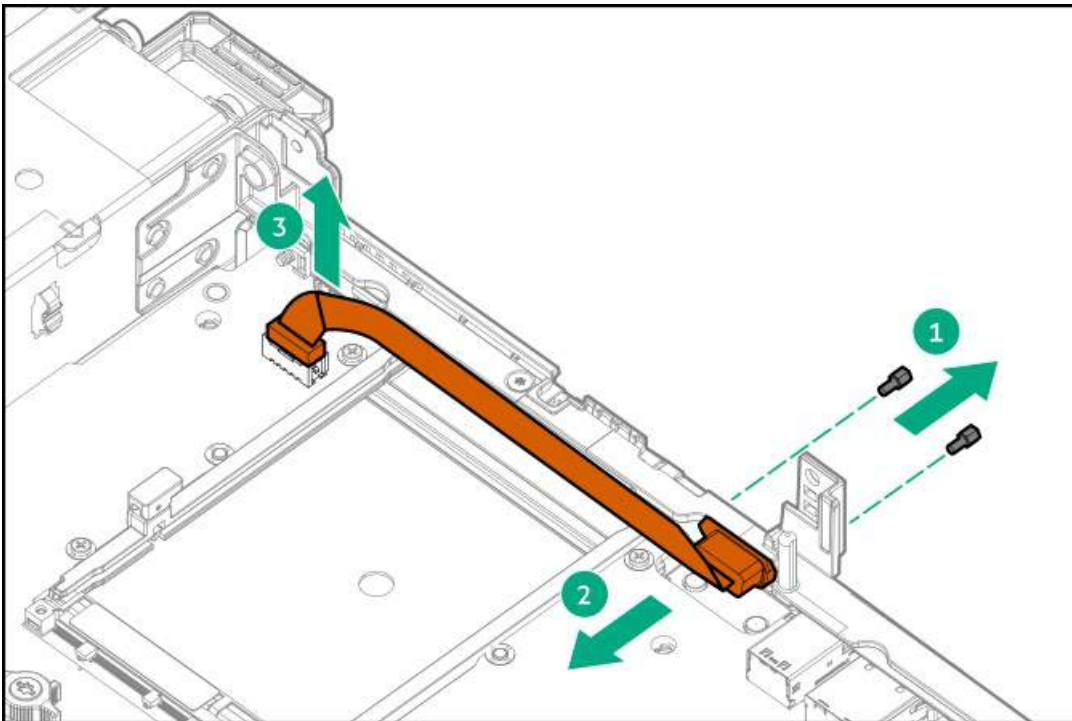


To replace the component, reverse the removal procedure.

Removing and replacing the serial port

Procedure

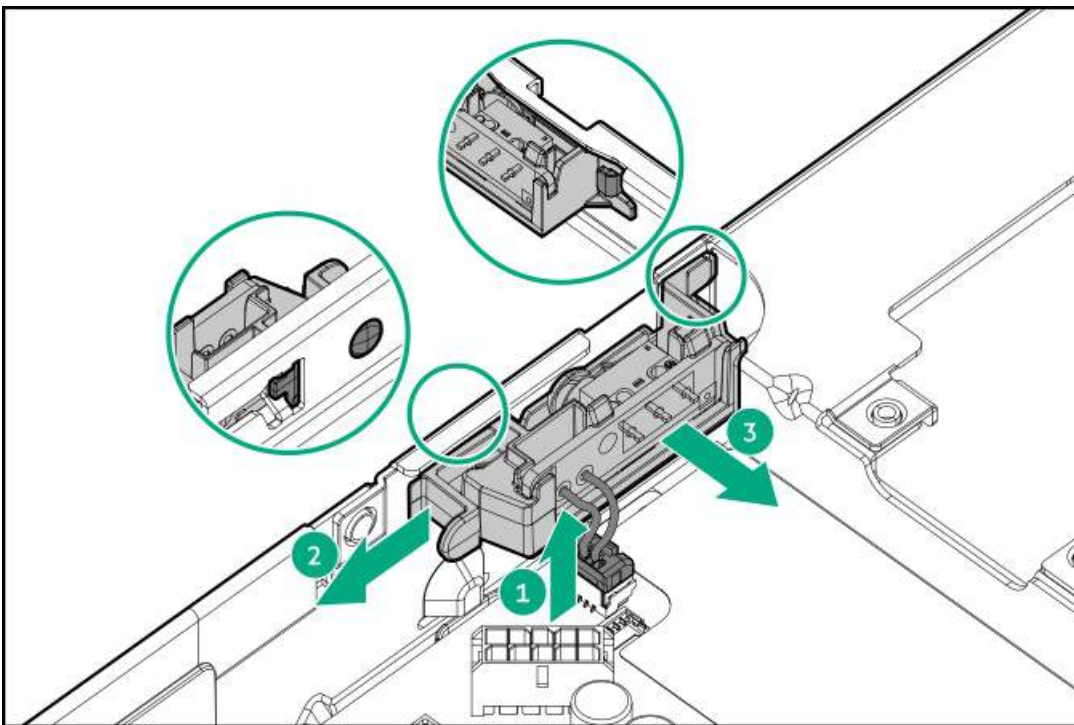
1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove the access panel.
5. Remove all riser cages.
6. Remove the switch and then disconnect the cable.



Removing and replacing the intrusion detection switch

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove the access panel.
5. Disconnect the cable and remove the switch.



To replace the component, reverse the removal procedure.

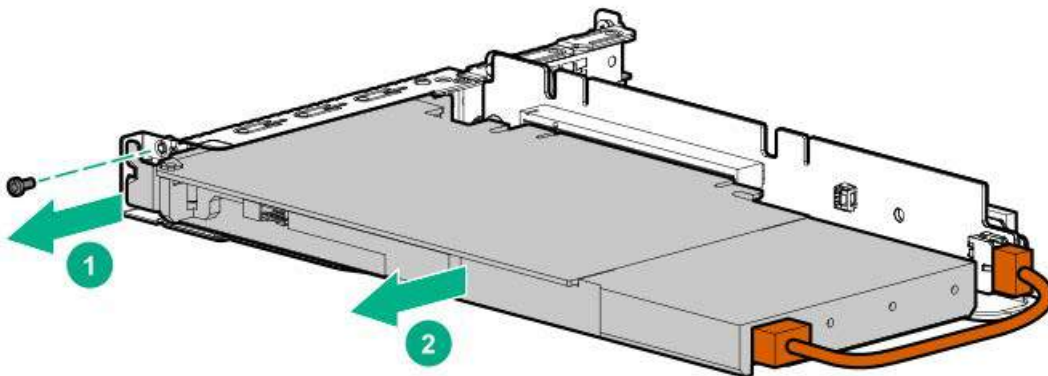
Removing and replacing a GPU in the primary riser

Procedure

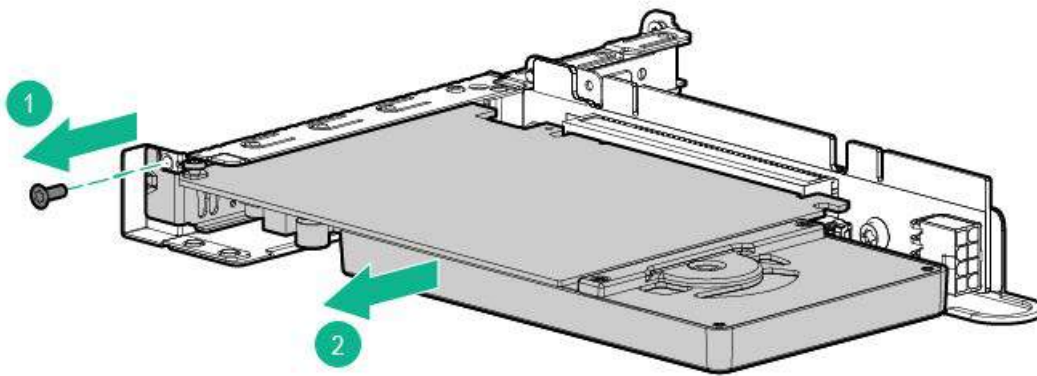
1. Observe the following warning:

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

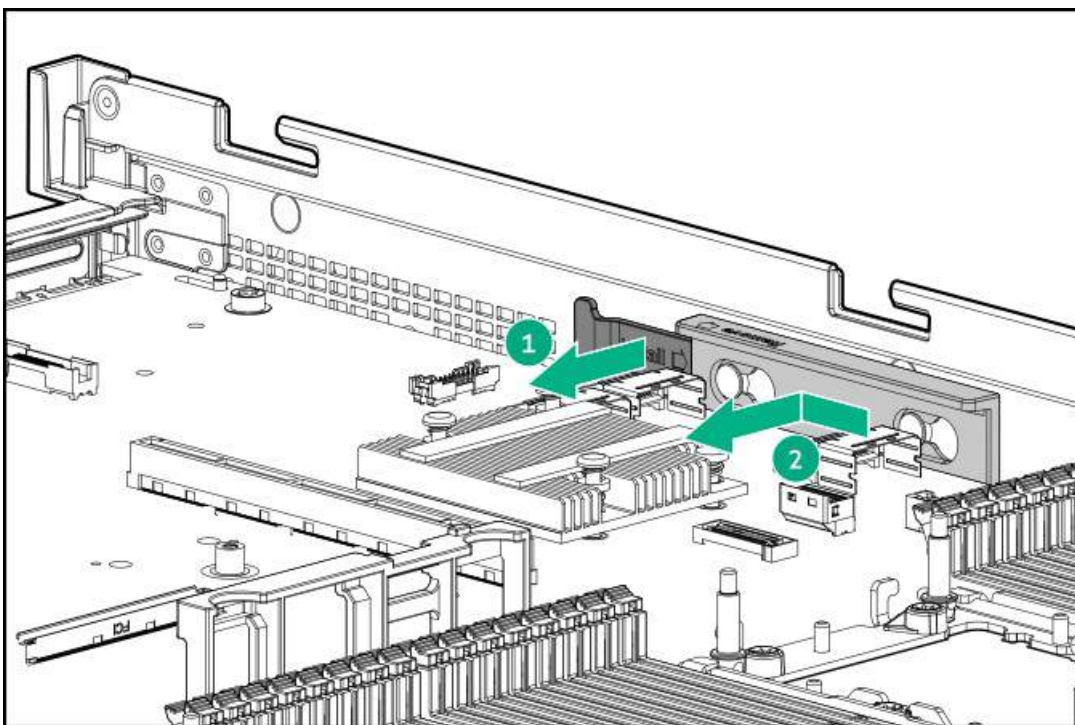
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
5. Remove the access panel.
6. Remove the riser cage.
7. If needed, disconnect the GPU power cable and then remove the GPU from the riser.



If there is no power cable, remove the GPU:



8. If replacing the system board, remove the GPU support bracket.



To replace the component, reverse the removal procedure.

Removing and replacing a GPU in the secondary riser

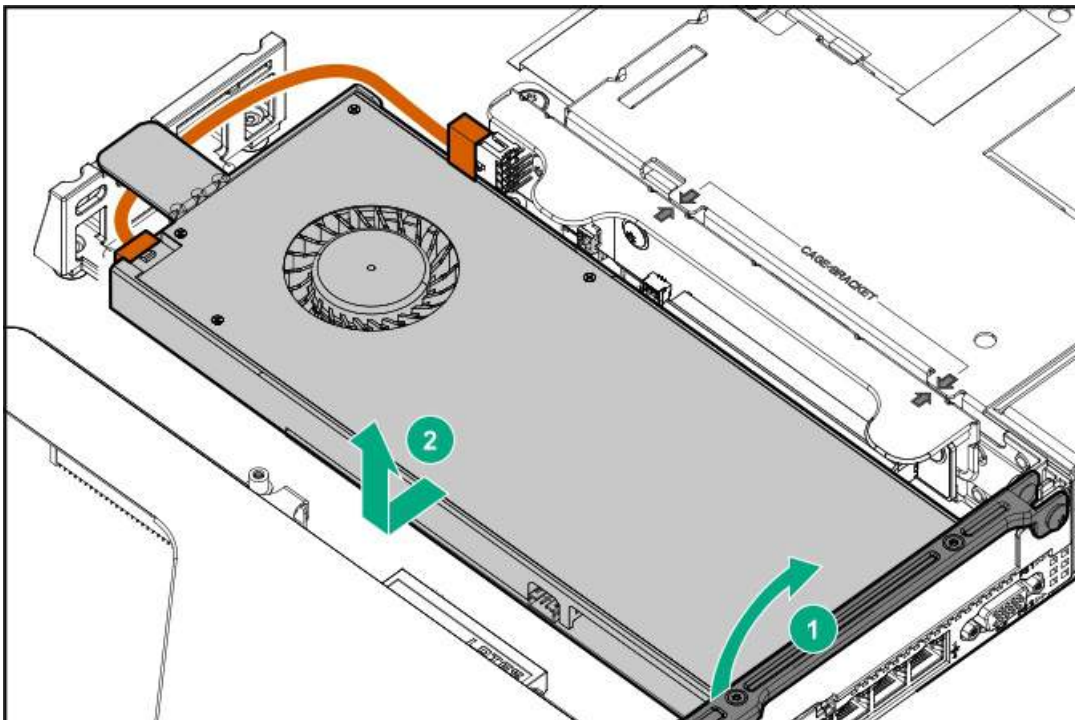
This procedure applies to 3/4 length GPUs. Some GPUs might not have a power cable or a support bracket. Be sure to reuse the power cable or bracket from the existing GPU, if needed.

Procedure

1. Observe the following warning:

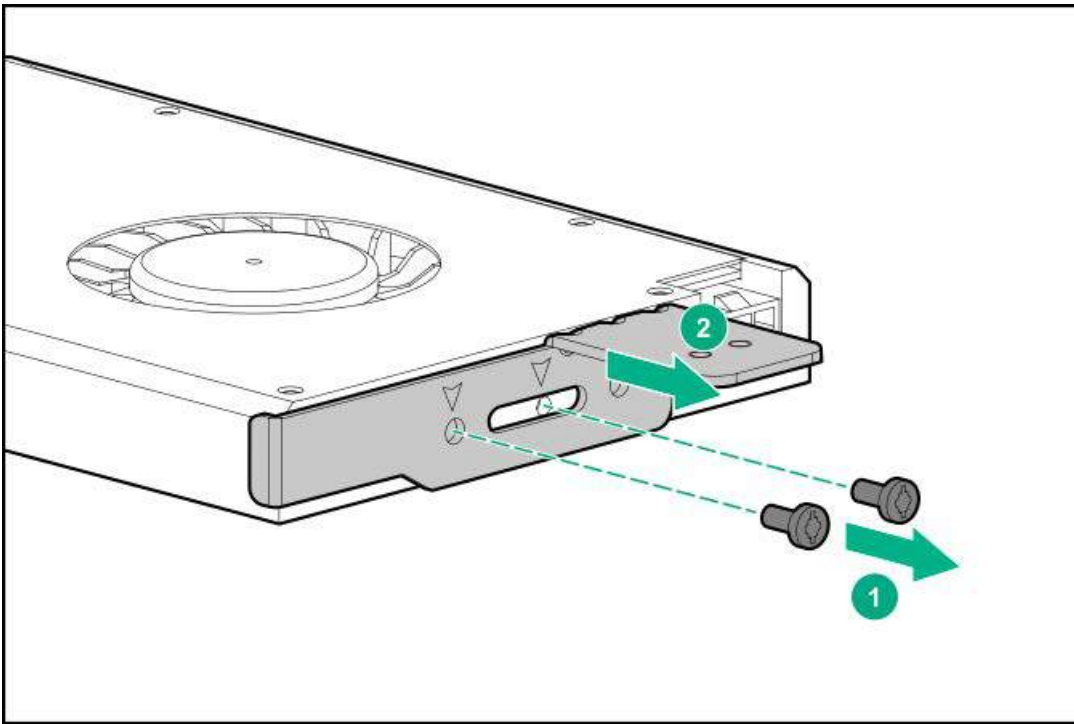
⚠ WARNING: To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
5. Remove the access panel.
6. Remove the primary riser cage.
7. Disconnect the GPU power cable from the riser, and then remove the GPU from the riser.



8. If needed, remove the bracket from the existing GPU, and then install it on the new GPU.

Your bracket might look different than the one shown.

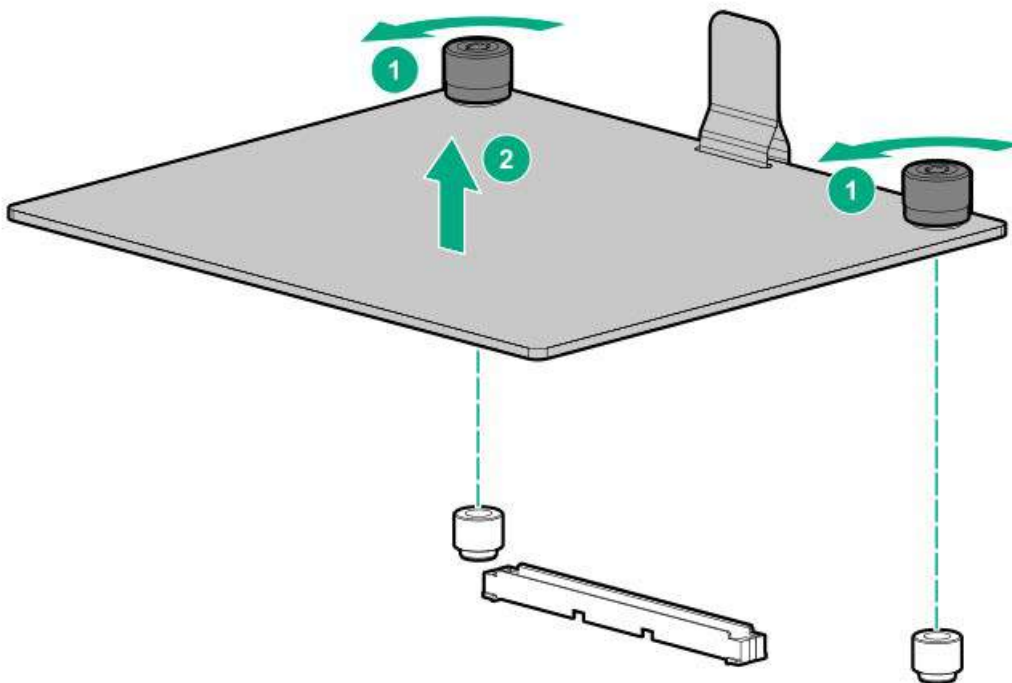


To replace the component, reverse the removal procedure.

Removing and replacing a storage controller

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove the access panel.
5. Disconnect any cables from the controller
Note the port numbers before disconnecting the cables.
6. Remove the controller.



To replace the component, reverse the removal procedure.

Removing and replacing a DIMM

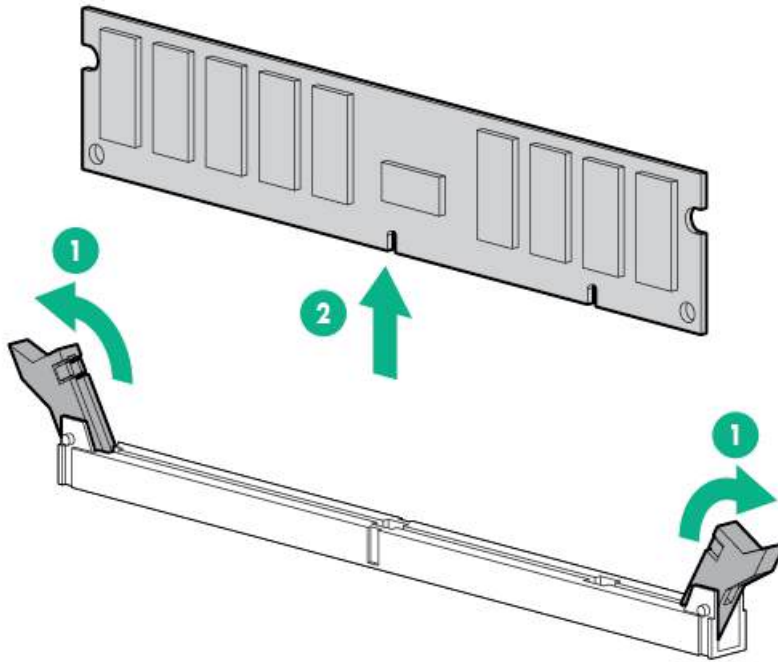
To identify DIMMs installed in the server, see "[DIMM slot locations](#)."

Prerequisites

Before replacing memory, read the memory configuration and population guidelines in the server user guide.

Procedure

1. [Power down the server](#).
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. [Extend the server from the rack](#).
 - b. [Remove the server from the rack](#).
4. [Remove the access panel](#).
5. Remove the DIMM.



To replace the component, reverse the removal procedure.

DIMM-processor compatibility

The installed processor determines the type of DIMM that is supported in the server:

- Third-generation Intel Xeon Scalable processors support DDR4-3200 DIMMs.

Mixing DIMM types is not supported. Install only the supported DDR4-3200 DIMMs in the server.

Removing a DIMM or persistent memory module



CAUTION:

Electrostatic discharge can damage electronic components. Be sure you are properly grounded before beginning this procedure.



CAUTION:

Failure to properly handle DIMMs can cause damage to DIMM components and the system board connector.

For server-specific steps used in this procedure, see the server maintenance and service guide for your product on the Hewlett Packard Enterprise website:

- HPE ProLiant Gen10 Plus servers (<https://www.hpe.com/info/proliantgen10plus-docs>)
- HPE Synergy Gen10 Plus compute modules (<https://www.hpe.com/info/synergy-docs>)

Prerequisites

- Before handling or removing a DIMM or persistent memory module, see the [Persistent memory module handling guidelines](#).
- If the persistent memory modules are encrypted, you must disable encryption before replacing a failed persistent memory module.

Procedure

1. If persistent memory module encryption is enabled, disable it.

For more information, see [Disabling encryption for a persistent memory module](#).

2. Power down the server:

- a. Shut down the OS as directed by the OS documentation.
- b. To place the server in standby mode, press the Power On/Standby button.

When the server enters standby power mode, the system power LED changes to amber.

- c. Disconnect the power cords (rack and tower servers).

3. Do one of the following:

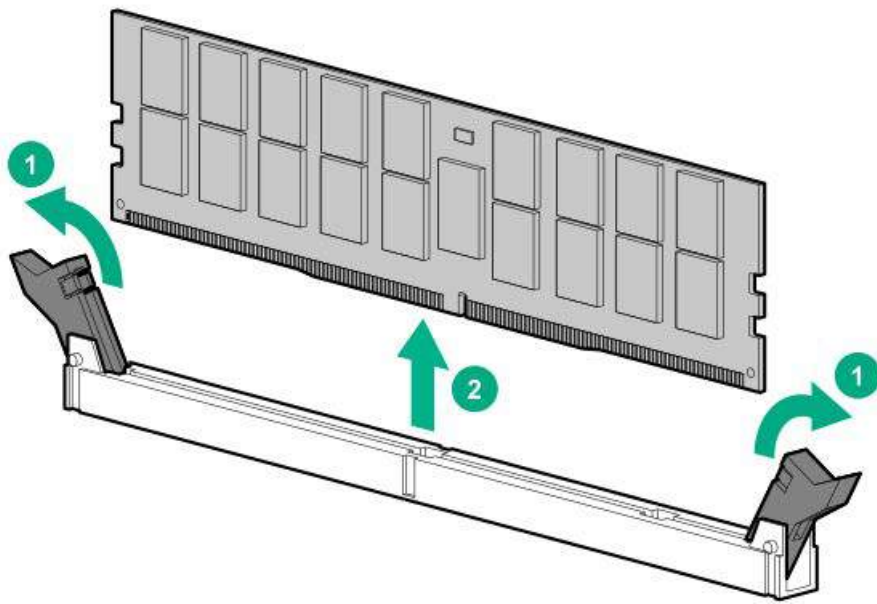
- Extend the server from the rack.
- Remove the server from the rack, if necessary.
- Remove the server or server blade from the enclosure.

