



Hewlett Packard
Enterprise

HPE ProLiant DL385 Gen10 Plus Server Maintenance and Service Guide

Abstract

This document is for the person who installs, administers, and troubleshoots servers and storage systems. Hewlett Packard Enterprise assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels.

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Contents

Illustrated parts catalog.....	8
Mechanical components.....	8
Air baffle spare part.....	8
Access panel spare parts.....	9
Secondary and tertiary PCI riser cage spare part.....	9
Primary PCI riser cage spare part.....	9
Chassis ear spare parts.....	9
Fan cage spare part.....	9
2U bezel spare part.....	10
Rail kit spare parts.....	10
DIMM guard spare part.....	10
Miscellaneous mechanical spare parts.....	10
System components.....	11
DIMM spare parts.....	12
Processor spare parts.....	13
Heatsink spare parts.....	14
Power supply spare parts.....	14
Smart Array controller spare parts.....	14
PCI riser board spare parts.....	15
Network adapter spare parts.....	15
System board spare parts.....	17
LFF front I/O board spare part.....	17
Systems Insight Display spare part.....	17
System battery spare part.....	17
Server options.....	17
Drive spare parts.....	18
Fan spare parts.....	24
Drive backplane board spare parts.....	25
Chassis Intrusion Detection Switch spare part.....	25
Rear serial port interface spare part.....	25
Accelerator spare parts.....	25
HPE DL38x Gen10 12Gb SAS Expander Card spare part.....	26
Energy pack spare parts.....	26
Power module spare parts.....	26
HPE NS204i-p Gen10 Plus Boot Device spare parts.....	26
Pensando Distributed Services Platform card spare parts.....	27
Flex bay enclosure kit spare parts.....	27
Midray drive cage spare part.....	27
Cable spare parts.....	27
Thermal grease spare part.....	30
Customer self repair.....	31
Removal and replacement procedures.....	40
Required tools.....	40
Safety considerations.....	40



Preventing electrostatic discharge.....	40
Symbols on equipment.....	40
Server warnings and cautions.....	41
Preparation procedures.....	42
Access the Systems Insight Display.....	42
Power down the server.....	43
Extend the server from the rack.....	43
Remove the server from the rack.....	44
Remove the access panel.....	44
Removing the air baffle.....	45
Release the full-length expansion board retainer.....	46
Removing and replacing the rack rails.....	46
Removing and replacing the cable management arm.....	47
Removing and replacing a drive blank.....	48
Removing and replacing drives.....	49
Removing and replacing a hot-plug drive.....	49
Removing and replacing an NVMe drive.....	49
Removing and replacing the hot-plug fan.....	50
Removing and replacing a power supply blank.....	51
Removing and replacing the AC power supply.....	51
Removing and replacing the primary PCIe riser cage.....	52
Removing and replacing the secondary and tertiary PCIe riser cages.....	53
Removing and replacing the PCIe riser blank.....	54
Removing and replacing the PCIe riser board.....	55
Removing and replacing an expansion slot blank.....	57
Removing and replacing an expansion board.....	58
Removing and replacing a GPU enablement board.....	59
Removing and replacing the fan cage.....	60
Removing and replacing the OCP NIC 3.0 adapter.....	61
Removing and replacing the SFF universal media bay.....	62
Removing and replacing the LFF power switch module.....	63
Removing and replacing the SFF optical drive.....	64
Removing and replacing the LFF optical drive.....	66
Removing and replacing the 8 SFF drive cage.....	67
Removing and replacing the 8 SFF drive backplane.....	68
Removing and replacing the 2 SFF front drive cage.....	69
Removing and replacing the 2 SFF rear drive bay and riser cage.....	70
Removing and replacing the 2 SFF drive cage.....	71
Removing and replacing the 2 SFF rear drive backplane.....	72
Removing and replacing the NVMe drive backplane.....	73
Removing and replacing an LFF midplane cage.....	74
Removing and replacing the LFF backplane assembly.....	75
Removing and replacing a front LFF drive backplane.....	76
Removing and replacing a rear serial port interface (primary).....	77
Removing a rear serial port interface (secondary and tertiary).....	78
Removing and replacing an SFF power switch module.....	79
Removing and replacing an SFF chassis ear.....	80
Removing and replacing the front I/O board in the LFF right chassis ear.....	81
Removing and replacing the LFF chassis ear assembly.....	83
Removing and replacing the chassis intrusion detection switch.....	85
DIMM-processor compatibility.....	86
Removing and replacing a DIMM.....	86
Removing and replacing a heatsink.....	87
Removing and replacing a processor.....	90
Removing and replacing an energy pack.....	95



Removing and replacing a Smart Array type-a modular controller.....	96
Removing and replacing the Pensando DSP DSC-25 2p SFP28 card.....	97
Decommissioning the Pensando DSP DSC-25 2p SFP28 card.....	97
Removing the Pensando DSP DSC-25 2p SFP28 card	97
Replacing the Pensando DSP DSC-25 2p SFP28 card.....	99
Removing and replacing the HPE NS204i-p Gen10 Plus Boot Device option.....	100
Removing and replacing the boot device.....	100
Removing and replacing a boot device drive.....	101
System battery replacement.....	104
System battery information.....	104
Replace the system battery.....	104
Removing and replacing the system board.....	105
Removing the system board.....	105
Replacing the system board.....	108
Re-entering the server serial number and product ID.....	112
HPE Trusted Platform Module 2.0 Gen10 Plus option.....	113

Troubleshooting..... 114

Troubleshooting resources.....	114
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Diagnostic tools..... 115

Product QuickSpecs.....	115
UEFI System Utilities.....	115
Selecting the boot mode	115
Secure Boot.....	116
Launching the Embedded UEFI Shell	116
Intelligent Provisioning.....	117
Intelligent Provisioning operation.....	117
HPE Insight Remote Support.....	118
HPE InfoSight for servers	118
USB support.....	119
External USB functionality.....	119
HPE Smart Storage Administrator.....	119

Component identification..... 120

Front panel components.....	120
Front panel LEDs and buttons.....	122
UID button functionality.....	126
Front panel LED power fault codes.....	126
Systems Insight Display LEDs.....	126
Systems Insight Display combined LED descriptions.....	128
Rear panel components.....	130
Rear panel LEDs.....	130
System board components.....	131
System maintenance switch descriptions.....	133
DIMM label identification.....	133
DIMM slot locations.....	134
Processor and socket components.....	135
Drive box identification.....	136
Drive bay numbering.....	138
Drive bay numbering: Smart Array controller.....	138
Drive bay numbering: SAS expander.....	140



Drive bay numbering: NVMe drives.....	143
Drives.....	143
LFF drive LED definitions.....	143
HPE Smart Carrier drive LEDs and components	144
DSC-25 2-port SFP28 card ports and LEDs.....	146
HPE NS204i-p Gen10 Plus Boot Device components.....	147
HPE NS204i-p Gen10 Plus Boot Device LED definitions.....	148
Fan bay numbering.....	148

Cabling..... 149

HPE ProLiant Gen10 Plus DL Servers Storage Cabling Guidelines.....	149
Cabling diagrams.....	149
Cable routing: 8 LFF front I/O module to SATA Port.....	154
Cable routing: Universal Media Bay to SATA Port.....	154
Cable routing: 2 SFF Slim SAS Universal Media Bay in box 1 to system board.....	155
Cable routing: 2 SFF side by side SATA to system board.....	155
Cable routing: Front 8 SFF drive options (box 3 to HPE Smart Array E208i-a SR Gen10 Controller, ports 1-2).....	156
Cable routing: Front 8 SFF drive options (box 1 to HPE Smart Array P816i-a SR Controller, ports 3-4).....	156
Cable routing: 24 SFF SAS drive options (box 1, box 2, and box 3 to SAS expander).....	157
Cable routing: 24 SFF drive options (box 1, box 2, and box 3 to SAS expander card and HPE Smart Array P816i-a SR Gen10 Controller, ports 1-2).....	157
Cable routing: 8 NVMe Balanced Direct Solution.....	158
Cable routing: 8 NVMe Direct Single Processor Solution.....	158
Cable routing: 16 NVMe Balanced Direct Solution.....	159
Cable routing: 24 NVMe Balanced Direct Solution.....	159
Cable routing: Front 8 LFF to system board.....	160
Cable routing: 12 LFF drive options (midtray to system board).....	160
Cable routing: Front 12 LFF drive options (midtray to HPE Smart Array P816i-a SR Gen10 Controller, ports 1-4).....	161
Cable routing: LFF backplane to HPE Smart Array P816i-a SR Gen10 Controller.....	161
Cable routing: System board processor 1 (ports 1A and 2A) to slotted expansion board ports 1-2 in the primary riser.....	162
Cable routing: SFF Front I/O module to Front power/USB 3.1 Gen1 connector.....	162
Cable routing: Systems Insight Display to front power/USB 3.1 Gen1 connector.....	163
Cable routing: 12 LFF power switch and thermal sensor to system board.....	163
Cable routing: 8 LFF front I/O module display port to system board.....	164
Cable routing: Display port to system board.....	164
Cable routing: Universal Media bay external USB to dual USB port on system board.....	165
Cable routing: Rear serial port interface.....	165
Cable routing: Rear serial port interface (tertiary riser).....	166
Cable routing: SFF backplane power cabling to the system board.....	166
Cable routing: LFF backplane power cabling to the system board.....	167
Cable routing: 4 LFF backplane and 2 SFF side by side LFF power cable connections to the system board.....	167
Cable routing: Rear 2 SFF riser power cable.....	168