4. Place the server on a flat, level work surface.

5. Remove the access panel.

6. Access the DIMM slots.

7. Remove the DIMM or persistent memory module.



Persistent memory module handling guidelines



CAUTION:

Failure to properly handle persistent memory modules can damage the component and the system board connector.

When handling a persistent memory module, observe the following guidelines:

- Avoid electrostatic discharge.
- Always hold persistent memory modules by the side edges only.
- Avoid touching the connectors on the bottom of the persistent memory module.
- Never wrap your fingers around a persistent memory module.
- Avoid touching the components on the sides of the persistent memory module.
- Never bend or flex the persistent memory module.

When installing a persistent memory module, observe the following guidelines:

- Before seating the persistent memory module, open the persistent memory module slot and align the persistent memory module with the slot.
- To align and seat the persistent memory module, use two fingers to hold the persistent memory module along the side edges.
- To seat the persistent memory module, use two fingers to apply gentle pressure along the top of the persistent memory module.

For more information, see the Hewlett Packard Enterprise website (<https://www.hpe.com/support/DIMM-20070214-CN>).

Disabling encryption for a persistent memory module

Use this procedure to disable encryption for a single or specific persistent memory modules.

To disable encryption for all persistent memory modules in the server at once, as might be required for migration or service procedures, see [Disabling encryption for a persistent memory module](#).

IMPORTANT:

Be sure to observe all pop-up messages displayed in UEFI System Utilities that pertain to persistent memory. Failure to follow the instructions in these messages might cause persistent memory data loss.

Procedure

1. From the System Utilities screen, select **System Configuration > BIOS/Platform Configuration (RBSU) > Server Security > Device Encryption Options > Device Encryption Settings > Encrypted Devices**.
2. Make the following selections:
 - a. **Select Device**—Select the persistent memory module.
 - b. **Select Operation**—Disable Encryption.
3. **Select Start Operation**.

If local key management is enabled, enter the passphrase for the persistent memory module.

The selected persistent memory module is now unencrypted.
4. Repeat this process to disable encryption for other persistent memory modules.

Removing and replacing the system battery

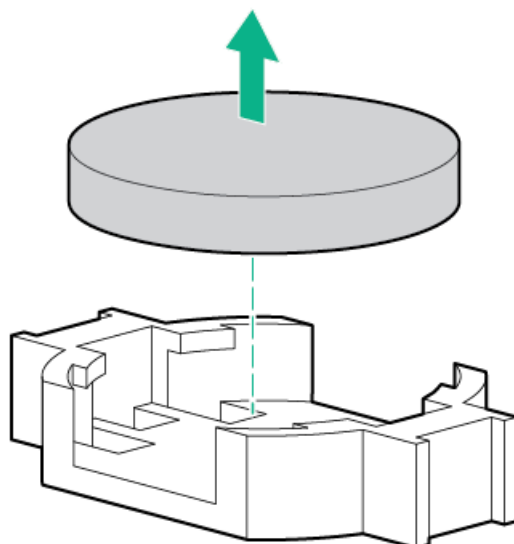
The system battery provides power to the real-time clock. If the server no longer automatically displays the correct date and time, you might need to replace the system battery.

⚠ WARNING: The computer contains an internal lithium manganese dioxide, a vanadium pentoxide, or an alkaline battery pack. A risk of fire and burns exists if the battery pack is not properly handled. To reduce the risk of personal injury:

- Do not attempt to recharge the battery.
- Do not expose the battery to temperatures higher than 60°C (140°F).
- Do not expose the battery to extremely low air pressure as it might lead to explosion or leakage of flammable liquid or gas.
- Do not disassemble, crush, puncture, short external contacts, or dispose of in fire or water.
- Replace only with the spare designated for this product.

Procedure

1. Power down the server ([Power down the server](#)).
2. Remove all power:
 - Disconnect each power cord from the power source.
 - Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack ([Extend the server from the rack](#)).
 - b. Remove the server from the rack ([Remove the server from the rack](#)).
4. Remove the access panel ([Remove the access panel](#)).
5. Locate the battery ([System board components](#)).
6. Remove the battery.



7. To replace the component, reverse the removal procedure.
8. Properly dispose of the old battery.

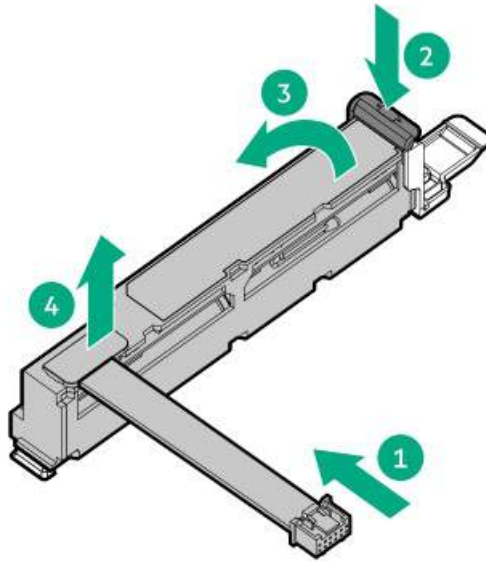
For more information about battery replacement or proper disposal, contact an authorized reseller or an authorized service provider.

Removing and replacing the Smart Storage Battery or Hybrid Capacitor

 **NOTE:** System ROM and firmware messages might display "energy pack" in place of "Smart Storage Battery." Energy pack refers to both HPE Smart Storage batteries and HPE Smart Storage Hybrid capacitors.

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove the access panel.
5. Disconnect the cable and then remove the battery or capacitor pack.



To remove the battery or capacitor pack from the 10NVMe configuration:

To replace the component, reverse the removal procedure.

Removing and replacing a processor or heatsink

Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- The components included with the spare kit
- Thermal grease
- T-30 Torx screwdriver

Procedure

1. Observe the following alerts.

 **CAUTION:** When handling the heatsink, always hold it along the top and bottom of the fins. Holding it from the sides can damage the fins.

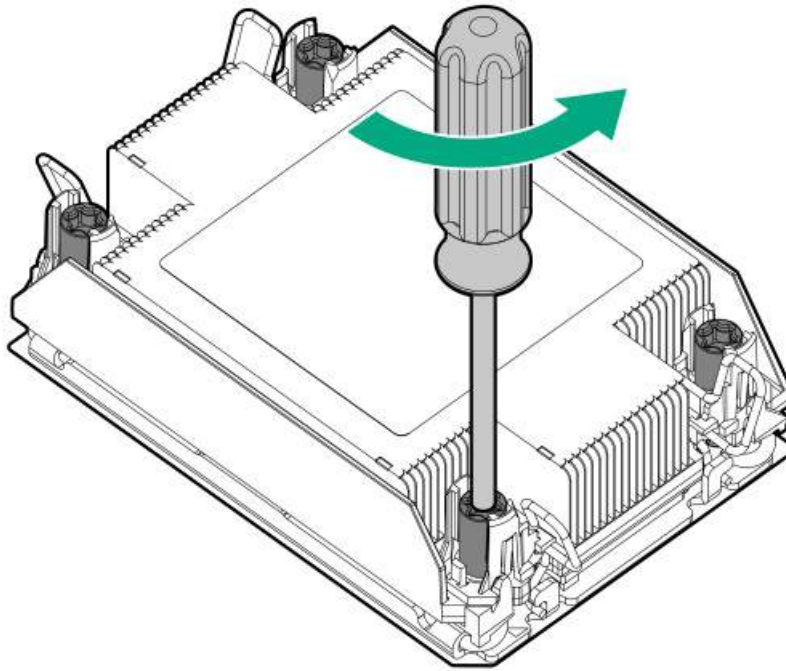
 **CAUTION:** To prevent possible server malfunction and damage to the equipment, multiprocessor configurations must contain processors with the same part number.

 **CAUTION:** If installing a processor with a faster speed, update the system ROM before installing the processor. To download firmware and view installation instructions, see the [Hewlett Packard Enterprise Support Center website](#).

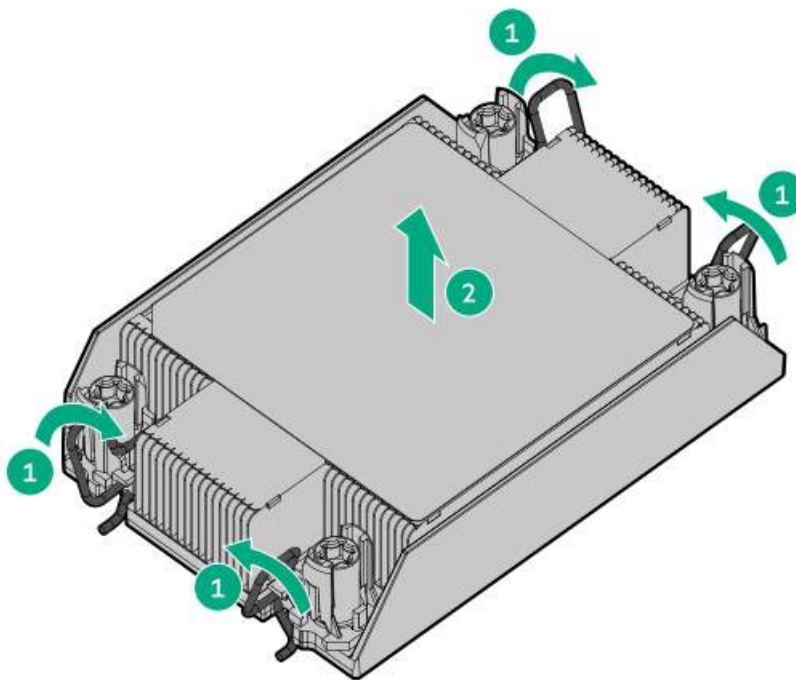
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
5. Remove the access panel.
6. Remove any components or cables that may prevent access to the processor heatsink assembly.
7. Observe the following cautions.

 **CAUTION:** Install the processor heatsink assembly as soon as possible after removing it. Do not leave the processor socket unpopulated for extended periods of time.

8. Remove the processor heatsink assembly from the socket:
 - a. Allow the heatsink to cool.
 - b. Using a T-30 Torx screwdriver, loosen the heatsink nuts.



- c. Lift the processor heatsink assembly up and away from the system board.



- d. Turn the processor heatsink assembly over and place it on a work surface with the processor assembly facing up.
e. Install the dust cover.

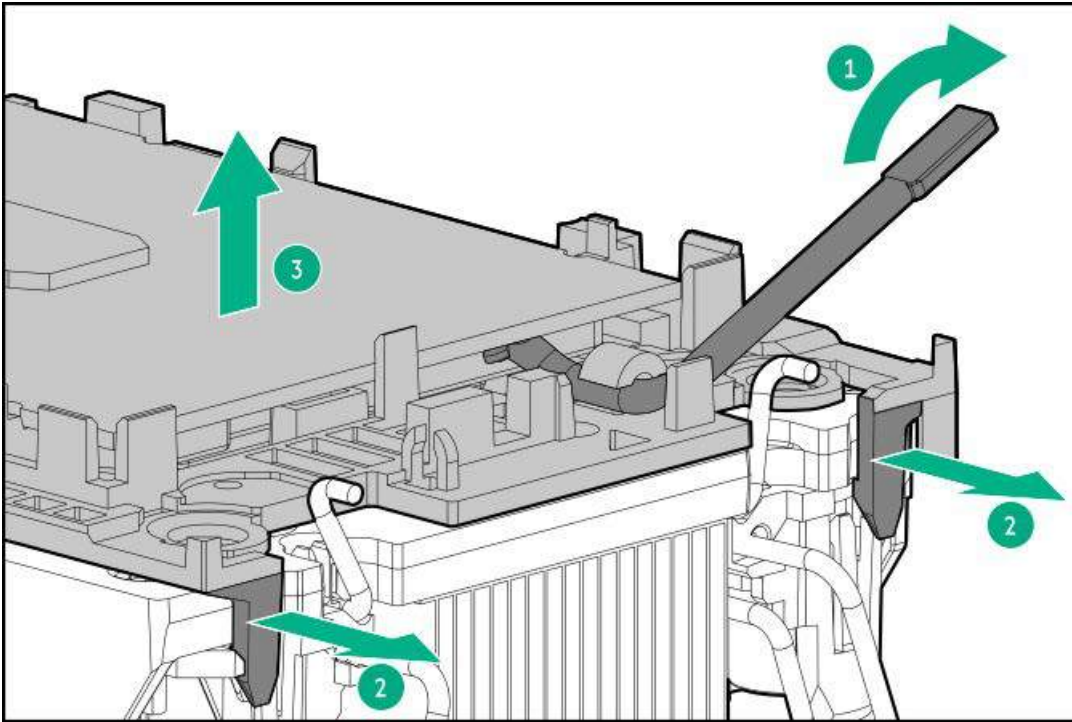
9. Separate the processor assembly and heatsink.

CAUTION: THE CONTACTS ARE VERY FRAGILE AND EASILY DAMAGED. To avoid damage to the socket or processor, do not touch the contacts.

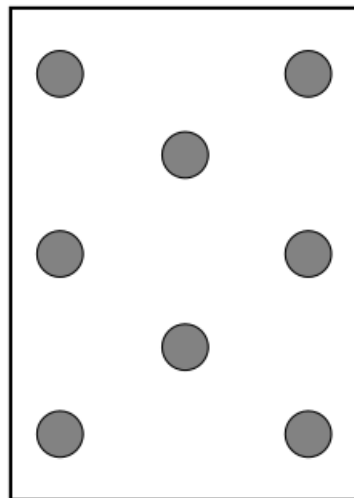
CAUTION: The processor assembly must be removed and replaced as a unit. Do not remove the processor from the carrier.

The TIM breaker is on the processor carrier and releases the adhesion between the processor and the heatsink.

CAUTION: After the TIM breaker is used, the processor might become unlatched from the carrier. To avoid damage



10. Using a cleaning solvent, such as alcohol wipes, remove the existing thermal grease from the processor and heatsink.
11. Apply a full thermal grease syringe to the new processor.

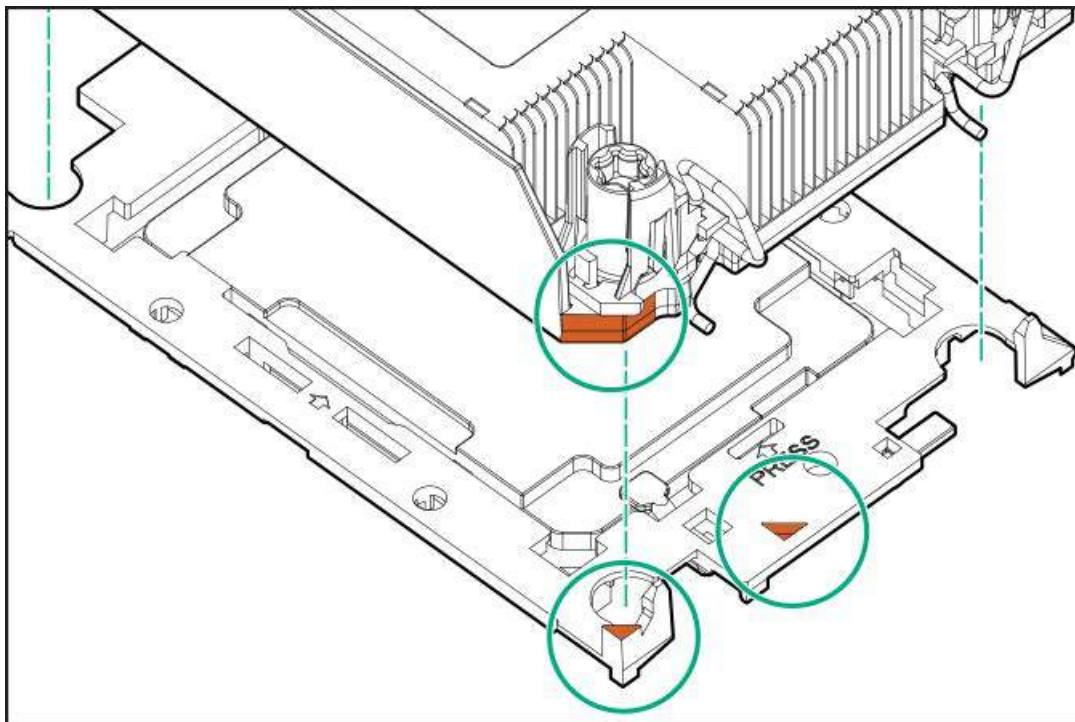


If installing a new heatsink, the thermal grease is preapplied.

12. Install the processor assembly on the heatsink.

Align the Pin 1 indicators on the processor and heatsink, and then latch the processor assembly to the heatsink.

Your processor assembly or heatsink or both may look different than the one shown.

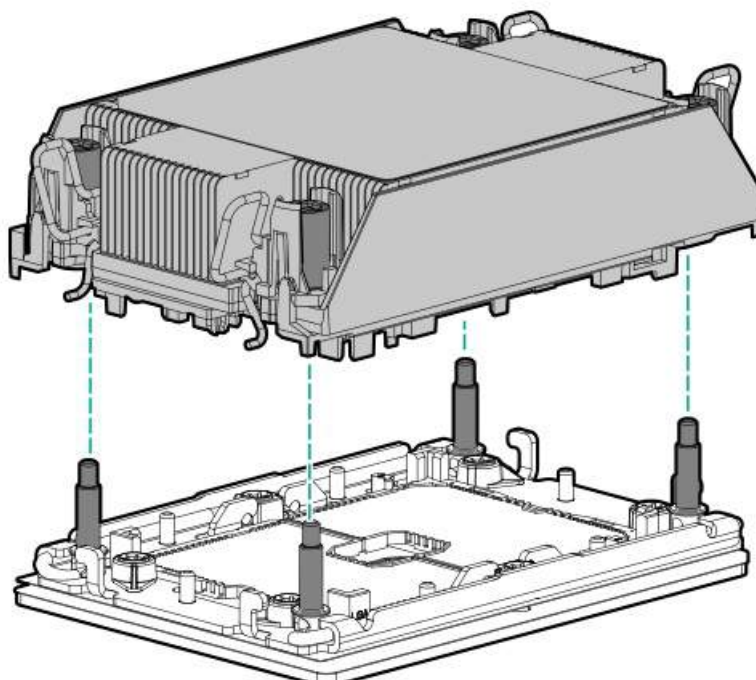


13. Install the processor heatsink assembly:

- a. Identify the front of the server label on the heatsink.
- b. Align the processor heatsink assembly with the alignment pins and gently install it evenly on the socket.

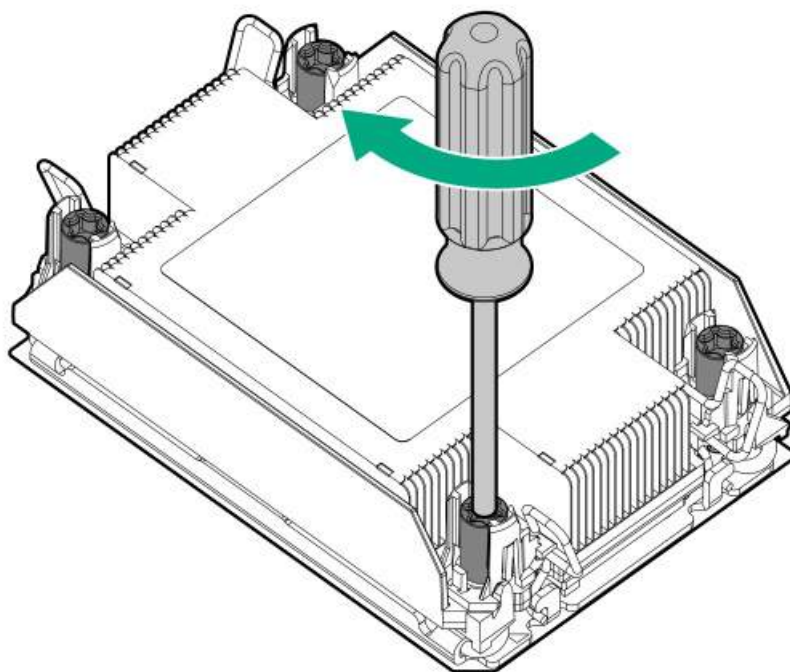
Be sure the latches lock the heatsink into place. The heatsink alignment posts are keyed. The processor will only install one way.

Your heatsink may look different than the one shown.



- c. Tighten the nuts.

NOTE: Do not tighten the nuts to more than 12 in-lbs or 1.3Nm. Over tightening the nuts, could crack or damage the nuts.



Removing and replacing the system board

Prerequisites

If persistent memory modules are installed in the server and are encrypted with local key management, do one of the following:

- Manually retrieve the persistent memory module passwords from the server (user-generated passwords only)
- Export a password file to a USB key.

Hewlett Packard Enterprise recommends exporting the password file to a USB key.

For more information, see the Intel Optane persistent memory 200 series for HPE User Guide on the Hewlett Packard Enterprise website (<https://www.hpe.com/info/persistentmemory-docs>).

Procedure

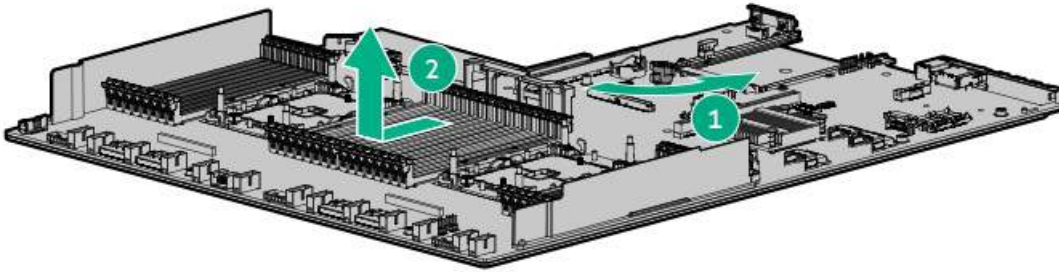
1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove all power supplies.
5. Remove the access panel.
6. Take note of port numbers and cables connections to risers and the system board.
7. Disconnect and remove all cables that are connected to risers or the system board.
8. Remove all riser cages.
9. Remove the GPU support bracket.
10. Remove the controller.
11. Remove all fans.
12. Remove all fan blanks.
13. Remove the OCP adapter.
14. Remove all DIMMs.

Be sure to note the DIMM slot locations in which each DIMM is installed. These components must be installed in the same locations on the new system board.

15. Do the following:
16. Remove all PMMs.

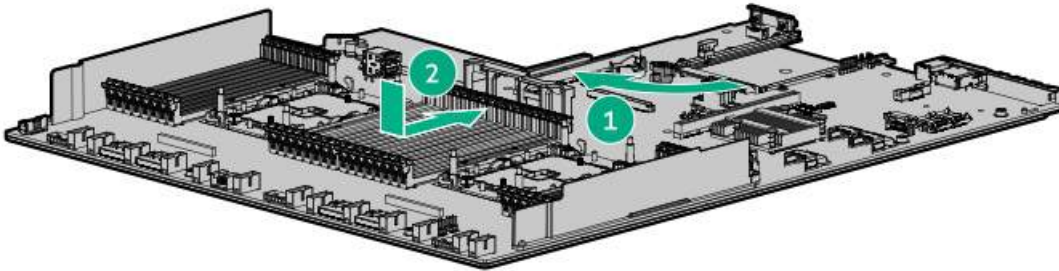
Be sure to note the DIMM slot locations in which each persistent memory module is installed. These components must be installed in the same locations on the new system board.

17. Remove the processor heatsink assembly.
18. Loosen the system board thumbscrew, and then remove the system board.



To replace the component:

1. Install the spare system board.



2. Install all components removed from the failed system board.
Be sure to install the DIMMs and persistent memory modules in the same DIMM slots as the failed system board.
3. Install the access panel.
4. Install the power supplies.
5. Power up the server.
6. Review the persistent memory configuration of the server.
7. Do one of the following:
 - If persistent memory modules are encrypted with local key management, either manually enter the persistent memory module passwords in the System Utilities or import the password file from the USB key.