Specifications..... 169

Environmental specifications.....	169
Mechanical specifications.....	169
Power supply specifications.....	170
HPE 500W Flex Slot Platinum Hot-plug Low Halogen Power Supply.....	170
HPE 800W Flex Slot Platinum Hot-plug Low Halogen Power Supply.....	171



HPE 800W Flex Slot Titanium Hot-plug Low Halogen Power Supply.....	172
HPE 800W Flex Slot Universal Hot-plug Low Halogen Power Supply.....	173
HPE 800W Flex Slot -48VDC Hot-plug Low Halogen Power Supply.....	173
HPE 1600W Flex Slot Platinum Hot-plug Low Halogen Power Supply.....	175

Websites.....176

Support and other resources.....177

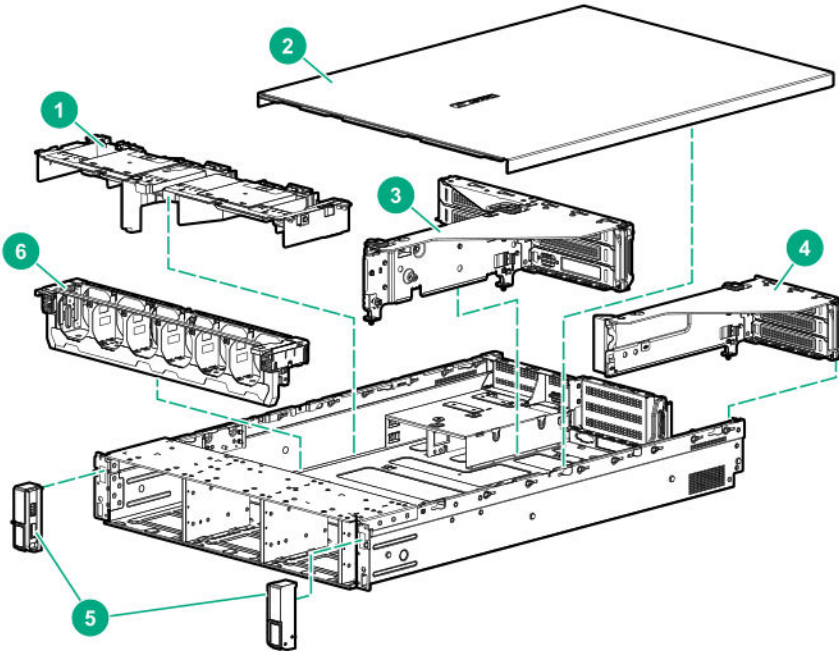
Accessing Hewlett Packard Enterprise Support.....	177
Accessing updates.....	177
Remote support.....	178
Warranty information.....	178
Regulatory information.....	178
Documentation feedback.....	179



Illustrated parts catalog

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 (<http://www.hpe.com/info/partssurfer>).



Item	Description
1	<u>Air baffle spare part</u>
2	<u>Access panel spare parts</u>
3	<u>Secondary and tertiary PCI riser cage spare part</u>
4	<u>Primary PCI riser cage spare part</u>
5	<u>Chassis ear spare parts</u>
6	<u>Fan cage spare part</u>
7	<u>2U bezel spare part*</u>
8	<u>Rail kit spare parts*</u>
9	<u>DIMM guard spare part*</u>
10	<u>Miscellaneous mechanical spare parts*</u>

*Not shown

For more information, see **Removal and replacement procedures**.

Air baffle spare part

Customer self repair: mandatory



Description	Spare part number
Air baffle	P24140-001
<ul style="list-style-type: none"> • System air baffle • Retainer baffle, PCIe, 2U • Retainer baffle, tertiary, 2U • Heatsink baffle, 2U 	

Access panel spare parts

Customer self repair: mandatory

Description	Spare part number
Access panel for the SFF chassis	P23976-001
Access panel for the LFF chassis	P23975-001

Secondary and tertiary PCI riser cage spare part

Customer self repair: optional

Description	Spare part number
Secondary and tertiary PCI riser cage	P24030-001

Primary PCI riser cage spare part

Customer self repair: mandatory

Description	Spare part number
Primary PCI riser cage	P24028-001

Chassis ear spare parts

Customer self repair: mandatory

Description	Spare part number
SFF/LFF left and right chassis ears kit with power cable	P24141-001
<ul style="list-style-type: none"> • SFF, left ear • SFF, right, standard • LFF, right, power/UID • LFF, power • LFF, left, 2U, standard 	

Fan cage spare part

Customer self repair: mandatory



Description	Spare part number
Fan cage	P24029-001

2U bezel spare part

Customer self repair: mandatory

Description	Spare part number
2U bezel	875065-001

Rail kit spare parts

Customer self repair: mandatory

Description	Spare part number
SFF easy install rail kit	P24098-001
LFF easy install rail kit	P24099-001
Cable management arm	P24100-001

DIMM guard spare part

Customer self repair: mandatory

Description	Spare part number
2U DIMM guard, left/right	P24307-001

Miscellaneous mechanical spare parts

Miscellaneous front drive box blanks spare kit

Customer self repair: mandatory

Description	Spare part number
<ul style="list-style-type: none"> 2 SFF Flex Bay hard drive blank Hard drive box, standard blank Hard drive box blank, NVMe LFF hard drive box blank 	875069-001

Miscellaneous blanks spare parts

Customer self repair: mandatory



Description	Spare part number
<ul style="list-style-type: none"> Tertiary blank Secondary PCI blank Rear 2 SFF serial blank 2 SFF rear bracket OCP NIC 3.0 blank Drive bay, 2U 	P24101-001
Quad NIC blank	P19929-001
Fan blanks, HPE Smart Storage Battery latch, retainers	875066-001
Rear 2 SFF serial blank	878510-001

Fan blanks, energy pack latch, and retention clips spare kit

Customer self repair: mandatory

Description	Spare part number
<ul style="list-style-type: none"> Fan blanks (2) Energy pack latch Retention clips for the primary riser cage (2) Retention clip for the secondary/tertiary riser cage 	875066-001

Optical drive blank spare part

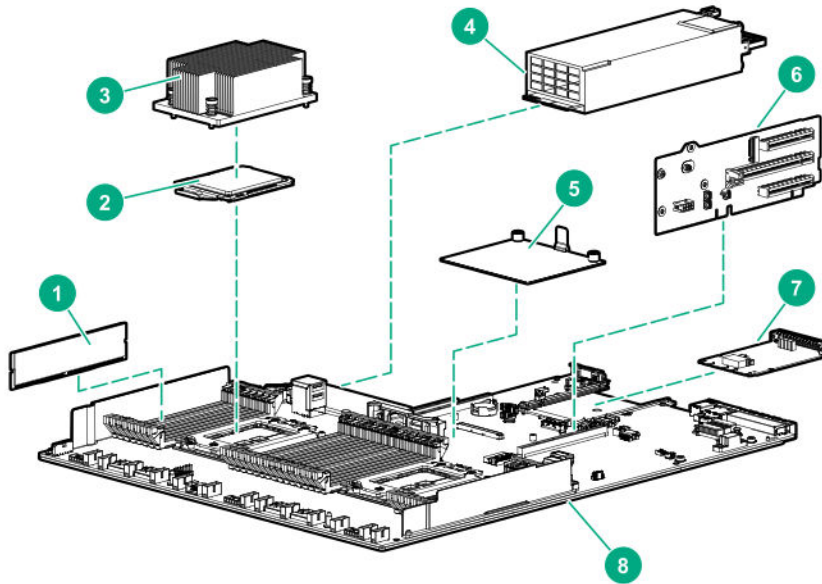
Customer self repair: mandatory

Description	Spare part number
Optical drive blank	707300-001

System components

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Item	Description
1	<u>DIMM spare parts</u>
2	<u>Processor spare parts</u>
3	<u>Heatsink spare parts</u>
4	<u>Power supply spare parts</u>
5	<u>Smart Array controller spare parts</u>
6	<u>PCI riser spare parts</u>
7	<u>Network adapter spare parts</u>
8	<u>System board spare parts</u>
9	<u>LFF front I/O board spare part*</u>
10	<u>Systems Insight Display spare part*</u>
11	<u>System battery spare part*</u>

* Not shown

For more information, see [Removal and replacement procedures](#).