If persistent memory modules are encrypted with remote key management, enroll the server iLO in the key management server to provide access to the data on the persistent memory modules.

For more information, see the Intel Optane persistent memory 200 series for HPE User Guide on the Hewlett Packard Enterprise website (<https://www.hpe.com/info/persistentmemory-docs>).

After you replace the system board, you must re-enter the server serial number and the product ID:

1. During the server startup sequence, press the **F9** key to access UEFI System Utilities.
2. Select System Configuration > BIOS/Platform Configuration (RBSU) > Advanced Options > Advanced System ROM Options > Serial Number, and then press the **Enter** key.
3. Enter the serial number and press the **Enter** key. The following message appears:
Only qualified service personnel must modify the serial number. This value must always match the serial number on the chassis.
4. To clear the warning, press the **Enter** key.

5. Enter the serial number and press the **Enter** key.
6. From the System Utilities screen, select System Configuration > BIOS/Platform Configuration (RBSU) > Date and Time.
7. Select a setting, and then complete your entry:
 - Date (mm-dd-yyyy)—Enter the date in a month-day-year (mm-dd-yyyy) format.
 - Time (hh:mm:ss)—Enter the time in a 24-hour format (hh:mm:ss) format.
 - Time Zone—Select your current time zone for the system.
 - Daylight Savings Time:
 - Enabled—Adjusts the local time displayed by one hour for Daylight Savings Time.
 - Disabled—Does not adjust the local time displayed for Daylight Savings Time.
 - Time Format
 - Coordinated Universal Time (UTC) — Calculates the time stored in the hardware Real Time Clock (RTC) from the associated Time Zone setting.
 - Local Time—Removes the use of the Time Zone setting.

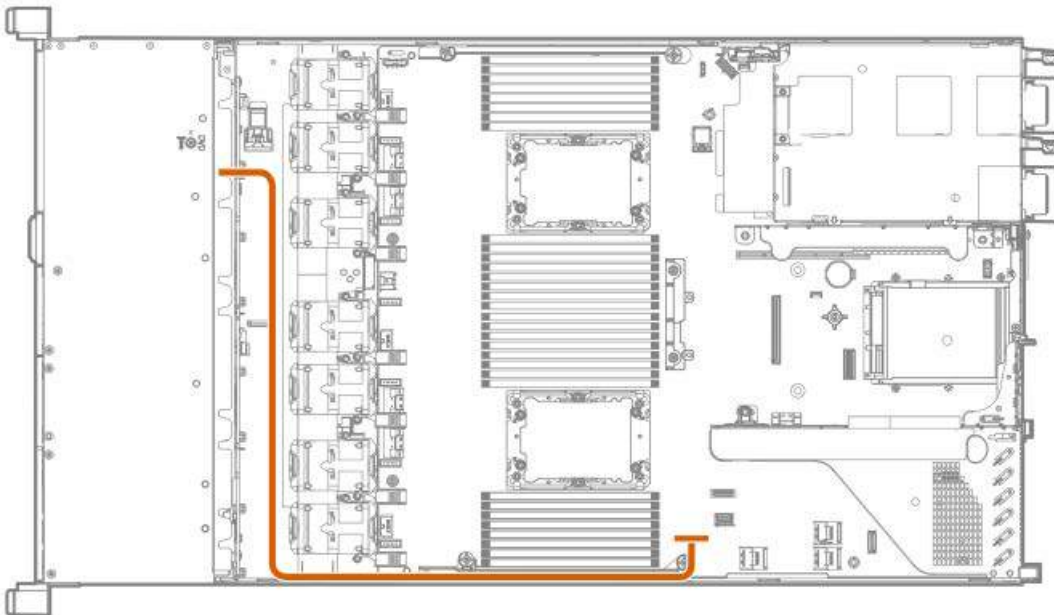
This option is useful for addressing interaction issues between Windows operating systems set in Legacy BIOS boot mode.
8. Save your settings.
9. Select Product ID. The following warning appears:

Warning: The Product ID must ONLY be modified by qualified service personnel. This value must always match the Product ID on the chassis.
10. Enter the product ID and press the **Enter** key.
11. To confirm exiting System Utilities, press the **F10** key.
12. The server automatically reboots.

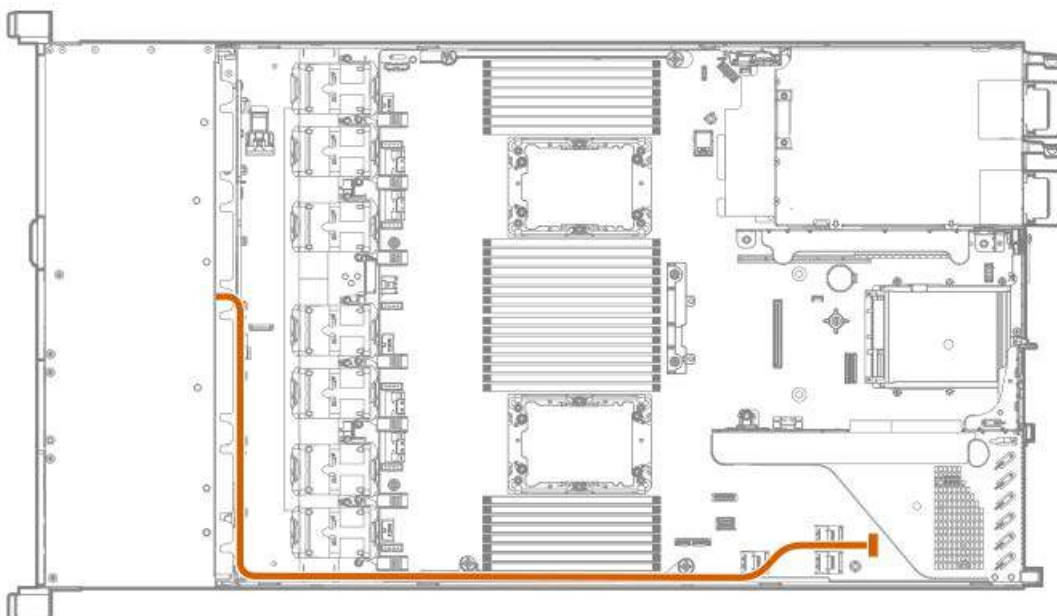
Removing and replacing the LFF optical disk drive/display port/USB

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove the access panel.
5. Disconnect the optical drive cable from the system board.

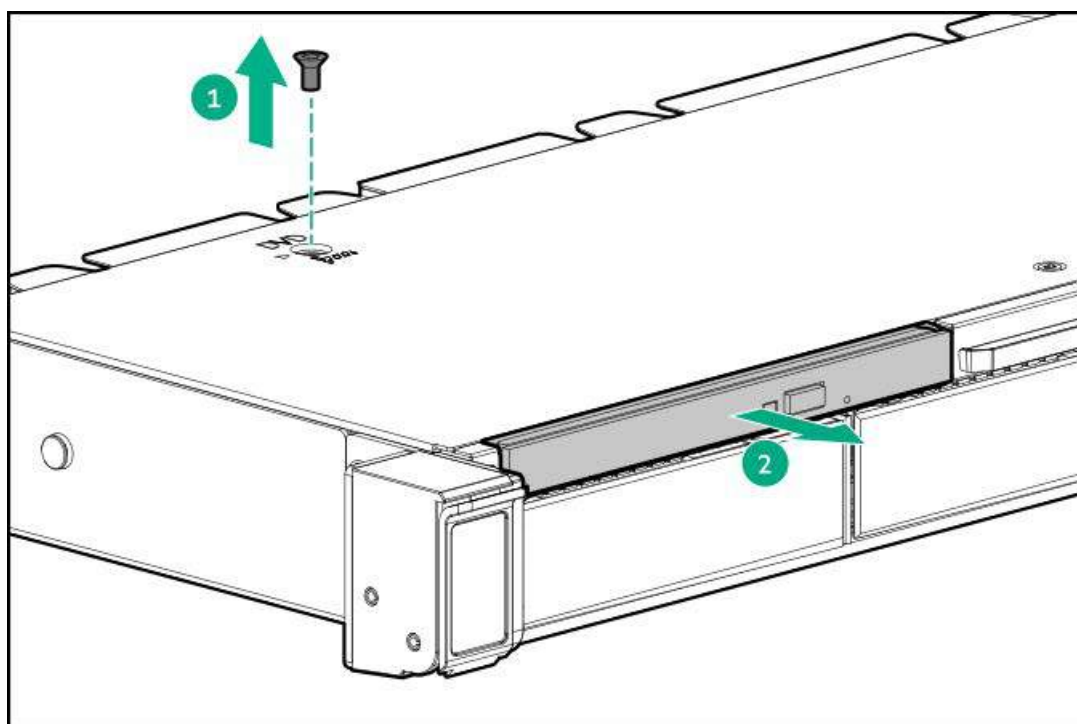


6. Disconnect the display port/USB cable from the system board.

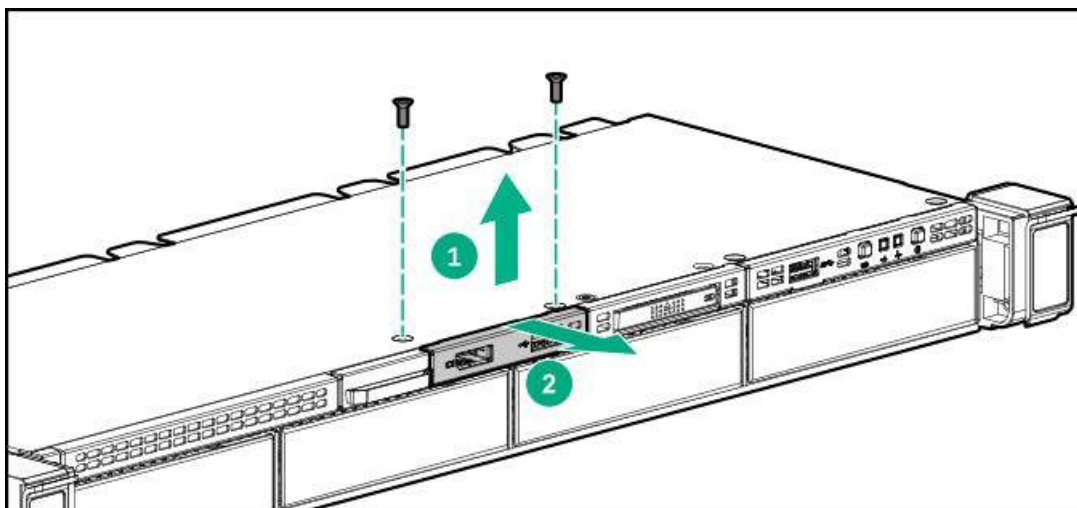


7. Remove the component.

Optical disk drive



Display port/USB

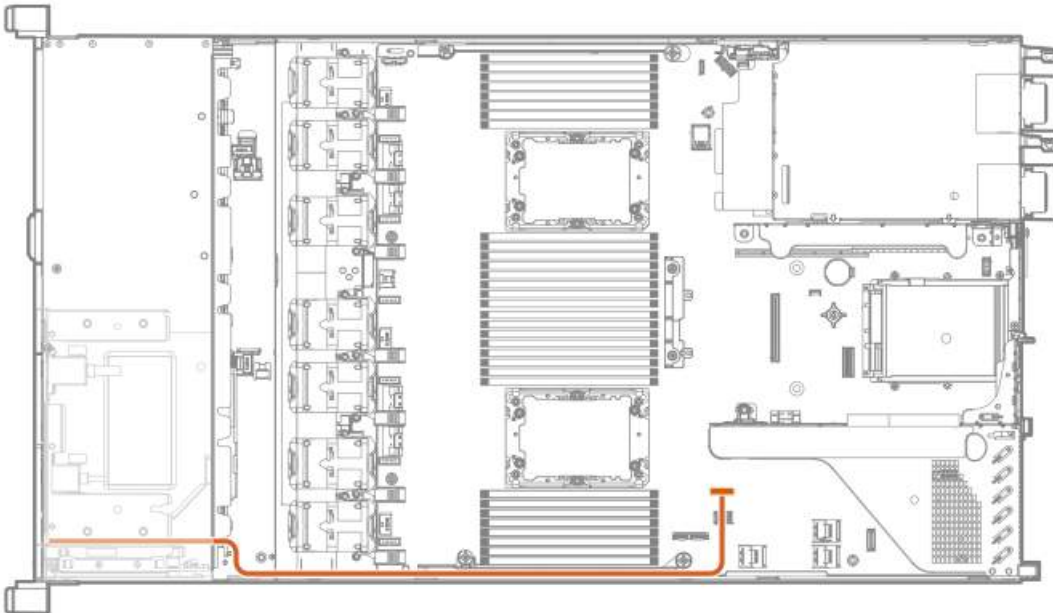


To replace the component, reverse the removal procedure.

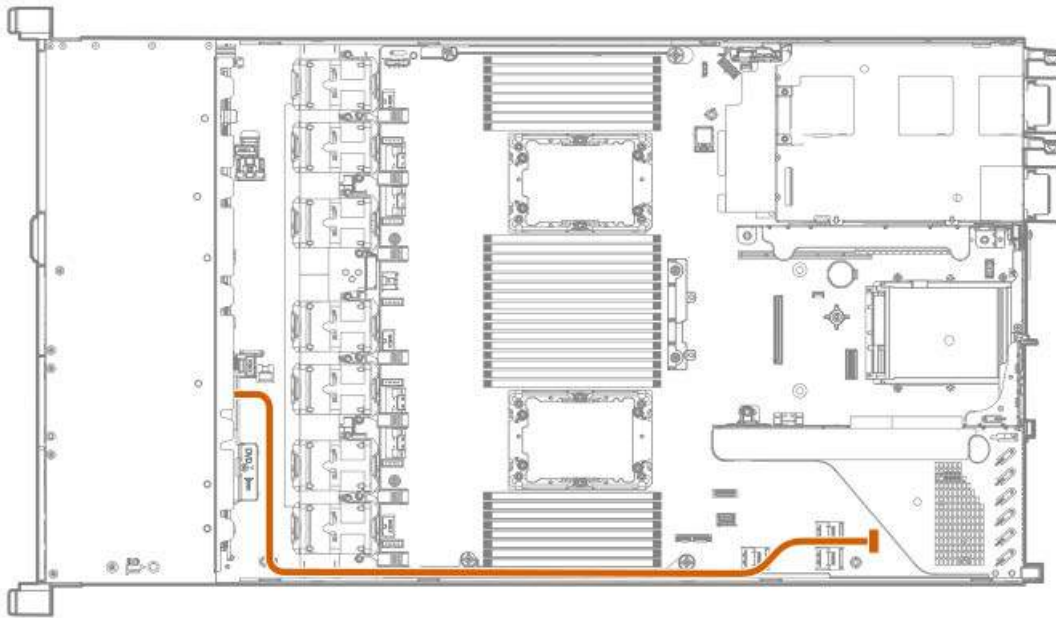
Removing and replacing the SFF optical disk drive/display port/USB

Procedure

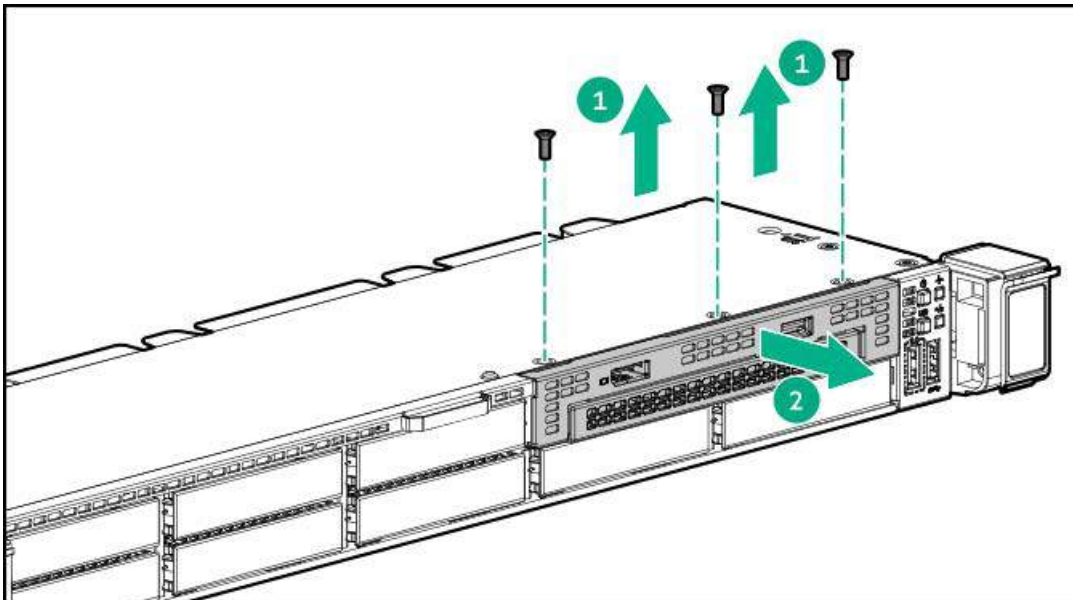
1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove the access panel.
5. If needed, disconnect the optical disk drive cable from the system board.



6. Disconnect the display port/USB cable from the system board.



7. Remove the component.

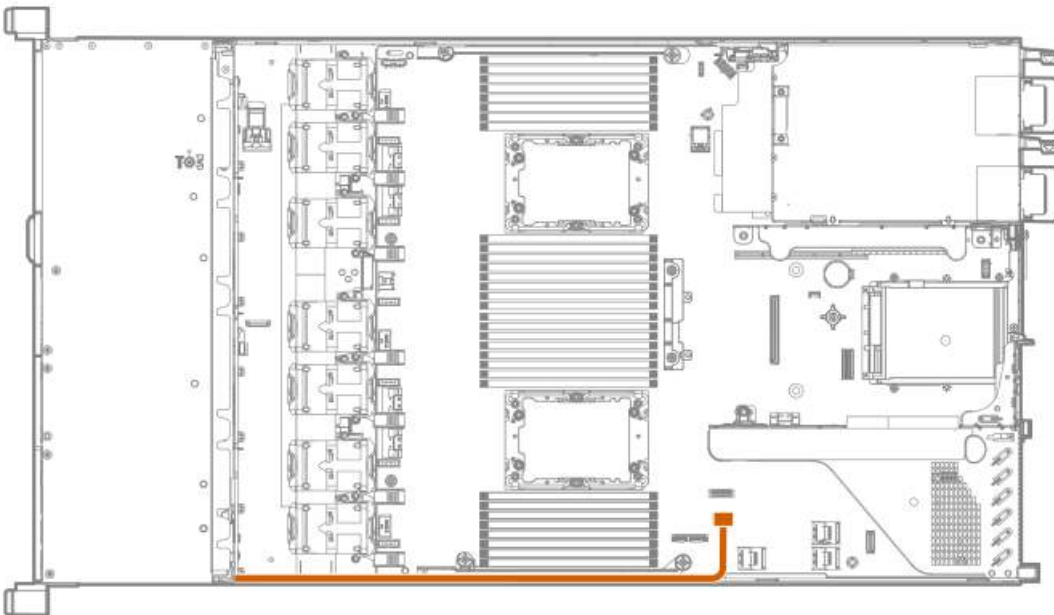


To replace the component, reverse the removal procedure.

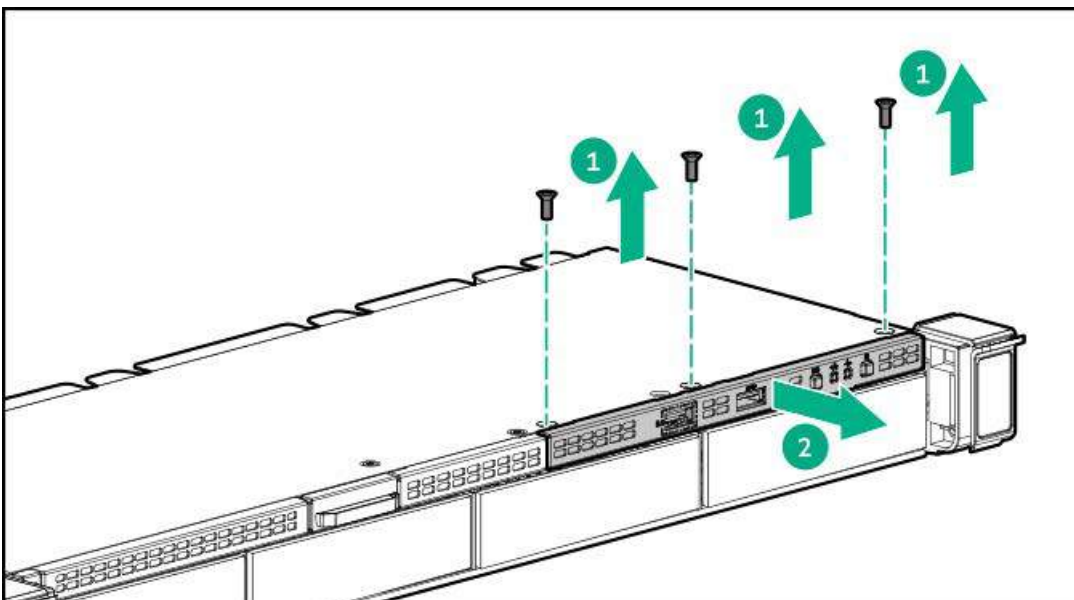
Removing and replacing the LFF power switch module

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove the access panel.
5. Disconnect the cable from the system board.



6. Remove the power module.



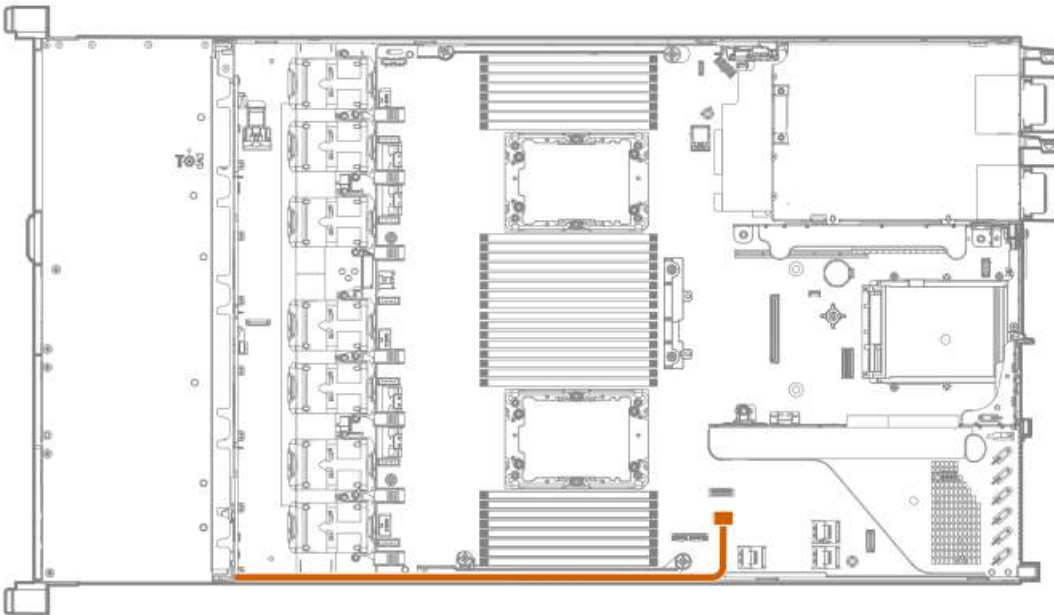
To replace the component, reverse the removal procedure.