DIMM spare parts

Customer self repair: mandatory

Description	Spare part number
2933 MT/s DIMMs	—
8 GB, single-rank x8 PC4-2933Y-R	P19255-001

Table Continued



Description	Spare part number
16 GB, single-rank x8 PC4-2933Y-R	P19253-001
16 GB, dual-rank x4 PC4-2933Y-R	P19254-001
32 GB, dual-rank x4 PC4-2933Y-R	P19252-001
64 GB, dual-rank x4 PC4-2933Y-L	P19251-001
64 GB, quad-rank x4 PC4-2933Y-R	P19250-001
128 GB, quad-rank x4 PC4-2933Y-L	P19402-001
3200 MT/s DIMMs	—
8 GB, single-rank x8 PC4-3200AA-R	P20499-001
16 GB, single-rank x8 PC4-3200AA-R	P20501-001
16 GB, dual-rank x4 PC4-3200AA-R	P20500-001
32 GB, dual-rank x4 PC4-3200AA-R	P20503-001
32 GB, dual-rank x8 PC4-3200AA-R	P20502-001
64 GB, quad-rank x4 PC4-3200AA-R	P20504-001
128 GB, quad-rank x4 PC4-3200AA-L	P20505-001
256 GB, 8Rx4 PC4-3200AA-L 3DS	P20506-001

Processor spare parts

AMD EPYC 7xx2 processor spare parts

Customer self repair: optional

Description	Spare part number
2.00 GHz AMD EPYC 7702 processor	P17332-001
2.50 GHz AMD EPYC 7702 processor	P17334-001
2.00 GHz AMD EPYC 7662 processor	P25584-001
2.40 GHz AMD EPYC 7642 processor	P23683-001
2.20 GHz AMD EPYC 7552 processor	P21963-001
2.90 GHz AMD EPYC 7542 processor	P23684-001
2.40 GHz AMD EPYC 7532 processor	P25585-001
2.25 GHz AMD EPYC 7502 processor	P23682-001
2.35 GHz AMD EPYC 7452 processor	P17338-001
2.80 GHz AMD EPYC 7402 processor	P17336-001
2.30 GHz AMD EPYC 7352 processor	P21227-001
3.00 GHz AMD EPYC 7302 processor	P17339-001
2.80 GHz AMD EPYC 7282 processor	P23685-001

Table Continued



Description	Spare part number
2.60 GHz AMD EPYC 7272 processor	P23686-001
3.20 GHz AMD EPYC 7262 processor	P17341-001
2.80 GHz AMD EPYC 7252 processor	P23793-001

Heatsink spare parts

Customer self repair: optional

Description	Spare part number
Standard heatsink 2U	P00249-001
High-performance heatsink 1U	P24556-001
High-performance heatsink 2U	P22547-001

Power supply spare parts

Customer self repair: mandatory

Description	Spare part number
HPE 500 W Hot-plug Power Supply	866729-001
HPE 800 W HVDC Hot-plug Power Supply	866727-001
HPE 800 W -48VDC Hot-plug Power Supply	866728-001
HPE 800 W Flex Slot Platinum Hot-plug Low Halogen Power Supply	866730-001
HPE 800 W Hot-plug Power Supply	866793-001
HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply	863373-001

Smart Array controller spare parts

Customer self repair: mandatory

Description	Spare part number
HPE Smart Array E208e-p SR Gen10 Controller	836267-001
HPE Smart Array E208i-a SR Gen10 Controller	836259-001
HPE Smart Array E208i-p SR Gen10 Controller	836266-001
HPE Smart Array P408e-p SR Gen10 Controller	836270-001
HPE Smart Array P408i-a SR Gen10 Controller	836260-001
HPE Smart Array P408i-p SR Gen10 Controller	836269-001
HPE Smart Array P816i-a SR Gen10 Controller	836261-001