Removing and replacing the Systems Insight Display power module

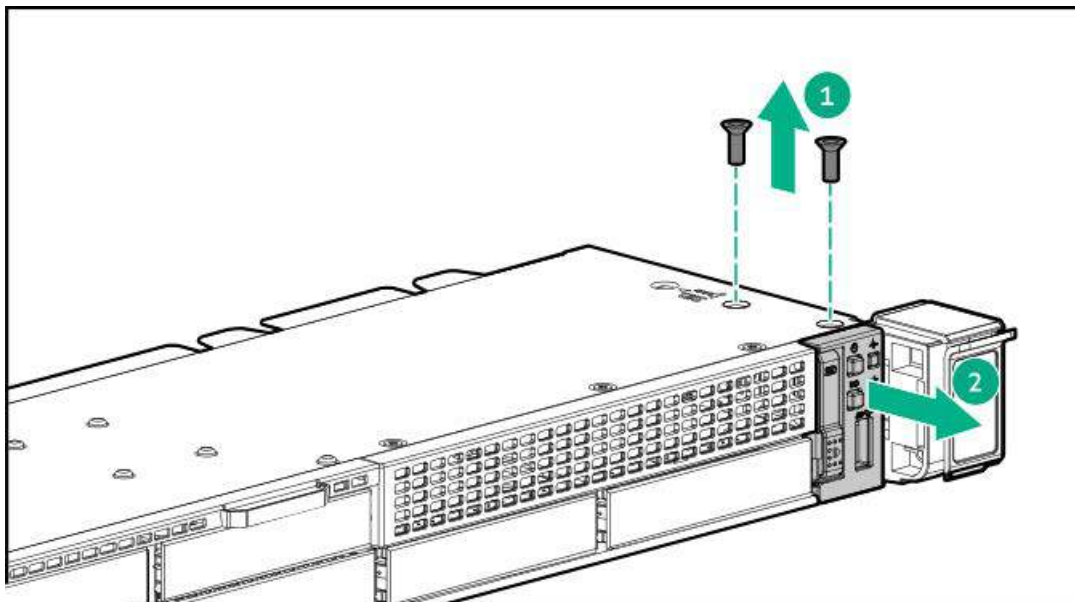
Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack.
 - b. Remove the server from the rack.
4. Remove the access panel.
5. Disconnect the cable from the system board.

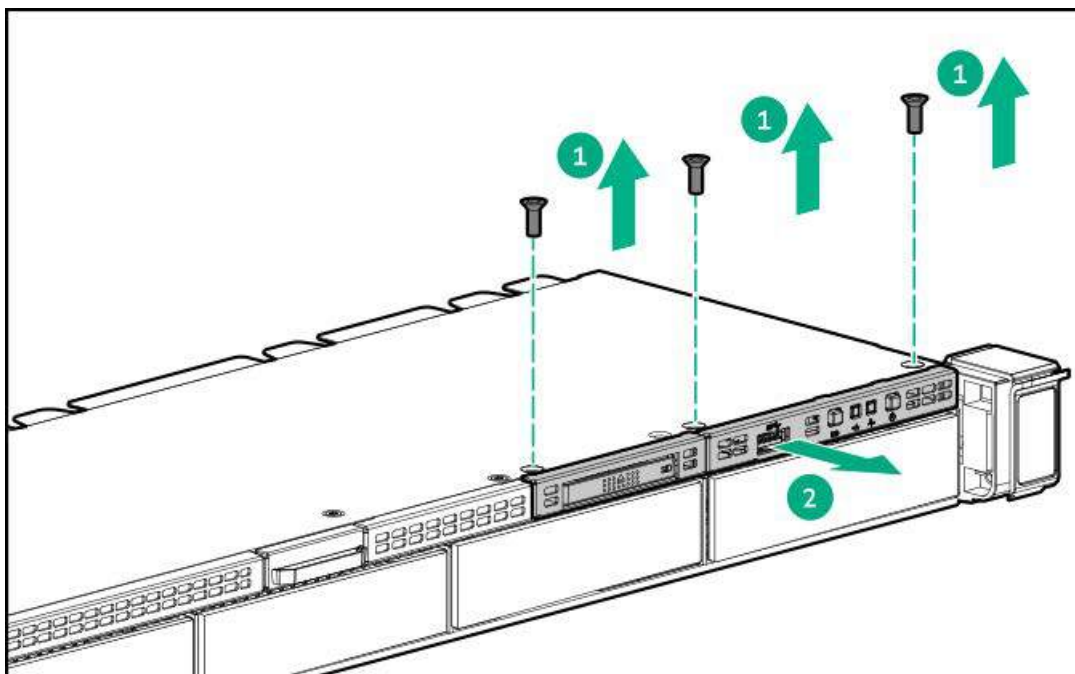


6. Remove the component.

SFF



LFF



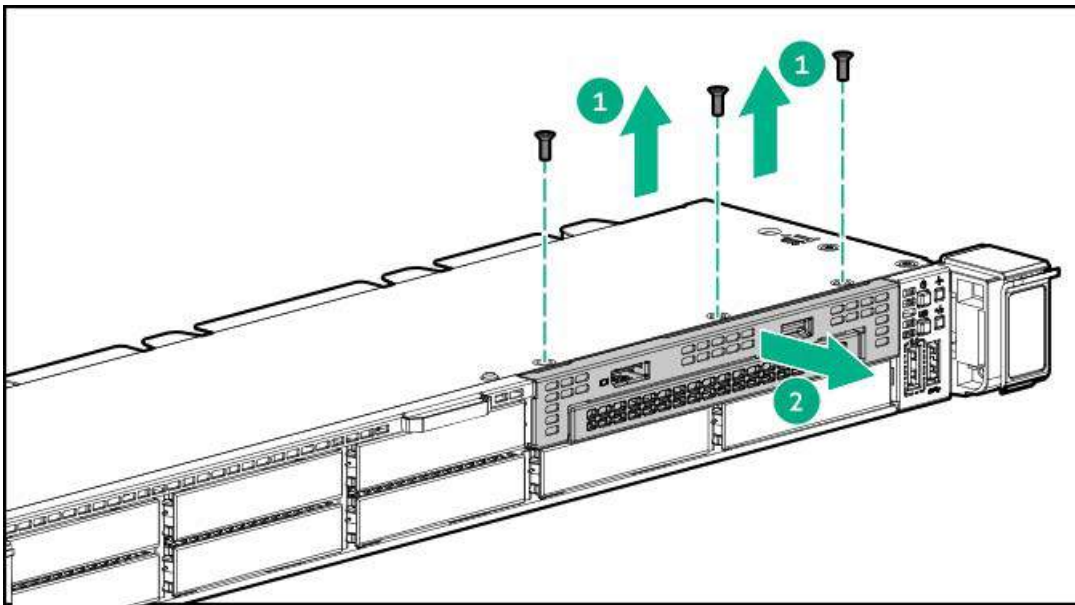
To replace the component, reverse the removal procedure.

Removing and replacing the 2 SFF drive cage

Procedure

1. Power down the server (Power down the server).
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack (Extend the server from the rack).
 - b. Remove the server from the rack (Remove the server from the rack).
4. Remove the access panel (Remove the access panel).
5. Remove drives and drive blanks.

Note where each drive is located.
6. Disconnect all cables from the drive backplane.
7. Remove the drive cage.



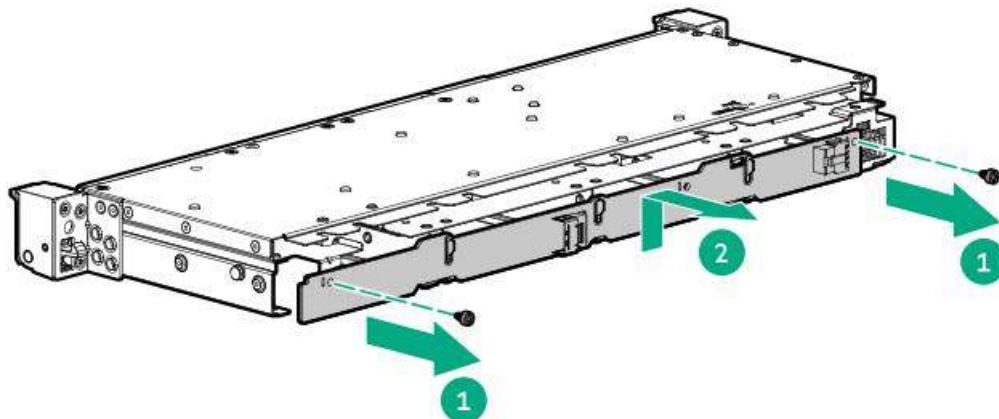
To replace the component, reverse the removal procedure.

Removing and replacing the 4 LFF drive backplane

Procedure

1. Power down the server ([Power down the server](#)).
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack ([Extend the server from the rack](#)).
 - b. Remove the server from the rack ([Remove the server from the rack](#)).
4. Remove the access panel ([Remove the access panel](#)).
5. Remove all drives and drive blanks.

Note where each drive is located.
6. If installed, remove the Smart Storage Battery ([Removing and replacing the Smart Storage Battery or Hybrid Capacitor](#)).
7. Disconnect all cables from the drive backplane.
8. Remove the drive backplane.



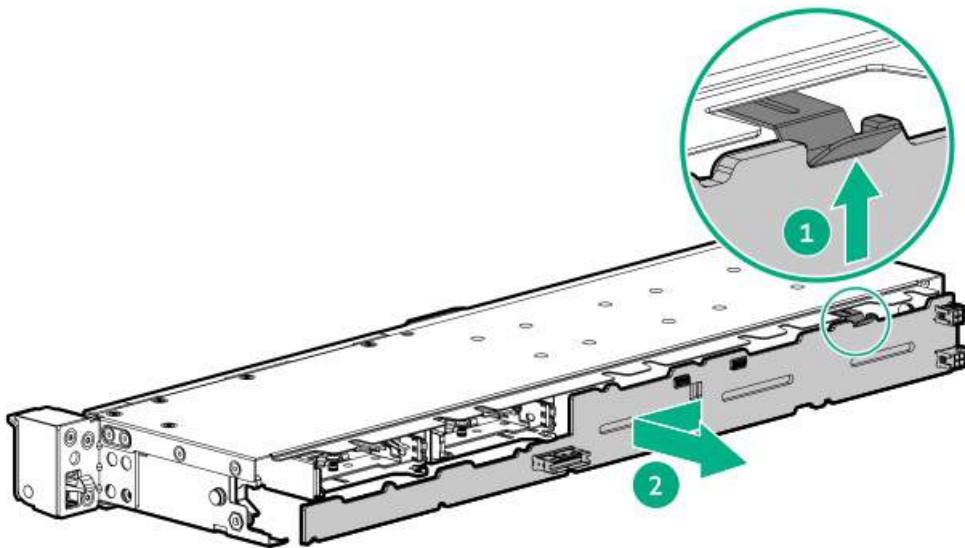
To replace the component, reverse the removal procedure.

Removing and replacing the 8 SFF drive backplane

Procedure

1. Power down the server ([Power down the server](#)).
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - a. Extend the server from the rack ([Extend the server from the rack](#)).
 - b. Remove the server from the rack ([Remove the server from the rack](#)).
4. Remove the access panel ([Remove the access panel](#)).
5. Remove all drives and drive blanks.

Note where each drive is located.
6. If installed, remove the Smart Storage Battery ([Removing and replacing the Smart Storage Battery or Hybrid Capacitor](#)).
7. Disconnect and remove all cables from the drive backplane.
8. Remove the drive backplane.



To replace the component, reverse the removal procedure.

HPE Trusted Platform Module 2.0 Gen10 Plus Option

The HPE Trusted Platform Module 2.0 Gen10 Plus Option is not a customer-removable part.

 **CAUTION:** If the TPM is removed from the original server and powered up on a different server, data stored in the TPM including keys will be erased.

If you suspect a TPM board failure, leave the TPM installed and remove the system board. Contact a Hewlett Packard Enterprise authorized service provider for a replacement system board and TPM board.

Troubleshooting resources

Troubleshooting resources are available for HPE Gen10 and Gen10 Plus server products in the following documents:

- Troubleshooting Guide for HPE ProLiant Gen10 and Gen10 Plus servers provides procedures for resolving common problems and comprehensive courses of action for fault isolation and identification, issue resolution, and software maintenance.
- Error Message Guide for HPE ProLiant Gen10 Plus servers and HPE Synergy provides a list of error messages and information to assist with interpreting and resolving error messages.
- Integrated Management Log Messages and Troubleshooting Guide for HPE ProLiant Gen10 and Gen10 Plus servers and HPE Synergy provides IML messages and associated troubleshooting information to resolve critical and cautionary IML events.

To access troubleshooting resources for your product, see the [Hewlett Packard Enterprise website](#).

Product QuickSpecs

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

UEFI System Utilities

The UEFI System Utilities is embedded in the system ROM. Its features enable you to perform a wide range of configuration activities, including:

- Configuring system devices and installed options.
- Enabling and disabling system features.
- Displaying system information.
- Selecting the primary boot controller or partition.
- Configuring memory options.
- Launching other preboot environments.

HPE servers with UEFI can provide:

- Support for boot partitions larger than 2.2 TB. Such configurations could previously only be used for boot drives when using RAID solutions.
- Secure Boot that enables the system firmware, option card firmware, operating systems, and software collaborate to enhance platform security.
- UEFI Graphical User Interface (GUI)
- An Embedded UEFI Shell that provides a preboot environment for running scripts and tools.
- Boot support for option cards that only support a UEFI option ROM.

Selecting the boot mode

This server provides two Boot Mode configurations: UEFI Mode and Legacy BIOS Mode. Certain boot options require that you select a specific boot mode. By default, the boot mode is set to UEFI Mode. The system must boot in UEFI Mode to use certain options, including:

- Secure Boot, UEFI Optimized Boot, Generic USB Boot, IPv6 PXE Boot, iSCSI Boot, NVMe Boot and Boot from URL
- Fibre Channel/FCoE Scan Policy



NOTE:

The boot mode you use must match the operating system installation. If not, changing the boot mode can impact the ability of the server to boot to the installed operating system.

Prerequisite

When booting to UEFI Mode, leave UEFI Optimized Boot enabled.

Procedure

1. From the System Utilities screen, select System Configuration > BIOS/Platform Configuration (RBSU) > Boot Options > Boot Mode.
2. Select a setting.
 - UEFI Mode (default)—Configures the system to boot to a UEFI compatible operating system.
 - Legacy BIOS Mode—Configures the system to boot to a traditional operating system in Legacy BIOS compatibility mode.
3. Save your setting.
4. Reboot the server.

Secure Boot

Secure Boot is a server security feature that is implemented in the BIOS and does not require special hardware. Secure Boot ensures that each component launched during the boot process is digitally signed and that the signature is validated against a set of trusted certificates embedded in the UEFI BIOS. Secure Boot validates the software identity of the following components in the boot process:

- UEFI drivers loaded from PCIe cards
- UEFI drivers loaded from mass storage devices
- Preboot UEFI Shell applications
- OS UEFI boot loaders

When Secure Boot is enabled:

- Firmware components and operating systems with boot loaders must have an appropriate digital signature to execute during the boot process.
- Operating systems must support Secure Boot and have an EFI boot loader signed with one of the authorized keys to boot. For more information about supported operating systems, see <https://www.hpe.com/servers/ossupport>.

You can customize the certificates embedded in the UEFI BIOS by adding or removing your own certificates, either from a management console directly attached to the server, or by remotely connecting to the server using the iLO Remote Console.

You can configure Secure Boot:

- Using the System Utilities options described in the following sections.
- Using the iLO RESTful API to clear and restore certificates. For more information, see the Hewlett Packard Enterprise website (<https://www.hpe.com/info/redfish>).
- Using the `secboot` command in the Embedded UEFI Shell to display Secure Boot databases, keys, and security reports.

Launching the Embedded UEFI Shell

Use the Embedded UEFI Shell option to launch the Embedded UEFI Shell. The Embedded UEFI Shell is a preboot command-line environment for scripting and running UEFI applications, including UEFI boot loaders. The Shell also provides CLI-based commands you can use to obtain system information, and to configure and update the system BIOS.

Prerequisites

- Embedded UEFI Shell is set to Enabled.

Procedure

1. From the System Utilities screen, select Embedded Applications > Embedded UEFI Shell.

The Embedded UEFI Shell screen appears.

2. Press any key to acknowledge that you are physically present.

This step ensures that certain features, such as disabling Secure Boot or managing the Secure Boot certificates using third-party UEFI tools, are not restricted.

3. If an administrator password is set, enter it at the prompt and press Enter.

The `Shell>` prompt appears.

4. Enter the commands required to complete your task.

5. Enter the `exit` command to exit the Shell.

Intelligent Provisioning

Intelligent Provisioning is a single-server deployment tool embedded in ProLiant servers and HPE Synergy compute modules. Intelligent Provisioning simplifies server setup, providing a reliable and consistent way to deploy servers.

Intelligent Provisioning prepares the system for installing original, licensed vendor media and Hewlett Packard Enterprise-branded versions of OS software. Intelligent Provisioning also prepares the system to integrate optimized server support software from the Service Pack for ProLiant (SPP). SPP is a comprehensive systems software and firmware solution for ProLiant servers, server blades, their enclosures, and HPE Synergy compute modules. These components are preloaded with a basic set of firmware and OS components that are installed along with Intelligent Provisioning.

(i) IMPORTANT:

HPE ProLiant XL servers do not support operating system installation with Intelligent Provisioning, but they do support the maintenance features. For more information, see "Performing Maintenance" in the Intelligent Provisioning user guide and online help.

After the server is running, you can update the firmware to install additional components. You can also update any components that have been outdated since the server was manufactured.

To access Intelligent Provisioning:

- Press F10 from the POST screen and enter either Intelligent Provisioning or HPE Rapid Setup Software.
- From the iLO web interface using Lifecycle Management. Lifecycle Management allows you to access Intelligent Provisioning without rebooting your server.

Intelligent Provisioning operation



NOTE:

Intelligent Provisioning 3.62 and later requires iLO firmware version 2.44 or later.

Intelligent Provisioning includes the following components:

- Critical boot drivers
 - Active Health System (AHS)
 - Erase Utility
 - Deployment Settings
-



IMPORTANT:

- Although your server is preloaded with firmware and drivers, Hewlett Packard Enterprise recommends updating the firmware upon initial setup. Also, downloading and updating the latest version of Intelligent Provisioning ensures the latest supported features are available.
 - For ProLiant servers, firmware is updated using the Intelligent Provisioning Firmware Update utility.
 - Do not update firmware if the version you are currently running is required for compatibility.
-



NOTE:

Intelligent Provisioning does not function within multihomed configurations. A multihomed host is one that is connected to two or more networks or has two or more IP addresses.

Intelligent Provisioning provides installation help for the following operating systems:

- Microsoft Windows Server
- Red Hat Enterprise Linux
- SUSE Linux Enterprise Server
- VMware ESXi/vSphere Custom Image
- ClearOS

Not all versions of an OS are supported. For information about specific versions of a supported operating system, see the OS Support Matrix on the Hewlett Packard Enterprise website (<https://www.hpe.com/info/ossupport>).

HPE Insight Remote Support

Hewlett Packard Enterprise strongly recommends that you register your device for remote support to enable enhanced delivery of your Hewlett Packard Enterprise warranty, HPE support services, or Hewlett Packard Enterprise contractual support agreement. Insight Remote Support supplements your monitoring continuously to ensure maximum system availability by providing 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. Notifications can be sent to your authorized Hewlett Packard Enterprise Channel Partner for onsite service, if configured and available in your country.

For more information, see Insight Remote Support and Insight Online Setup Guide for ProLiant Servers and BladeSystem c-Class Enclosures on the [Hewlett Packard Enterprise website](#). Insight Remote Support is available as part of Hewlett Packard Enterprise Warranty, HPE support services, or Hewlett Packard Enterprise contractual support agreement.

HPE InfoSight for servers

The HPE InfoSight portal is a secure web interface hosted by HPE that allows you to monitor supported devices through a graphical interface.

HPE InfoSight for servers:

- Combines the machine learning and predictive analytics of HPE InfoSight with the health and performance monitoring of Active Health System (AHS) and HPE iLO to optimize performance and predict and prevent problems
- Provides automatic collection and analysis of the sensor and telemetry data from AHS to derive insights from the behaviors of the install base to provide recommendations to resolve problems and improve performance

For more information on getting started and using HPE InfoSight for servers, go to: <https://www.hpe.com/info/infosight-servers-docs>.

USB support

Hewlett Packard Enterprise Gen10 and Gen10 Plus servers support all USB operating speeds depending on the device that is connected to the server.

External USB functionality

Hewlett Packard Enterprise provides external USB support to enable local connection of USB devices for server administration, configuration, and diagnostic procedures.

For additional security, external USB functionality can be disabled through USB options in UEFI System Utilities.

HPE Smart Storage Administrator

HPE SSA is the main tool for configuring arrays on HPE Smart Array SR controllers. It exists in three interface formats: the HPE SSA GUI, the HPE SSA CLI, and HPE SSA Scripting. All formats provide support for configuration tasks. Some of the advanced tasks are available in only one format.

The diagnostic features in HPE SSA are also available in the standalone software HPE Smart Storage Administrator Diagnostics Utility CLI.

During the initial provisioning of the server or compute module, an array is required to be configured before the operating system can be installed. You can configure the array using SSA.

HPE SSA is accessible both offline (either through HPE Intelligent Provisioning or as a standalone bootable ISO image) and online:

- Accessing HPE SSA in the offline environment

 **IMPORTANT:** If you are updating an existing server in an offline environment, obtain the latest version of HPE SSA through Service Pack for ProLiant before performing configuration procedures.

Using one of multiple methods, you can run HPE SSA before launching the host operating system. In offline mode, users can configure or maintain detected and supported devices, such as optional Smart Array controllers and integrated Smart Array controllers. Some HPE SSA features are only available in the offline environment, such as setting the boot controller and boot volume.

- Accessing HPE SSA in the online environment

This method requires an administrator to download the HPE SSA executables and install them. You can run HPE SSA online after launching the host operating system.

For more information, see HPE SSA online help.

Cabling guidelines

The cable colors in the cabling diagrams used in this chapter are for illustration purposes only.

Observe the following guidelines when working with server cables.

Before connecting cables

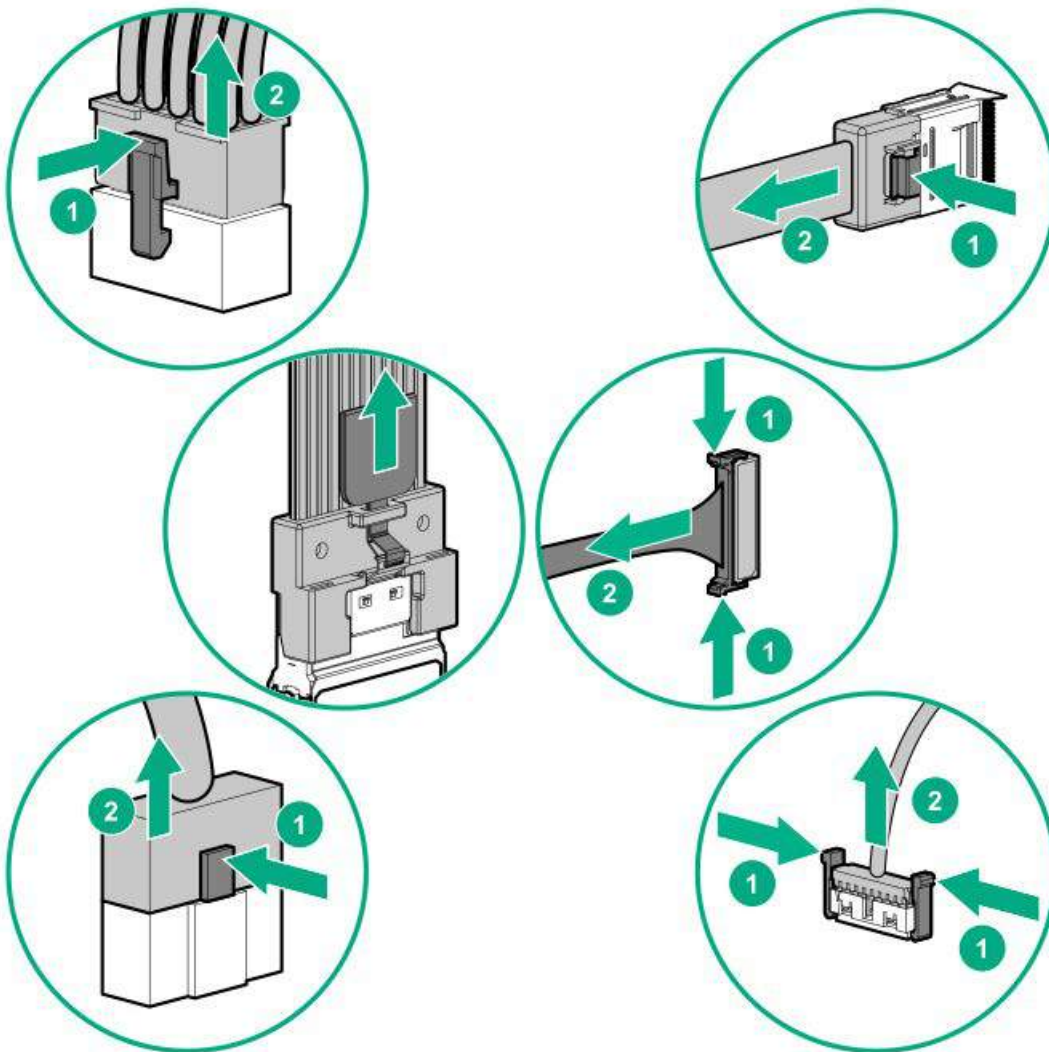
- Note the port labels on the PCA components. Not all these components are used by all servers:
 - System board ports
 - Drive and power supply backplane ports
 - Expansion board ports (controllers, adapters, expanders, risers, and similar boards)
- Note the label near each cable connector. This label indicates the destination port for the cable connector.
- Some data cables are prebent. Do not unbend or manipulate the cables.
- To prevent mechanical damage or depositing oil that is present on your hands, and other contamination, do not touch the ends of the connectors.

When connecting cables

- Before connecting a cable to a port, lay the cable in place to verify the length of the cable.
- Use the internal cable management features to properly route and secure the cables.
- When routing cables, be sure that the cables are not in a position where they can be pinched or crimped.
- Avoid tight bend radii to prevent damaging the internal wires of a power cord or a server cable. Never bend power cords and server cables tight enough to cause a crease in the sheathing.
- Make sure that the excess length of cables is properly secured to avoid excess bends, interference issues, and airflow restriction.
- To prevent component damage and potential signal interference, make sure that all cables are in their appropriate routing position before installing a new component and before closing up the server after hardware installation/maintenance.

When disconnecting cables

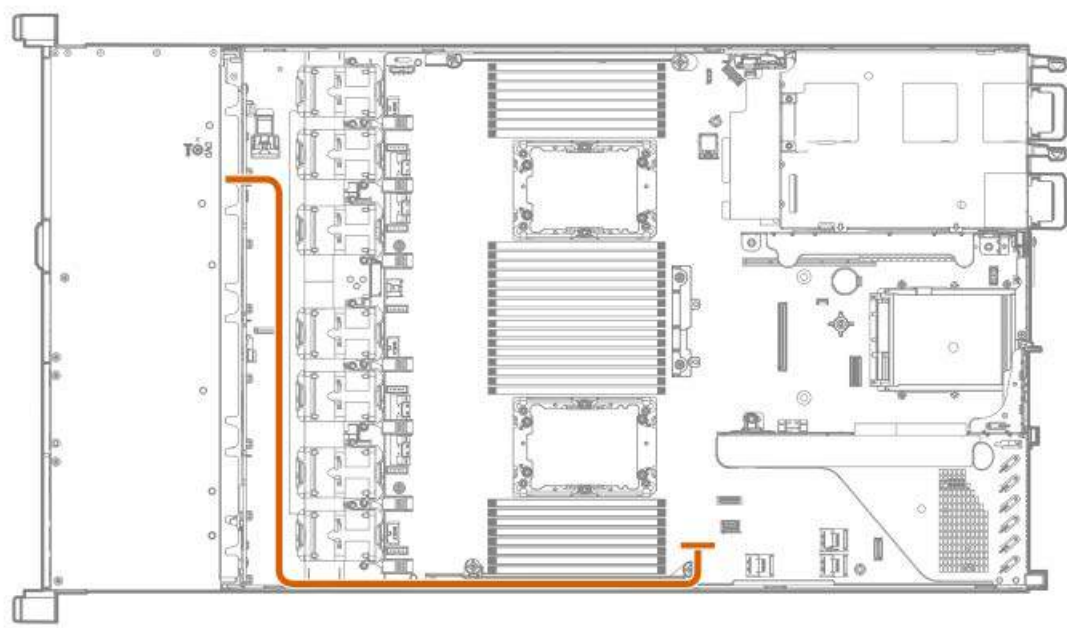
- Grip the body of the cable connector. Do not pull on the cable itself because this action can damage the internal wires of the cable or the pins on the port.
- If a cable does not disconnect easily, check for any release latch that must be pressed to disconnect the cable.



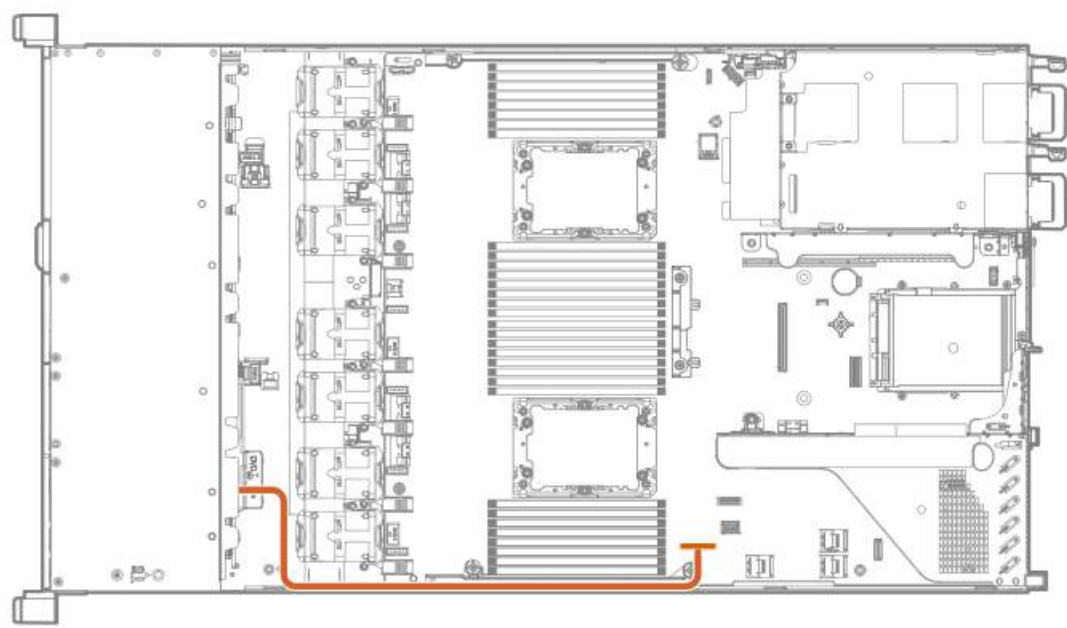
- Remove cables that are no longer being used. Retaining them inside the server can restrict airflow. If you intend to use the removed cables later, label and store them for future use.

Front I/O cabling

LFF Optical Disk Drive cabling

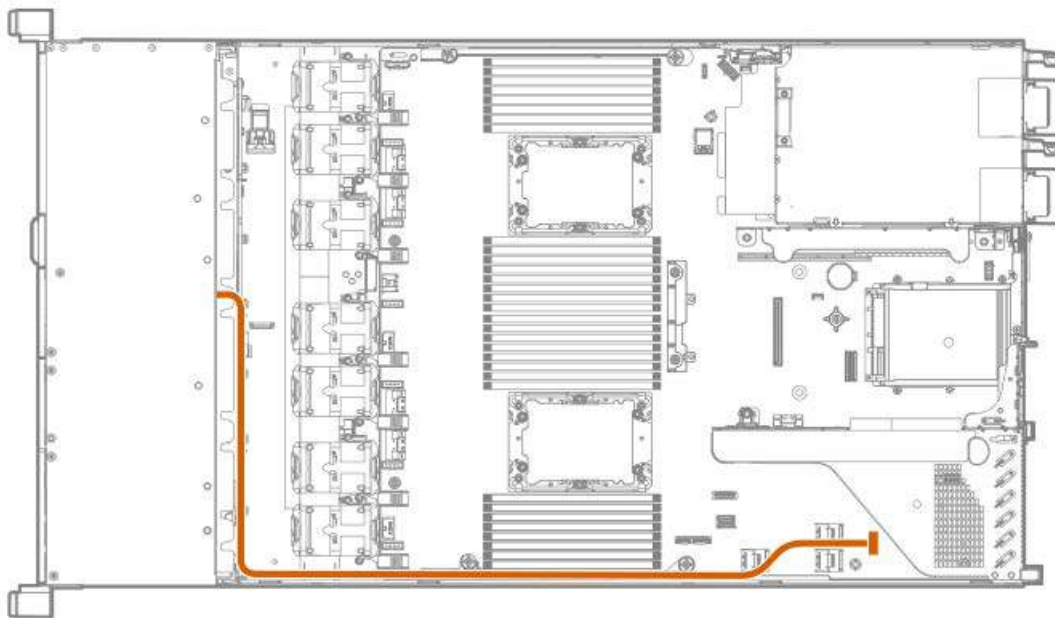


SFF Optical Disk Drive cabling

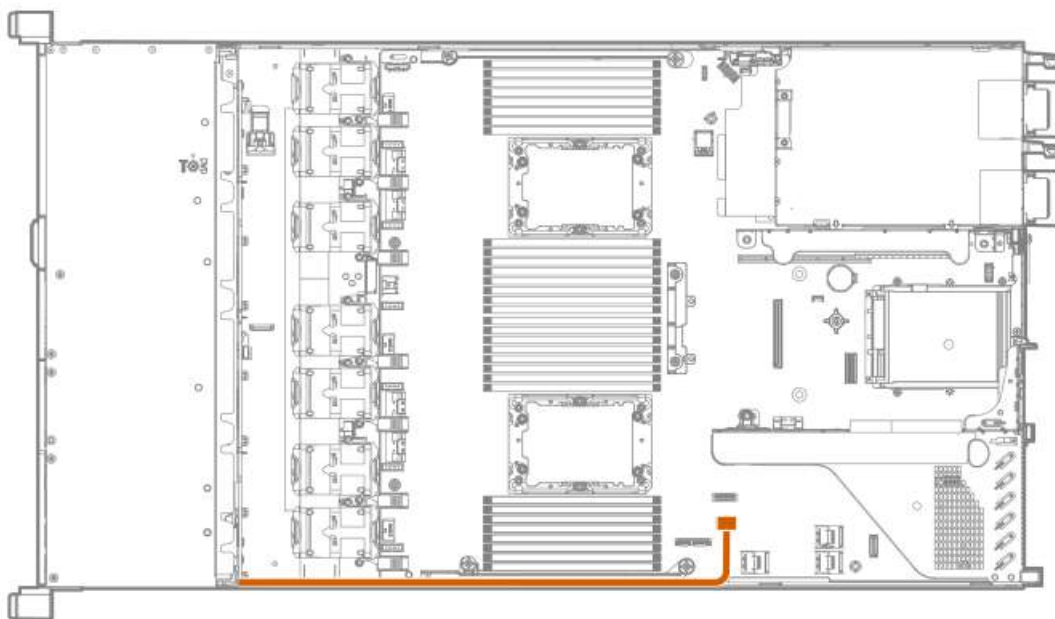


LFF front display port/USB cabling





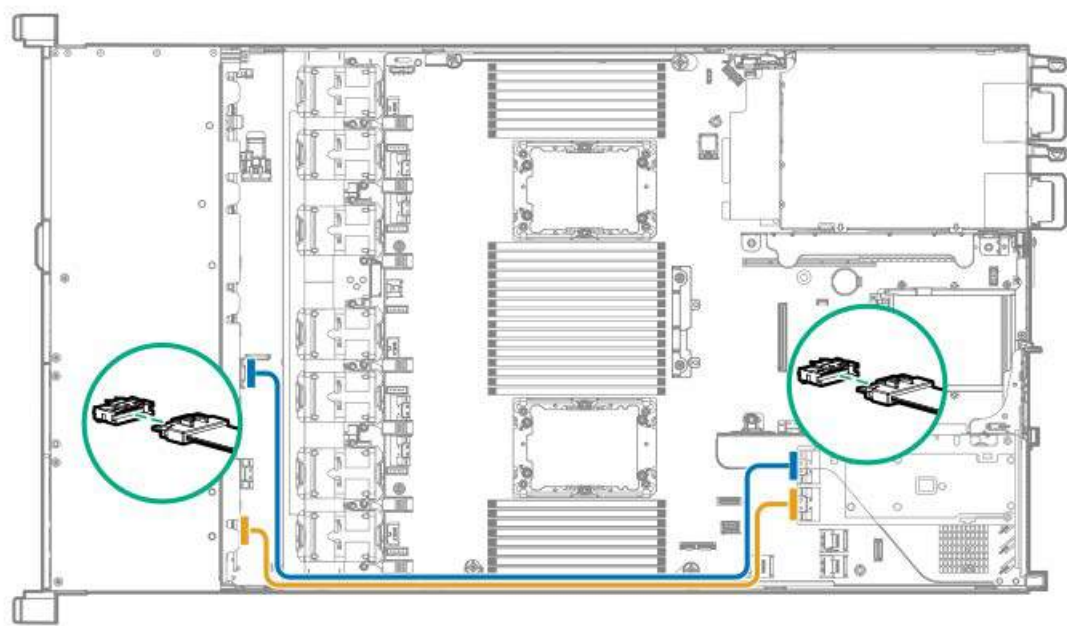
Front power/SID/USB cabling



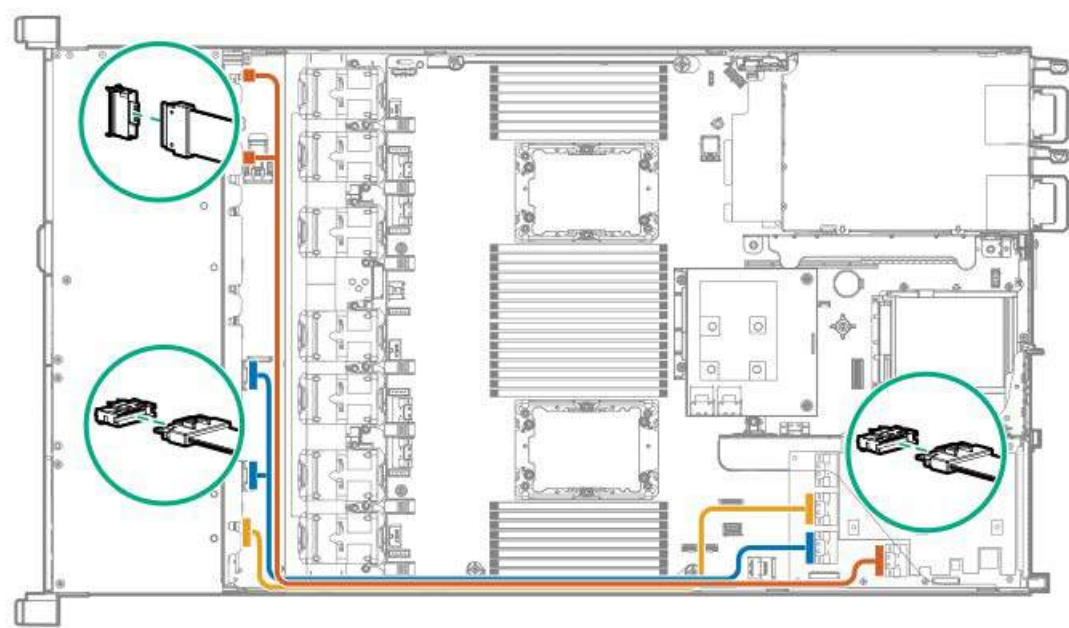
SFF cables

Option kit	Cable part number	Connects from	Connects to
SFF internal cable kit	P20815-001	2SFF SAS/SATA backplane	Embedded SATA port 3
	P20816-001	8SFF SAS/SATA backplane	Embedded SATA ports 1/2
	P20817-001	2SFF SAS/SATA backplane	Type-a controller
	P26551-001	2SFF SAS/SATA backplane	Type-p controller
Direct attach NVMe cable kit	P20855-001	8SFF NVMe backplane	Embedded NVMe ports 1B/2B
	P20856-001	8SFF NVMe backplane	Embedded NVMe ports 1A/2A
	P20857-001	2SFF NVMe backplane	Primary NVMe riser
	P26552-001	2SFF NVMe backplane	Embedded NVMe port 1A
Tri-mode NVMe cables	P20863-001	8SFF Tri-mode backplane	Type-p SR controller NVMe port 1
	P20864-001	8SFF Tri-mode backplane	Type-p SR controller NVMe port 2
	P20865-001	8SFF Tri-mode backplane	Type-p SR controller NVMe port 3
	P20866-001	8SFF Tri-mode backplane	Type-p SR controller NVMe port 4
	P20867-001	8SFF Tri-mode backplane	Type-p SR controller
	P20868-001	8SFF Tri-mode backplane	Type-p SR controller
	P20869-001	2SFF Tri-mode backplane	Type-p SR controller
	P20859-001	8SFF Tri-mode backplane	Type-p MR controller
	P26553-001	8SFF Tri-mode backplane	Type-a SR controller
OCP x16 enablement kit	P20847-001	Embedded Slimline Connector	Type-a or Type-p controller

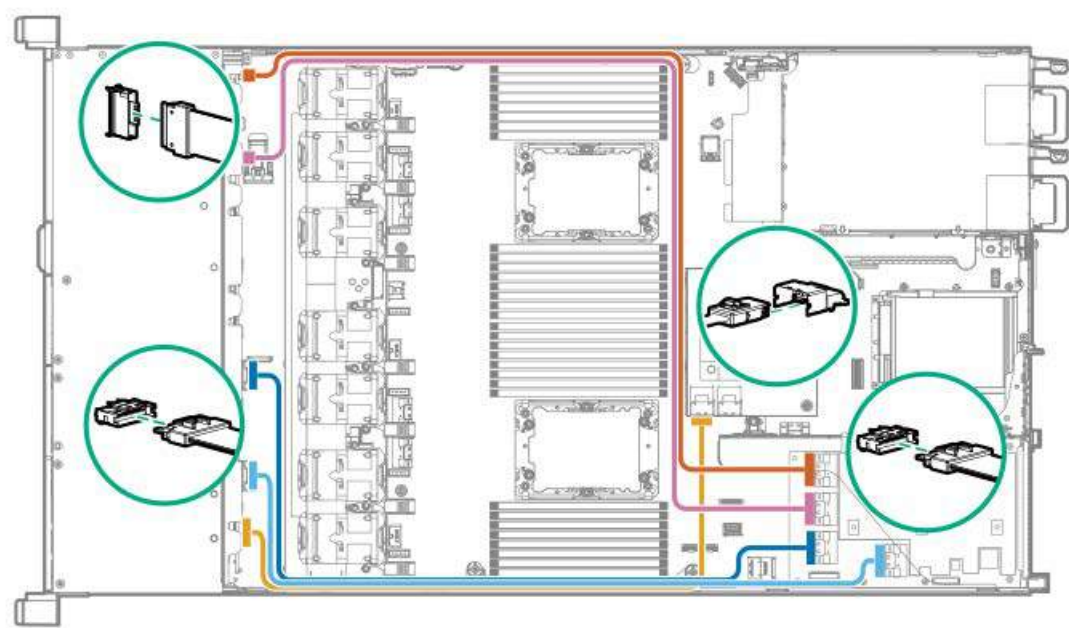
8SFF x1 Tri-Mode U.3 backplane + 2SFF NVMe backplane to type-p Tri-Mode controller



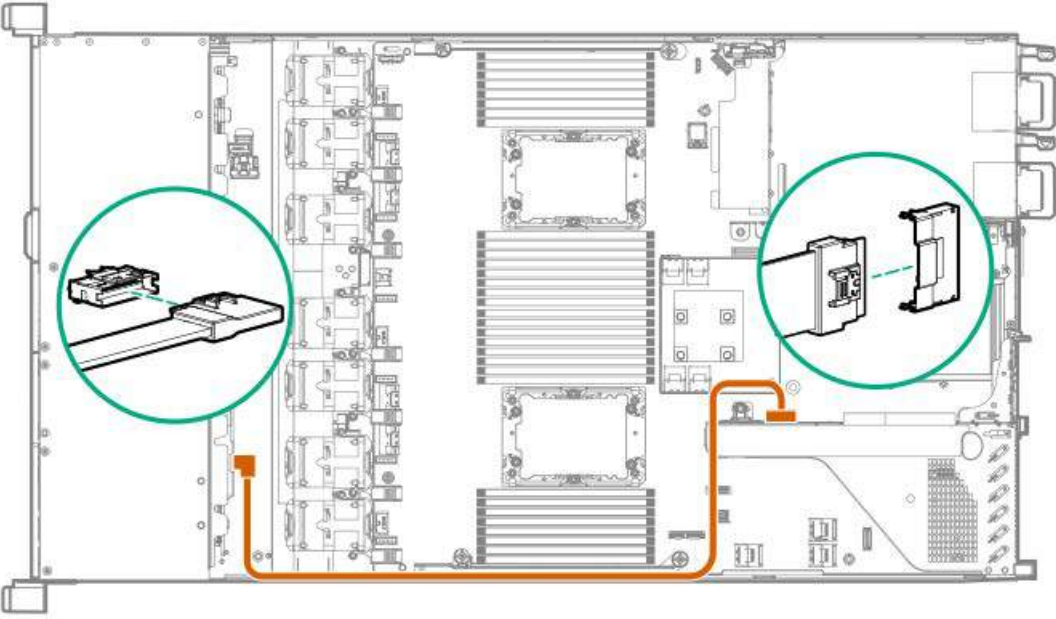
8SFF x4 + 2SFF backplanes to type-p controller



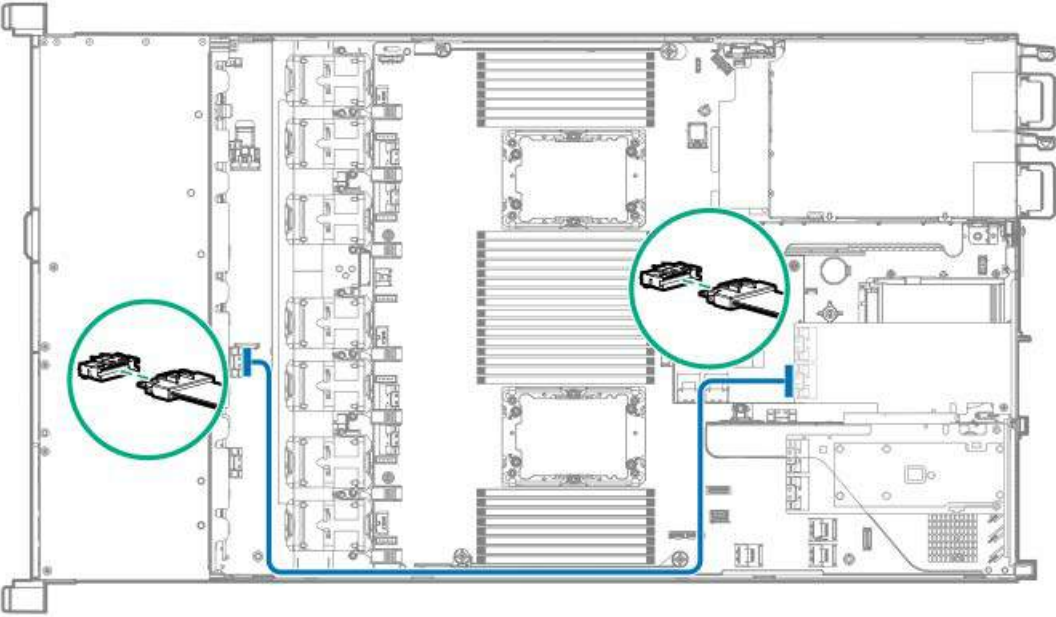
8SFF x4 + 2SFF backplanes to type-a and type-p controllers



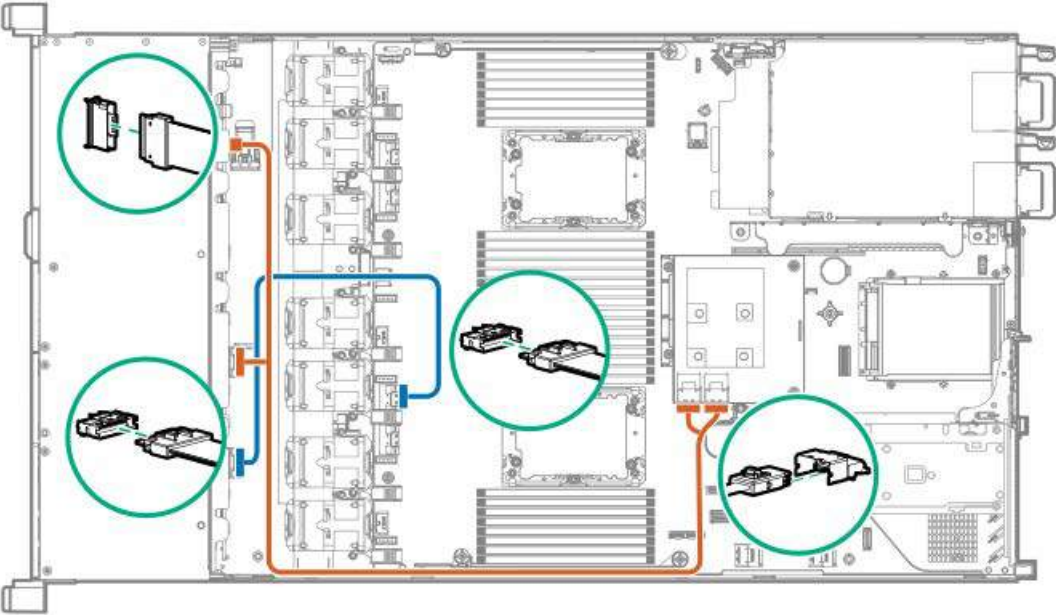
2SFF x4 backplane to primary NVMe riser



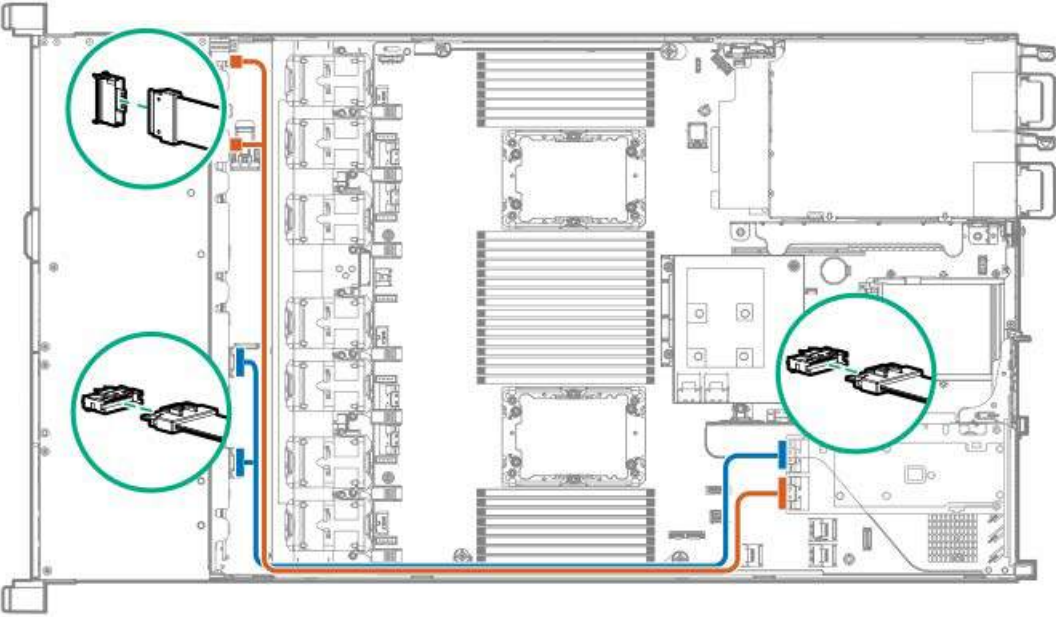
8SFF x1 Tri-Mode U.3 backplane to type-p controller on slot 2

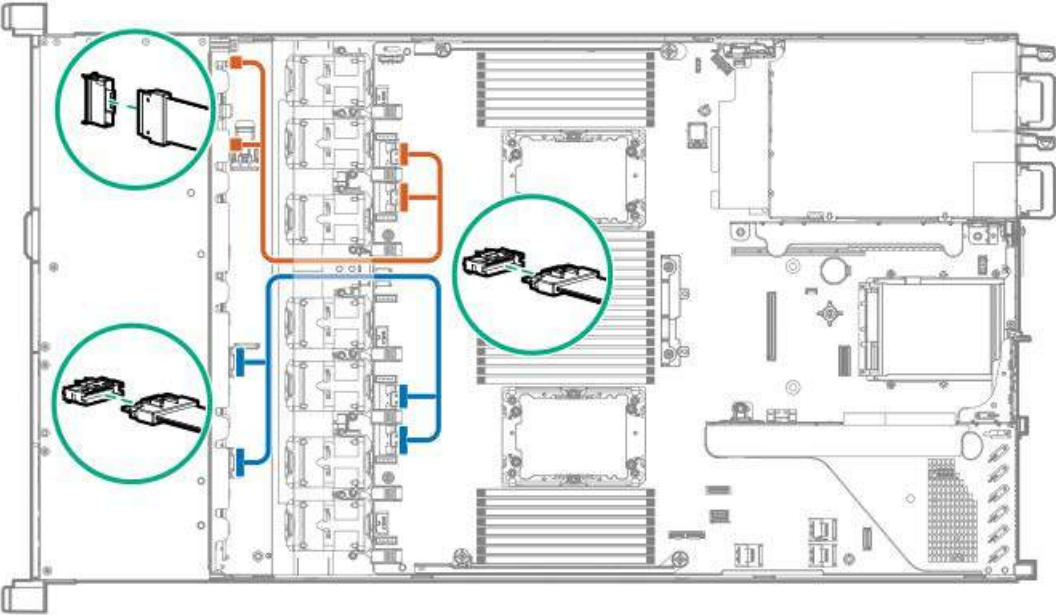


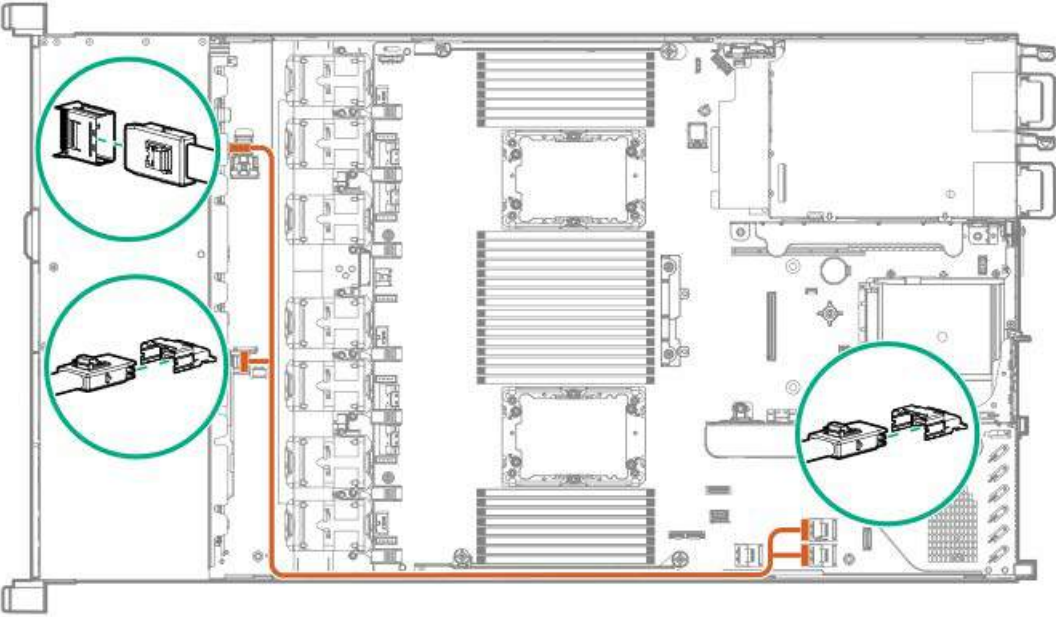
8SFF SAS/SATA backplane to system board and 2-port type-a controller



8SFF x4 backplane to 2-port type-p controller







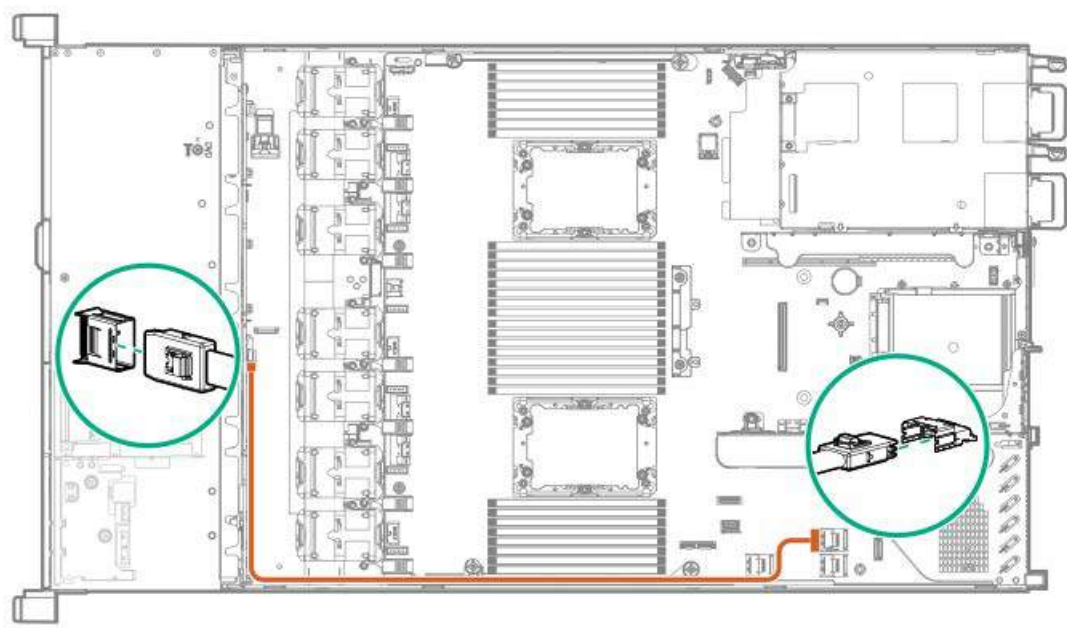
LFF cables

Option kit	Cable part number	Connects from	Connects to
LFF Internal Cable Kit	P20808-001	4LFF SAS/SATA	Embedded SATA port 2

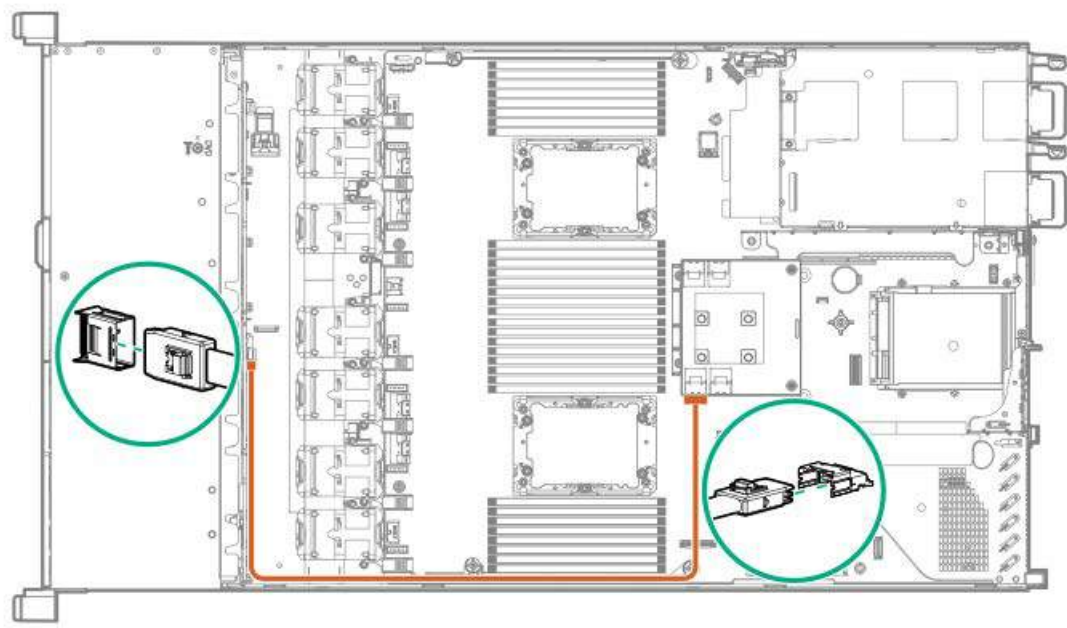


4LFF backplane to controllers

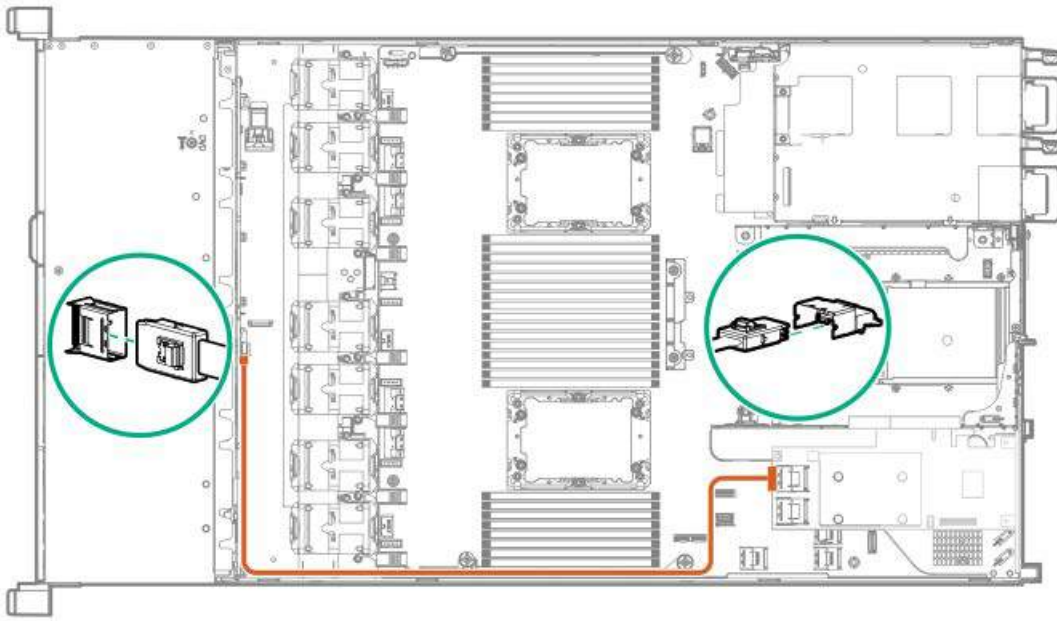
4LFF to embedded SAS/SATA



4LFF to type-a controller



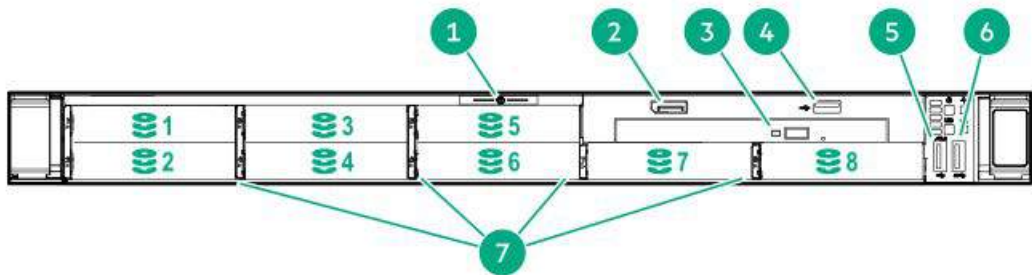
4LFF to type-p controller





Front panel components

8SFF

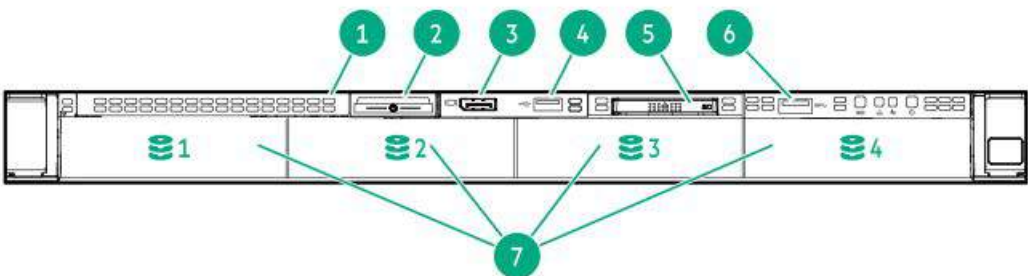


Item	Description
1	Serial number/iLO information pull tab
2	Display port (optional) ¹
3	Optical drive (optional) ¹
4	USB 2.0 port (optional) ¹
5	iLO Service Port ²
6	USB 3.0 port
7	Drive bays

¹ Optional 2SFF drive bays

² The operating system does not recognize this port as a USB port.

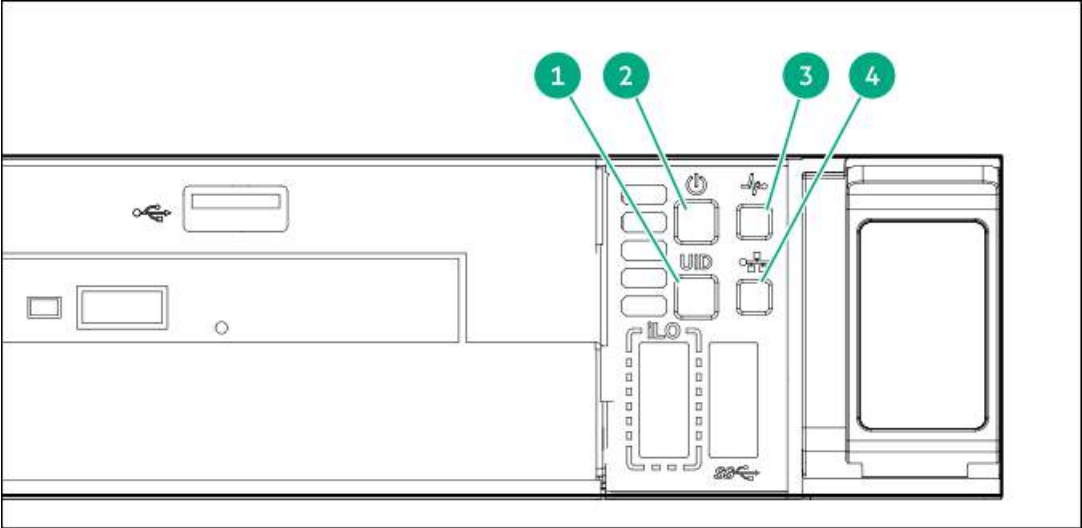
4LFF



Item	Description
1	Optical drive blank (optional)
2	Serial number/iLO information pull tab
3	Display port (optional)
4	USB 2.0 port (optional)
5	Systems Insight Display (optional)
6	USB 3.0 port
7	Drive bays

Front panel LEDs and buttons

8 SFF



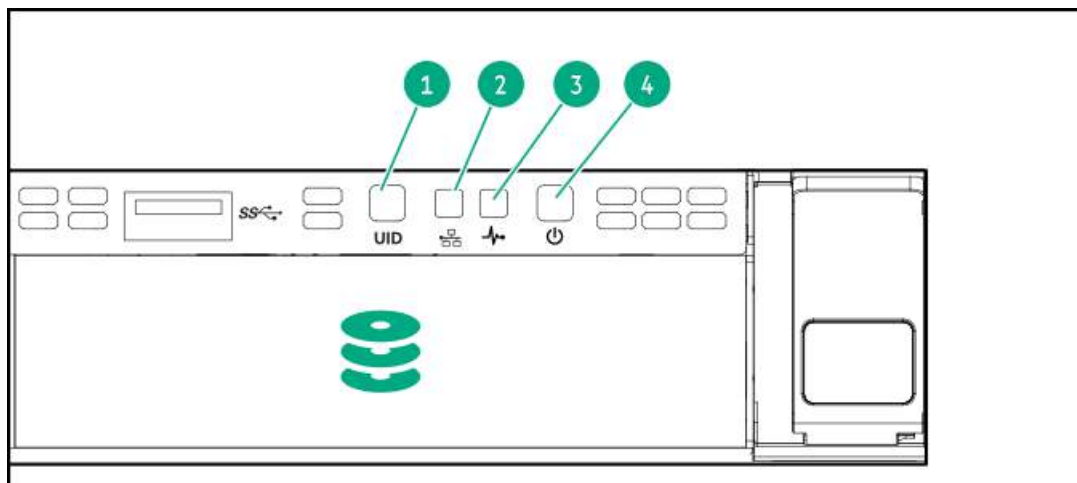
Item	Description	Status
1	UID button/LED ¹	Solid blue = Activated Flashing blue: • 1 Hz = Remote management or firmware upgrade in progress • 4 Hz = iLO manual reboot sequence initiated • 8 Hz = iLO manual reboot sequence in progress Off = Deactivated
2	Power On/Standby button and system power LED ¹	Solid green = System on Flashing green = Performing power on sequence Solid amber = System in standby Off = No power present ²
3	Health LED ¹	Solid green = Normal Flashing green = iLO is rebooting. Flashing amber = System degraded Flashing red = System critical ³
4	NIC status LED ¹	Solid green = Link to network Flashing green = Network active Off = No network activity

¹ When all four LEDs described in this table flash simultaneously, a power fault has occurred.

² Facility power is not present, power cord is not attached, no power supplies are installed, power supply failure has occurred, or the power button cable is disconnected.

³ If the health LED indicates a degraded or critical state, review the system IML or use iLO to review the system health status.

4LFF



Item	Description	Status
1	UID button/LED ¹	Solid blue = Activated. Flashing blue: • 1 Hz = Remote management or firmware upgrade in progress. • 4 Hz = iLO manual reboot sequence initiated. • 8 Hz = iLO manual reboot sequence in progress. Off = Deactivated.
2	NIC status LED ¹	Solid green = Link to network. Flashing green = Network active. Off = No network activity.
3	Health LED ¹	Solid green = Normal. Flashing green = iLO is rebooting. Flashing amber = System degraded. Flashing red = System critical. ²
4	Power On/Standby button and system power LED ¹	Solid green = System on. Flashing green = Performing power on sequence. Solid amber = System in standby. Off = No power present. ³

¹ When all four LEDs described in this table flash simultaneously, a power fault has occurred.

² To identify components in a degraded or critical state, see the Systems Insight Display LEDs, check iLO/BIOS logs, and reference the server troubleshooting guide.

³ Facility power is not present, power cord is not attached, no power supplies are installed, power supply failure has occurred, or the power button cable is disconnected.

UID button functionality

The UID button can be used to display the Server Health Summary when the server will not power on. For more information, see the latest HPE iLO 5 User Guide on the [Hewlett Packard Enterprise website](#).

Front panel LED power fault codes

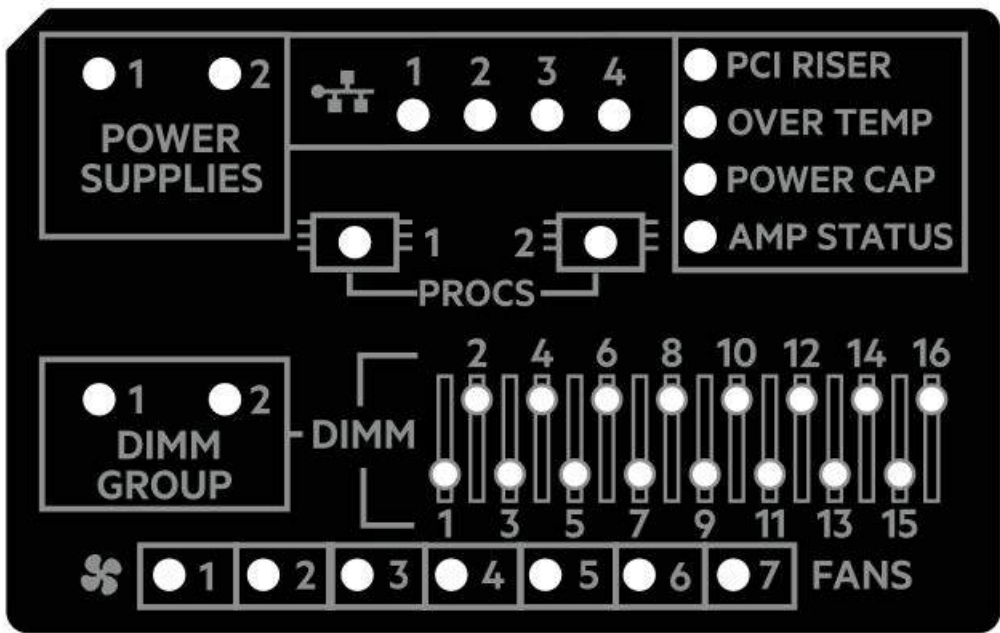
The following table provides a list of power fault codes, and the subsystems that are affected. Not all power faults are used by all servers.

Subsystem	LED behavior
System board	1 flash
Processor	2 flashes
Memory	3 flashes
Riser board PCIe slots	4 flashes
OCP adapter	5 flashes
Storage controller	6 flashes
System board PCIe slots	7 flashes
Power backplane	8 flashes
Storage backplane	9 flashes
Power supply	10 flashes
PCIe expansion cards installed in riser board	11 flashes
Chassis	12 flashes
GPU card	13 flashes



Systems Insight Display LEDs

The Systems Insight Display LEDs represent the system board layout. The display enables diagnosis with the access panel installed.



Description	Status
Processor LEDs	Off = Normal Amber = Failed processor
DIMM LEDs	Off = Normal Amber = Failed DIMM or configuration issue
Fan LEDs	Off = Normal Amber = Failed fan or missing fan
NIC LEDs ¹	Off = No link to network Solid green = Network link Flashing green = Network link with activity If power is off, the front panel LED is not active. For status, see Rear panel LEDs .
Power supply LEDs	Off = Normal Solid amber = Power subsystem degraded, power supply failure, or input power lost.
PCI riser LED	Off = Normal Amber = Incorrectly installed PCI riser cage
Over temp LED	Off = Normal Amber = High system temperature detected
Power cap LED	Off = System is in standby, or no cap is set. Solid green = Power cap applied

Description	Status
Amp Status LED	Off = AMP modes disabled
	Solid green = AMP mode enabled
	Solid amber = Failover
	Flashing amber = Invalid configuration

¹ Embedded NIC ports are not equipped on the server. NIC LEDs on the Systems Insight Display will flash based on the network adapter port activity. In the case of a dual-port adapters, only NIC LED 1 and 2 will illuminate to correspond with the activity of the respective network ports.

When the health LED on the front panel illuminates either amber or red, the server is experiencing a health event. For more information on the combination of these LEDs, see [Systems Insight Display combined LED descriptions](#).

Systems Insight Display combined LED descriptions

The combined illumination of the following LEDs indicates a system condition:

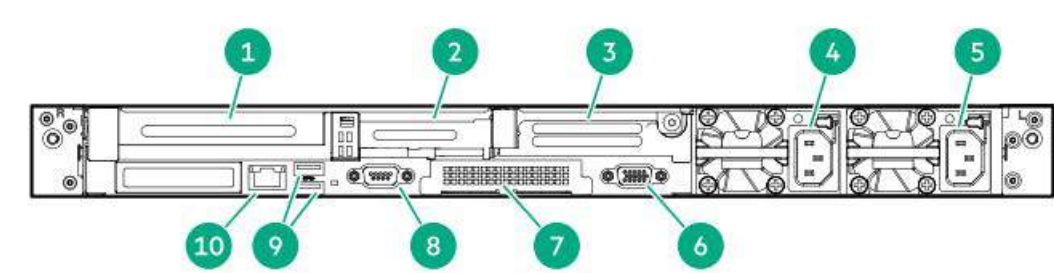
- Systems Insight Display LEDs
- System power LED
- Health LED

Systems Insight Display LED and color	Health LED	System power LED	Status
Processor (amber)	Red	Amber	One or more of the following conditions might exist: • Processor in socket X has failed. • Processor X is not installed in the socket. • Processor X is unsupported. • ROM detects a failed processor during POST.
Processor (amber)	Amber	Green	Processor in socket X is in a pre-failure condition.
DIMM (amber)	Red	Green	One or more DIMMs have failed.
DIMM (amber)	Amber	Green	DIMM in slot X is in a pre-failure condition.
Over temp (amber)	Amber	Green	The Health Driver has detected a cautionary temperature level.
Over temp (amber)	Red	Amber	The server has detected a hardware critical temperature level.
PCI riser (amber)	Red	Green	The PCI riser cage is not seated properly.
Fan (amber)	Amber	Green	One fan has failed or has been removed.
Fan (amber)	Red	Green	Two or more fans have failed or been removed.
Power supply (amber)	Red	Amber	One or more of the following conditions might exist: • Only one power supply is installed and that power supply is in standby. • Power supply fault. • System board fault.
Power supply (amber)	Amber	Green	One or more of the following conditions might exist: • Redundant power supply is installed and only one power supply is functional. • AC power cord is not plugged into redundant power supply. • Redundant power supply fault. • Power supply mismatch at POST or power supply mismatch through hot-plug addition.
Power cap (off)	—	Amber	Standby.

Systems Insight Display LED and color	Health LED	System power LED	Status
Power cap (green)	—	Flashing green	Waiting for power.
Power cap (green)	—	Green	Power is available.
Power cap (flashing amber)	—	Amber	Power is not available.

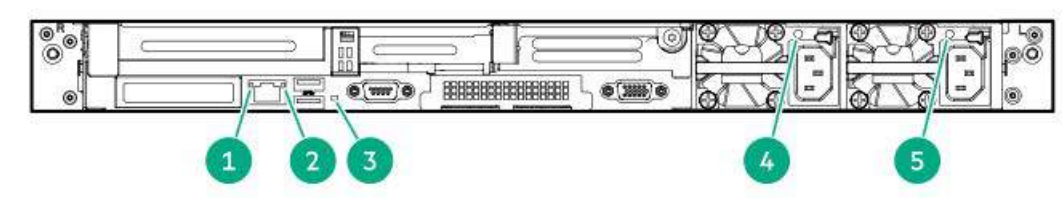
(i) IMPORTANT: If more than one DIMM slot LED is illuminated, further troubleshooting is required. Test each bank of DIMMs by removing all other DIMMs. Isolate the failed DIMM by replacing each DIMM in a bank with a known working DIMM.

Rear panel components



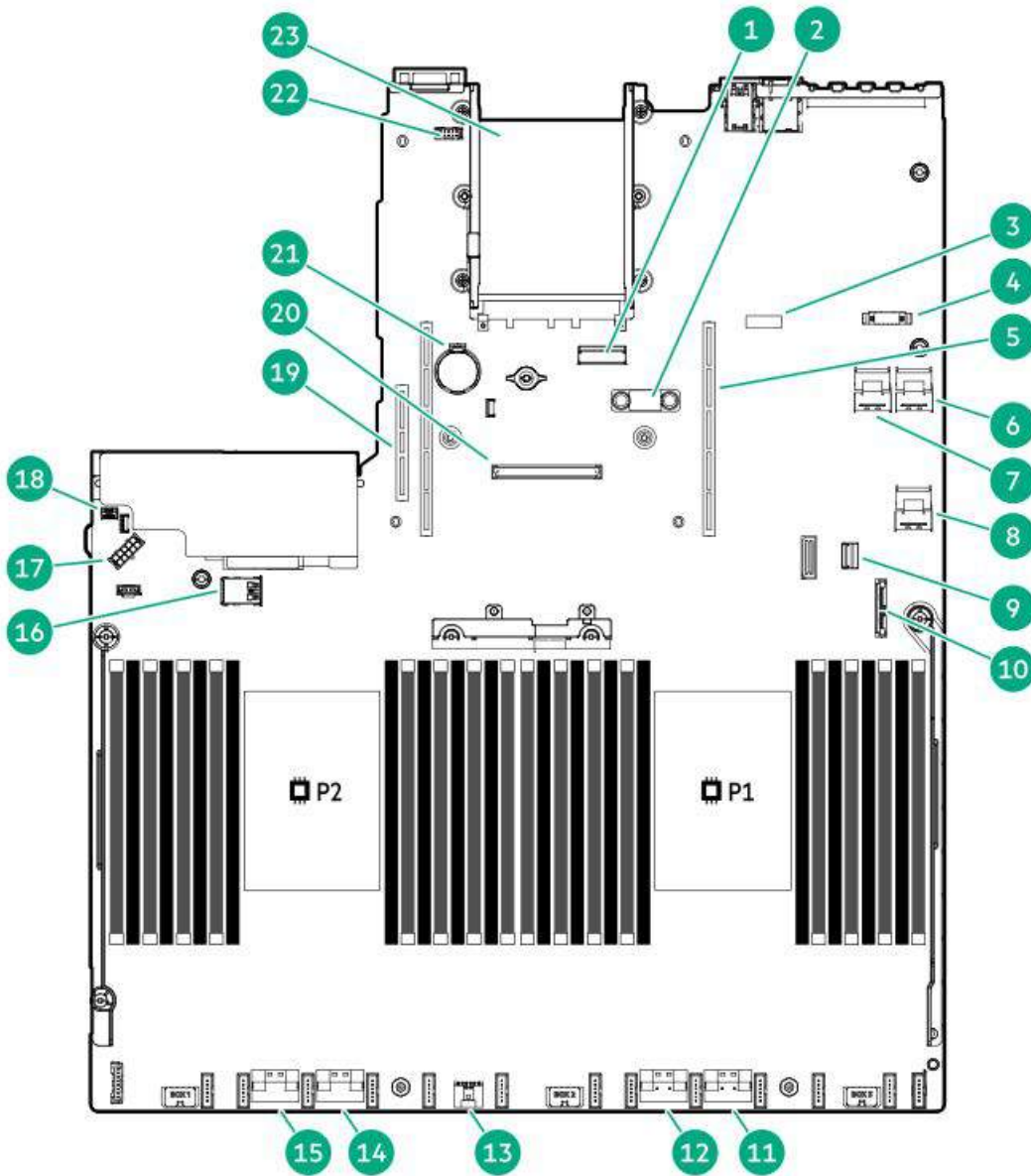
Item	Description
1	Slot 1 PCIe4
2	Slot 2 PCIe4
3	Slot 3 PCIe4 (optional - requires second processor)
4	Power supply 2 (PS2)
5	Power supply 1 (PS1)
6	Video (VGA) port
7	OCP 3.0 adapter (if equipped)
8	Serial port (optional)
9	USB 3.0 ports
10	iLO Management Port

Rear panel LEDs



Item	Description	Status
1	iLO 5/standard NIC link LED	Solid green = Link exists. Off = No link exists.
2	iLO 5/standard NIC activity LED	Solid green = Activity exists. Flashing green = Activity exists. Off = No activity exists.
3	UID LED	Solid blue = Identification is activated. Flashing blue = System is being managed remotely. Off = Identification is deactivated.
4	Power supply 2 LED	Solid green = Normal Off = One or more of the following conditions exists: • AC power unavailable • Power supply failed • Power supply in standby mode • Power supply exceeded current limit.
5	Power supply 1 LED	Solid green = Normal Off = One or more of the following conditions exists: • AC power unavailable • Power supply failed • Power supply in standby mode • Power supply exceeded current limit.

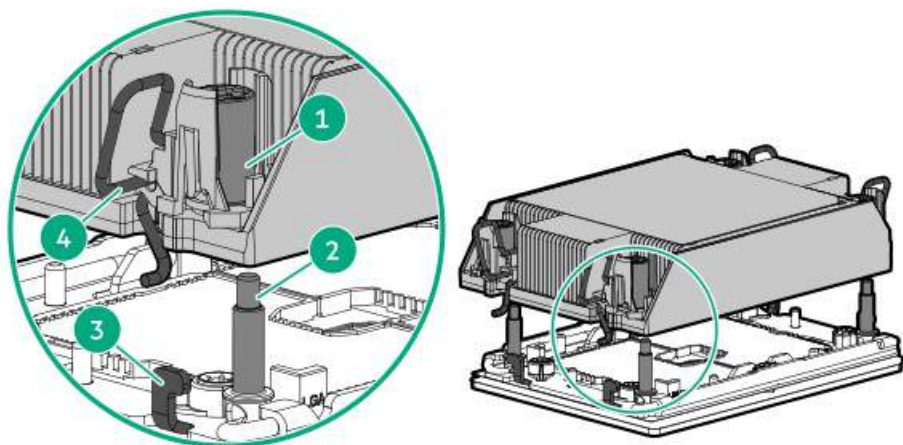
System board components



Item	Description
1	x8 Slimline connector
2	TPM connector
3	System maintenance switch
4	Front display port/USB 2.0 connector
5	Primary (processor 1) PCIe riser connector
6	x4 SATA port 2
7	x4 SATA port 1
8	x2 SATA port 3
9	Front power/USB 3.0 connector
10	SATA optical port 4
11	x8 NVMe port 2A
12	x8 NVMe port 1A
13	Energy pack connector
14	x8 NVMe port 2B
15	x8 NVMe port 1B

Item	Description
16	Dual internal USB 3.0 connector
17	Drive backplane power connector
18	Chassis Intrusion Detection connector
19	Secondary (processor 2) PCIe riser connector
20	Type-a storage controller slot
21	System battery
22	Serial port connector
23	OCP 3.0 adapter bay

Heatsink and socket components



Item	Description
1	Heatsink nuts
2	Alignment screws
3	Latch tabs
4	Heatsink latches

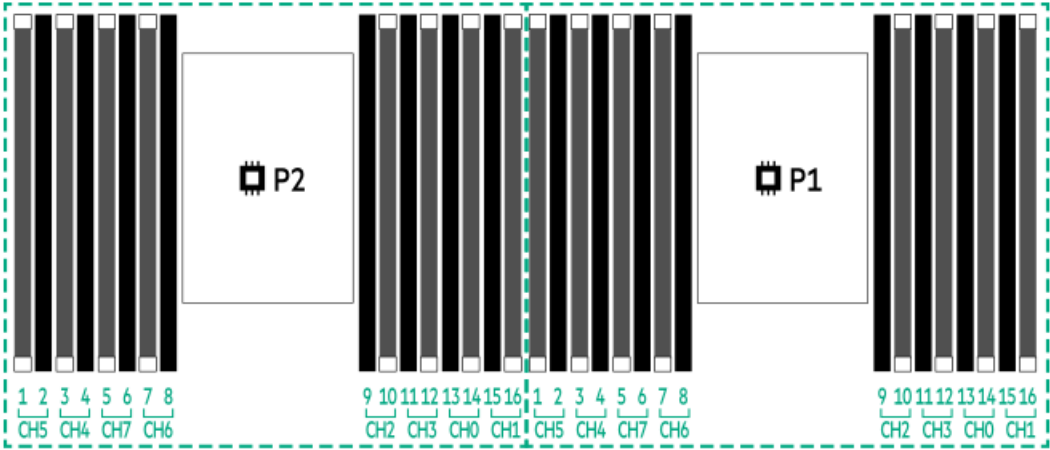
System maintenance switch descriptions

Position	Default	Function
S1 ¹	Off	Off = iLO security is enabled. On = iLO security is disabled.
S2	Off	Reserved
S3	Off	Reserved
S4	Off	Reserved
S5 ¹	Off	Off = Power-on password is enabled. On = Power-on password is disabled.
S6 ^{1, 2, 3}	Off	Off = No function On = Restore default manufacturing settings
S7	Off	Reserved
S8	—	Reserved
S9	—	Reserved
S10	—	Reserved
S11	—	Reserved
S12	—	Reserved

- ¹ To access the redundant ROM, set S1, S5, and S6 to On.
- ² When the system maintenance switch position 6 is set to the On position, the system is prepared to restore all configuration settings to their manufacturing defaults.
- ³ When the system maintenance switch position 6 is set to the On position and Secure Boot is enabled, some configurations cannot be restored.
For more information, see [Secure Boot](#).

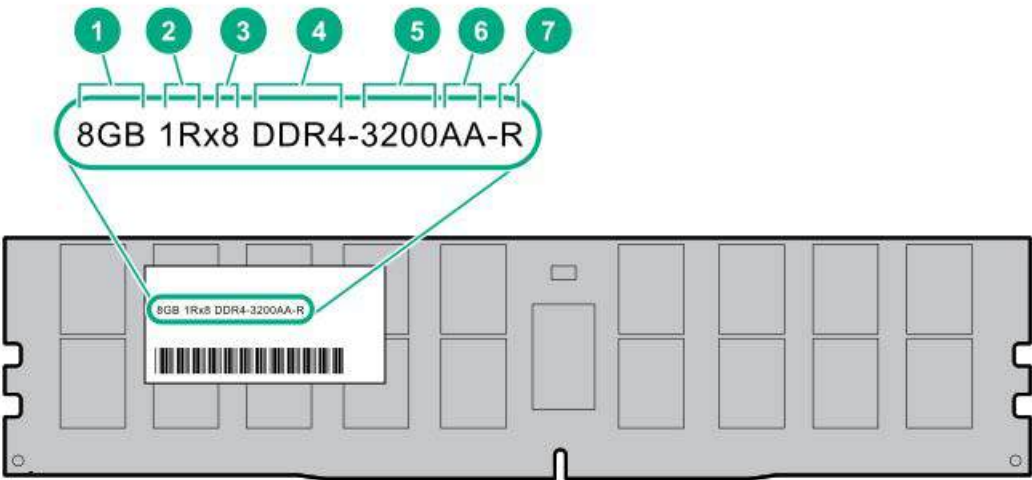
DIMM slot locations

DIMM slots are numbered sequentially (1 through 16) for each processor.



DIMM label identification

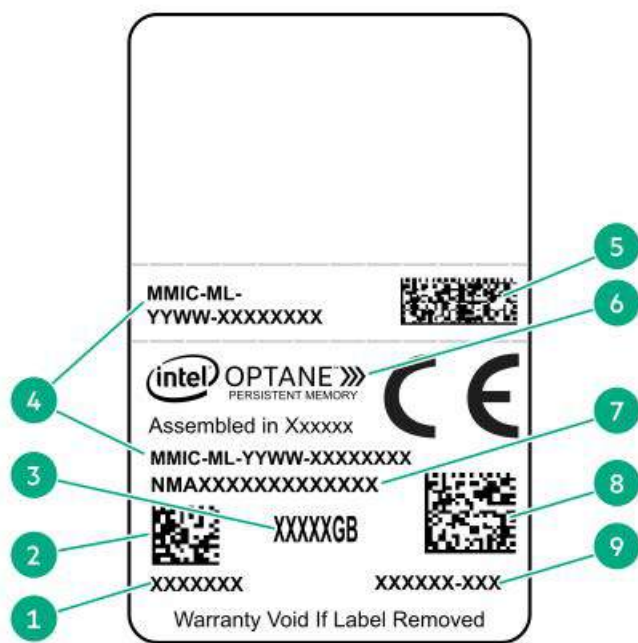
To determine DIMM characteristics, see the label attached to the DIMM. The information in this section helps you to use the label to locate specific information about the DIMM.



Item	Description	Example
1	Capacity	8 GB 16 GB 32 GB 64 GB 128 GB 256 GB
2	Rank	1R = Single rank 2R = Dual rank 4R = Quad rank 8R = Octal rank
3	Data width on DRAM	x4 = 4-bit x8 = 8-bit
4	Memory generation	PC4 = DDR4
5	Maximum memory speed	3200 MT/s
6	CAS latency	AA = CAS 22-22-22 AA = CAS 26-22-22 (for 3DS LRDIMM)
7	DIMM type	R = RDIMM (registered) L = LRDIMM (load reduced)

For more information about product features, specifications, options, configurations, and compatibility, see the HPE DDR4 SmartMemory QuickSpecs on the Hewlett Packard Enterprise website (<https://www.hpe.com/support/DDR4SmartMemoryQS>).

Intel Optane persistent memory 200 series for HPE label identification

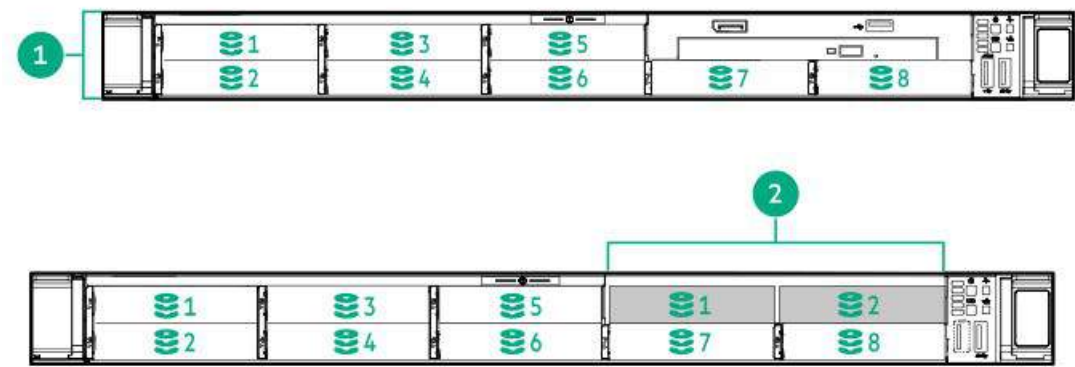


Item	Description	Example
1	Work Order Number	XXXXXXX
2	Work Order Number Barcode	XXXXXXX
3	Capacity	128 GB 256 GB 512 GB
4	Unique ID number	8089-A2-1802-1234567A
5	Serial Number and Part Number Barcode	S8089A218040000168APNMAXXXXXXXXXXX
6	Product Name	Intel® Optane™ persistent memory
7	Part Number	1234567A
8	Serial Number Barcode	8089-A2-1802-1234567A
9	PBA Number	XXXXXX-XXX

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

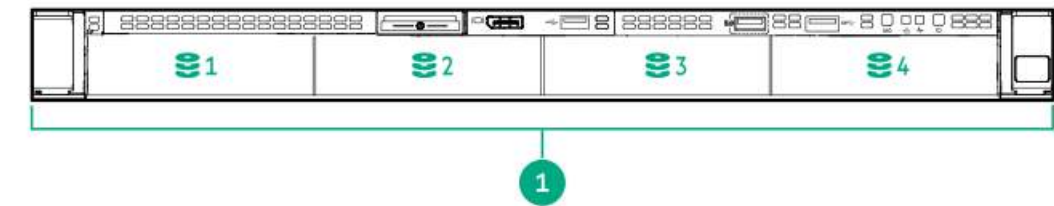
Drive numbering

8SFF and 8SFF + 2SFF device bay numbering



Item	Description
1	Box 1, bays 1-8
2	Box 2, bays 1 and 2

4 LFF device bay numbering

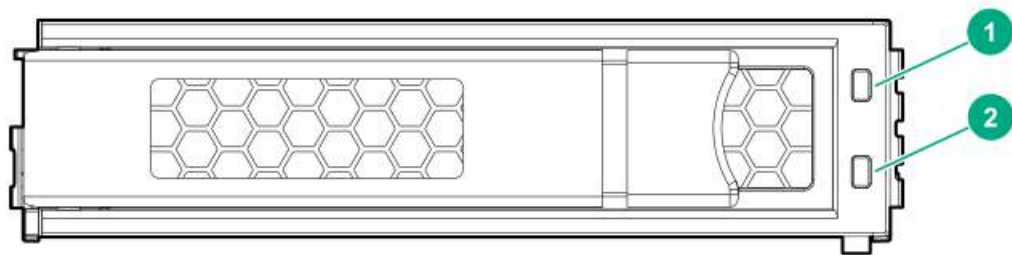


Item	Description
1	Box 1, bays 1-4

HPE Basic Drive LED definitions

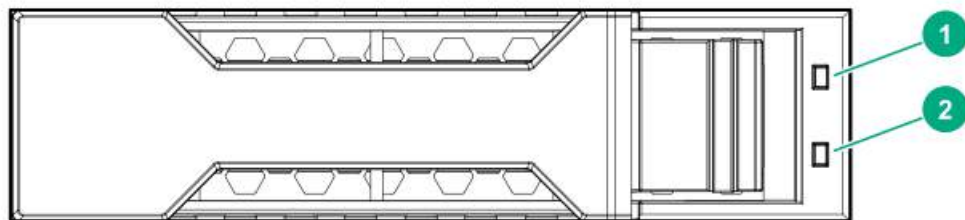
LFF low-profile drive carrier

The LFF low-profile drive carrier supports hot-plug SAS and SATA drives.



SFF basic drive carrier

The SFF basic drive carrier supports hot-plug SAS, SATA, and NVMe drives.



Item	LED	Status	Definition
1	Fault/Locate	Solid amber	This drive has failed, is unsupported, or is invalid.
		Solid blue	The drive is operating normally and being identified by a management application.
		Flashing amber/blue (1 flash per second)	The drive has failed, or a predictive failure alert has been received for this drive. The drive has also been identified by a management application.
		Flashing amber (1 flash per second)	A predictive failure alert has been received for this drive. Replace the drive as soon as possible.
2	Online/Activity	Solid green	The drive is online and has no activity.
		Flashing green (1 flash per second)	The drive is doing one of the following: - Rebuilding or performing a RAID - Performing a stripe size migration - Performing a capacity expansion - Performing a logical drive extension - Erasing - Spare part activation
		Flashing green (4 flashes per second)	The drive is operation normally and has activity.
		Off	The drive is not configured by a RAID controller or is a spare drive.

Hot-plug fans

CAUTION: To avoid damage to server components, fan blanks must be installed in fan bays 1 and 2 in a single-processor configuration.

CAUTION: To avoid damage to the equipment, do not operate the server for extended periods of time if the server does not have the optimal number of fans installed. Although the server might boot, Hewlett Packard Enterprise does not recommend operating the server without the required fans installed and operating.

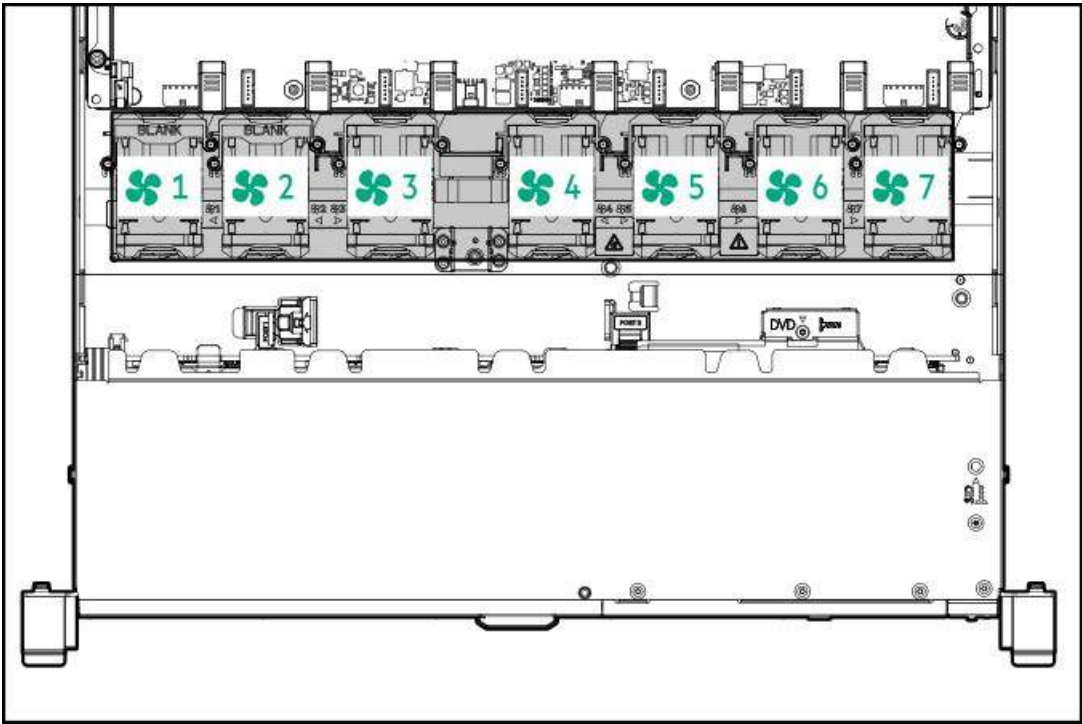
The valid fan configurations are listed in the following tables.

One-processor configuration

Fan bay 1	Fan bay 2	Fan bay 3	Fan bay 4	Fan bay 5	Fan bay 6	Fan bay 7
Fan blank	Fan blank	Fan	Fan	Fan	Fan	Fan

Two-processor configuration

Fan bay 1	Fan bay 2	Fan bay 3	Fan bay 4	Fan bay 5	Fan bay 6	Fan bay 7
Fan	Fan	Fan	Fan	Fan	Fan	Fan



The loss of a single fan rotor (one standard fan) causes loss of redundancy. The loss of two fan rotors (two standard fans or one high performance fan) causes the server to initiate a shutdown.

The high performance fans are required for some drive configurations. They are also required for ASHRAE-compliant configurations. For more information on ASHRAE-compliant configurations, see the Hewlett Packard Enterprise website <https://www.hpe.com/servers/ASHRAE>.

The server supports variable fan speeds. The fans operate at minimum speed until a temperature change requires a fan speed increase to cool the server. The server shuts down during the following temperature-related scenarios:

- At POST and in the OS, iLO performs an orderly shutdown if a cautionary temperature level is detected. If the server hardware detects a critical temperature level before an orderly shutdown occurs, the server performs an immediate shutdown.
- When the Thermal Shutdown feature is disabled in the BIOS/Platform Configuration (RBSU), iLO does not perform an orderly shutdown when a cautionary temperature level is detected. Disabling this feature does not disable the server hardware from performing an immediate shutdown when a critical temperature level is detected.

CAUTION: A thermal event can damage server components when the Thermal Shutdown feature is disabled in the

DSC-25 2-port SFP28 card ports and LEDs

Ports

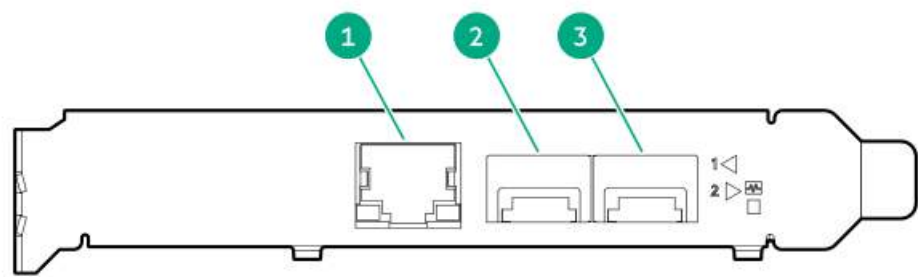


Table 1: Ports

Item	Port	Description
1	Management port	1GbE RJ45
2	Network interface port	10/25G SFP+ based
3	Network interface port	10/25G SFP+ based

LEDs

The HPE for Pensando DSP DSC-25 2p SFP28 card is a dual-port, single-slot, half-height, half-length (HHHL) SFP28 network adapter. It has LEDs for Link (L) and Activity (A) for each port. A half-height bracket is shown in the following illustration with SFP28 ports and LEDs.

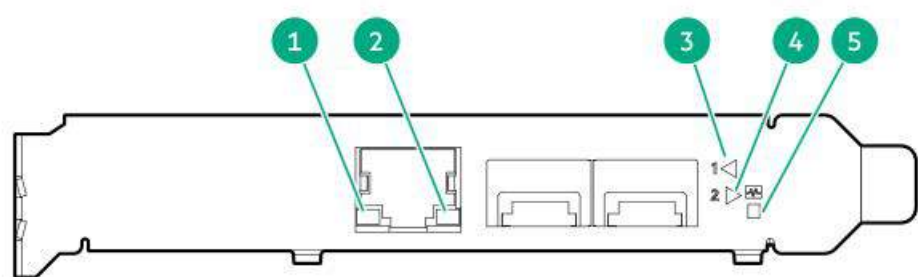


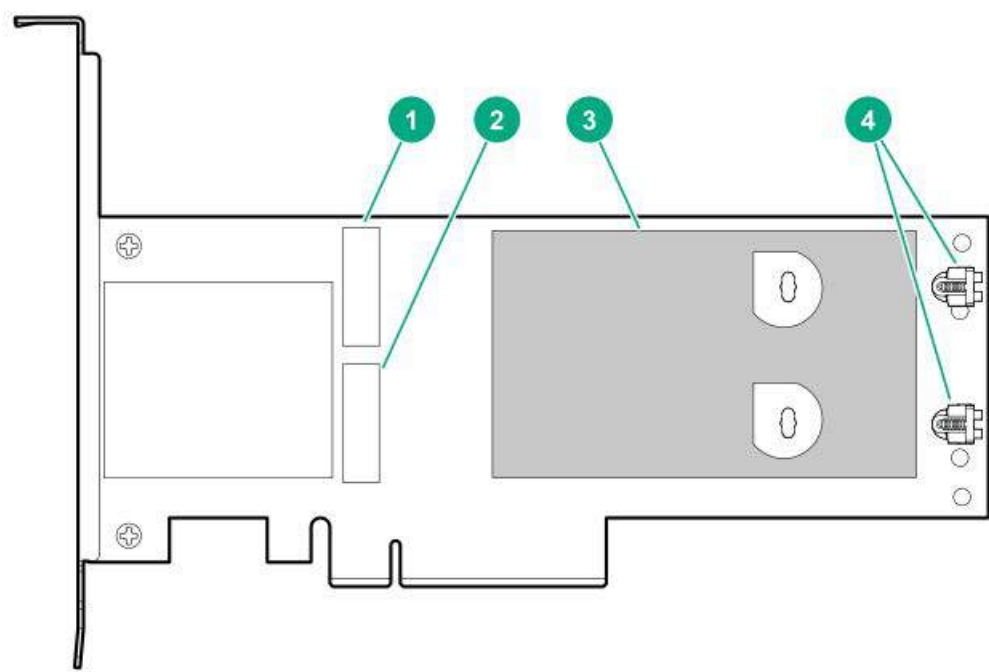
Table 2: LED indicators

Item	LED	Status	Description
1	Management Port Activity LED	Off	No activity
		Flashing	Passing traffic; flashing frequency indicates traffic intensity
2	Management Port Link LED	Off	A link has not been established
		Solid green	Valid Ethernet link
3	SFP Port 1 Link/Activity LED	Off	A link has not been established
		Solid green	Valid Ethernet link
		Flashing green	Passing traffic; flashing frequency indicates traffic intensity
		Solid amber	Link fault

Item	LED	Status	Description
4	SFP Port 2 Link/Activity LED	Off	A link has not been established
		Solid green	Valid Ethernet link
		Flashing green	Passing traffic; flashing frequency indicates traffic intensity
		Solid amber	Link fault
5	System status LED	Off	System is not powered
		Solid amber	Power is up, software has not booted yet
		Solid green	System is up and fully operational

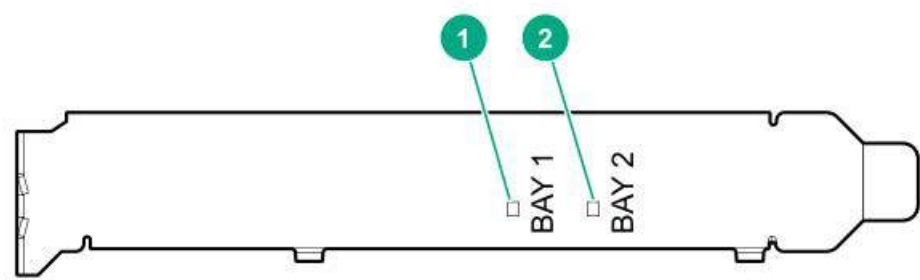


HPE NS204i-p NVMe OS Boot Device components



Item	Description
1	Drive bay 1
2	Drive bay 2
3	Thermal interface pad with removable liner
4	M.2 drive retaining latches

HPE NS204i-p NVMe OS Boot Device LED definitions



Item	Description	Fault LED status
1	Bay 1 LED	Off: Normal
2	Bay 2 LED	Flashing 1Hz: Drive predictive failure Amber: Drive failure

Specifications

For more information on cable, power, environmental, compliance, and general specifications, see the [HPE Compute Transceiver and Cable Hardware Matrix](#).

Environmental specifications

Specification	Value
Temperature range ¹	—
Operating	10°C to 35°C (50°F to 95°F)
Nonoperating	-30°C to 60°C (-22°F to 140°F)
Relative humidity (noncondensing)	—
Operating	Minimum to be the higher (more moisture) of -12°C (10.4°F) dew point or 8% relative humidity Maximum to be 24°C (75.2°F) dew point or 90% relative humidity
Nonoperating	5% to 95% 38.7°C (101.7°F), maximum wet bulb temperature

¹ All temperature ratings shown are for sea level. An altitude derating of 1.0°C per 304.8 m (1.8°F per 1000 ft) to 3048 m (10,000 ft) is applicable. No direct sunlight allowed. Maximum rate of change is 20°C per hour (36°F per hour). The upper limit and rate of change might be limited by the type and number of options installed.

For certain approved hardware configurations, the supported system inlet temperature range is extended:

- 5°C to 10°C (41°F to 50°F) and 35°C to 40°C (95°F to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3048 m (10,000 ft).
- 40°C to 45°C (104°F to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3048 m (10,000 ft).

The approved hardware configurations for this system are listed on the [Hewlett Packard Enterprise website](#).

Server specifications

Specification	Value
Height	4.28 cm (1.68 in)
Depth, SFF	74.19 cm (29.21 in)
Depth, LFF	77.31 cm (30.44 in)
Width	43.46 cm (17.11 in)
Weight, SFF minimum	13.29kg (29.29 lb)
Weight, SFF maximum	18.11 kg (39.92 lb)
Weight, LFF minimum	15.09 kg (33.27 lb)
Weight, LFF maximum	19.45 kg (42.88 lb)



Power supply specifications

Depending on the installed options and the regional location where the server was purchased, the server can be configured with one of the following power supplies:

- [HPE 500 W Flex Slot Platinum Hot-plug Low Halogen Power Supply](#)
- [HPE 800 W Flex Slot Platinum Hot-plug Low Halogen Power Supply](#)
- [HPE 800 W Flex Slot Titanium Hot-plug Low Halogen Power Supply](#)
- [HPE 800 W Flex Slot Universal Hot-plug Low Halogen Power Supply](#)
- [HPE 800 W Flex Slot -48 VDC Hot-plug Low Halogen Power Supply](#)
- [HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply](#)

For detailed power supply specifications, see the QuickSpecs on the Hewlett Packard Enterprise website (<https://www.hpe.com/info/proliant/powersupply>).

HPE 500 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	100 VAC to 240 VAC 240 VDC for China only
Rated input frequency	50 Hz to 60 Hz Not applicable to 240 VDC
Rated input current	5.6 A at 100 VAC 2.7 A at 200 VAC 2.3 A at 240 VDC for China only
Maximum rated input power	557 W at 100 VAC 539 W at 200 VAC 537 W at 240 VDC for China only
BTUs per hour	1902 at 100 VAC 1840 at 200 VAC 1832 at 240 VDC for China only
Power supply output	—
Rated steady-state power	500 W at 100 VAC to 127 VAC input 500 W at 100 VAC to 240 VAC input 500 W at 240 VDC input for China only
Maximum peak power	500 W at 100 VAC to 127 VAC input 500 W at 100 VAC to 240 VAC input 500 W at 240 VDC input for China only



HPE 800 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	100 VAC to 127 VAC 200 VAC to 240 VAC 240 VDC for China only
Rated input frequency	50 Hz to 60 Hz Not applicable to 240 VDC
Rated input current	9.1 A at 100 VAC 4.4 A at 200 VAC 3.6 A at 240 VDC for China only
Maximum rated input power	899 W at 100 VAC 867 W at 200 VAC 864 W at 240 VDC for China only
BTUs per hour	3067 at 100 VAC 2958 at 200 VAC 2949 at 240 VAC for China only
Power supply output	—
Rated steady-state power	800 W at 100 VAC to 127 VAC input 800 W at 100 VAC to 240 VAC input 800 W at 240 VDC input for China only
Maximum peak power	800 W at 100 VAC to 127 VAC input 800 W at 100 VAC to 240 VAC input 800 W at 240 VDC input for China only



HPE 800 W Flex Slot Titanium Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	200 VAC to 240 VAC 240 VDC for China only
Rated input frequency	50 Hz to 60 Hz Not applicable to 240 VDC
Rated input current	4.3 A at 200 VAC 3.6 A at 240 VAC 3.6 A at 240 VDC for China only
Maximum rated input power	851 W at 200 VAC 848 W at 240 VAC 848 W at 240 VDC for China only
BTUs per hour	2905 at 200 VAC 2893 at 240 VAC 2893 at 240 VDC for China only
Power supply output	—
Rated steady-state power	800 W at 200 VAC to 240 VAC input 800 W at 240 VDC input for China only
Maximum peak power	800 W at 200 VAC to 240 VAC input 800 W at 240 VDC input for China only



HPE 800 W Flex Slot Universal Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	200 VAC to 277 VAC 380 VDC
Rated input frequency	50 Hz to 60 Hz
Rated input current	4.4 A at 200 VAC 3.8 A at 230 VAC 2.3 A at 380 VDC
Maximum rated input power	869 W at 200 VAC 865 W at 230 VAC 861 W at 277 VAC 863 W at 380 VDC
BTUs per hour	2964 at 200 VAC 2951 at 230 VAC 2936 at 277 VAC 2943 at 380 VDC
Power supply output	—
Rated steady-state power	800 W at 200 VAC to 277 VAC input
Maximum peak power	800 W at 200 VAC to 277 VAC input



HPE 800 W Flex Slot -48 VDC Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	-40 VDC to -72 VDC -48 VDC nominal input
Rated input current	22.1 A at -40 VDC input 18.2 A at -48 VDC input, nominal input 12.0 A at -72 VDC input
Rated input power (W)	874 W at -40 VDC input 865 W at -48 VDC input, nominal input 854 W at -72 VDC input
Rated input power (BTUs per hour)	2983 at -40 VDC input 2951 at -48 VDC input, nominal input 2912 at -72 VDC input
Power supply output	—
Rated steady-state power (W)	800 W at -40 VDC to -72 VDC
Maximum peak power (W)	800 W at -40 VDC to -72 VDC
Maximum peak power	800 W at -40 VDC to -72 VDC input

⚠ WARNING: To reduce the risk of electric shock or energy hazards:

- This equipment must be installed by trained service personnel.
- Connect the equipment to a reliably grounded secondary circuit source. A secondary circuit has no direct connection to a primary circuit and derives its power from a transformer, converter, or equivalent isolation device.
- The branch circuit overcurrent protection must be rated 27 A.

⚠ CAUTION: This equipment is designed to permit the connection of the earthed conductor of the DC supply circuit to the earthing conductor at the equipment.

If this connection is made, all of the following must be met:

- This equipment must be connected directly to the DC supply system earthing electrode conductor or to a bonding jumper from an earthing terminal bar or bus to which the DC supply system earthing electrode conductor is connected.
 - This equipment must be located in the same immediate area (such as adjacent cabinets) as any other equipment that has a connection between the earthed conductor of the same DC supply circuit and the earthing conductor, and also the point of earthing of the DC system. The DC system must be earthed elsewhere.
 - The DC supply source is to be located within the same premises as the equipment.
 - Switching or disconnecting devices must not be in the earthed circuit conductor between the DC source and the point of connection of the earthing electrode conductor.
-

HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	200 VAC to 240 VAC 240 VDC for China only
Rated input frequency	50 Hz to 60 Hz
Rated input current	8.7 A at 200 VAC 7.5 A at 230 VAC
Maximum rated input power	1734 W at 200 VAC 1727 W at 230 VAC
BTUs per hour	5918 at 200 VAC 5891 at 230 VAC
Power supply output	—
Rated steady-state power	1600 W at 200 VAC to 240 VAC input 1600 W at 240 VDC input
Maximum peak power	2200 W for 1 ms (turbo mode) at 200 VAC to 240 VAC input



Hot-plug power supply calculations

For hot-plug power supply specifications and calculators to determine electrical and heat loading for the server, see the Hewlett Packard Enterprise Power Advisor website (<https://www.hpe.com/info/poweradvisor/online>).

Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:

<https://www.hpe.com/info/assistance>

- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:

<https://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:

Hewlett Packard Enterprise Support Center

<https://www.hpe.com/support/hpesc>

Hewlett Packard Enterprise Support Center: Software downloads

<https://www.hpe.com/support/downloads>

My HPE Software Center

<https://www.hpe.com/software/hpesoftwarecenter>

- To subscribe to eNewsletters and alerts:

<https://www.hpe.com/support/e-updates>

- 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:

<https://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 HPE Passport set up with relevant entitlements.

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 initiates a fast and accurate resolution based on the service level of your product. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

HPE Get Connected

<https://www.hpe.com/services/getconnected>

HPE Pointnext Tech Care

<https://www.hpe.com/services/techcare>

HPE Datacenter Care

<https://www.hpe.com/services/datacentercare>

Warranty information

To view the warranty information for your product, see the links provided below:

HPE ProLiant and IA-32 Servers and Options

<https://www.hpe.com/support/ProLiantServers-Warranties>

HPE Enterprise and Cloudline Servers

<https://www.hpe.com/support/EnterpriseServers-Warranties>

HPE Storage Products

<https://www.hpe.com/support/Storage-Warranties>

HPE Networking Products

<https://www.hpe.com/support/Networking-Warranties>

Regulatory information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center:

<https://www.hpe.com/support/Safety-Compliance-EnterpriseProducts>

Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

<https://www.hpe.com/info/reach>

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

<https://www.hpe.com/info/ecodata>

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

<https://www.hpe.com/info/environment>

Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, use the Feedback button and icons (located at the bottom of an opened document) on the Hewlett Packard Enterprise Support Center portal (<https://support.hpe.com/hpesc>) to send any errors, suggestions, or comments. All document information is captured by the process.