PCI riser board spare parts

Customer self repair: optional

Description	Spare part number
3 x16 tri-mode riser	P24048-001
x16 tertiary riser	P24034-001
x16 cabled riser	P24031-001
x8 re-timer PCIe card	P24035-001
x16 re-timer PCIe card	P24041-001
x16 x16 PCIe slot 1/2 riser	P18721-001
x16 x16 PCIe slot 2/3 riser	P18720-001
M.2 ML/DL SATA riser assembly	882359-001
HPE DL Gen10 Plus 2x8 2x16 tertiary riser kit	P24038-001
Controller 1-port NVMe adapter	P18719-001

Network adapter spare parts

Ethernet adapter spare parts

Customer self repair: mandatory

Description	Spare part number
HPE Ethernet 1Gb 4-port BaseT I350-T4 adapter	P22200-001
HPE Ethernet 10Gb 2-port SFP+ QL41132 adapter	P22199-001
HPE Ethernet 10Gb 4-port SFP+ QL41134 adapter	P13346-001
HPE Ethernet 10Gb 2-port BaseT QL41132 adapter	P11688-001
HPE Ethernet 10/25Gb 2-port SFP28 QL41232 adapter	P23451-001
HPE Ethernet 10Gb 2-port SFP+ MCX4121A-XCHT adapter	P22202-001
HPE Ethernet 10/25Gb 2-port SFP28 MCX512F adapter	P16004-001
HPE Ethernet 10/25Gb 2-port SFP28 X2522-PLUS adapter	P22204-001
HPE Ethernet 100G QSFP28 MCX516A adapter	P22203-001

Fibre channel host bus adapter spare parts

Customer self repair: mandatory

Description	Spare part number
HPE SN1600Q 32Gb 1p FC HBA	868140-001
HPE SN1600Q 32Gb 2p FC HBA	868141-001
HPE SN1600E 32Gb 1p FC HBA	869999-001

Table Continued



Description	Spare part number
HPE SN1600E 32Gb 2p FC HBA	870000-001
HPE SN1200E 16Gb 1p FC HBA	870001-001
HPE SN1200E 16Gb 2p FC HBA	870002-001
HPE SN1100Q 16Gb 1p FC HBA	863010-001
HPE SN1100Q 16Gb 2p FC HBA	853011-001

Converged network adapter spare parts

Customer self repair: mandatory

Description	Spare part number
HPE CN1100R 2P Converged Network Adapter	706801-001
HPE StoreFabric CN1100R-T 10Gb Converged Network Adapter	872605-001
HPE StoreFabric CN1200E 10Gb Converged Network Adapter	767078-001
HPE StoreFabric CN1200E-T 10Gb Converged Network Adapter	827607-001

OCP NIC 3.0 spare parts

Customer self repair: optional

Description	Spare part number
HPE 1GbE 4-port BaseT I350-T4 OCP 3.0 adapter	P14487-001
HPE 10GbE 2-port SFP+ QL41132 adapter OCP 3.0 adapter	P11586-001
HPE 10GbE 2-port BaseT QL41132 OCP 3.0 adapter	P13345-001
HPE 10GbE 2-port SFP+MCX4621A OCP 3.0 adapter	P12806-001
HPE 25GbE 2-port SFP28 MLX OCP 3.0 adapter	P12619-001
HPE 10/25GbE 2-port SFP28 QL41232 OCP 3.0 adapter	P11710-001
HPE DL Gen10 Plus OCP NVMe adapter kit	P24128-001

InfiniBand adapter spare parts

Customer self repair: mandatory



Description	Spare part number
HPE InfiniBand HDR100/Ethernet 1-port 940QSFP56 x16 Adapter	P08356-001
HPE InfiniBand HDR100/Ethernet 100Gb 2-port 940QSFP56 x16 Adapter	P08355-001
HPE InfiniBand HDR/Ethernet 200Gb 1-port 940QSFP56 x16 Adapter	P08354-001

System board spare parts

Customer self repair: optional

Description	Spare part number
System board Gen10.X	P18718-001

LFF front I/O board spare part

Customer self repair: optional

Description	Spare part number
LFF front I/O board	875088-001

Systems Insight Display spare part

Customer self repair: optional

Description	Spare part number
Systems Insight Display module	P24033-001

System battery spare part

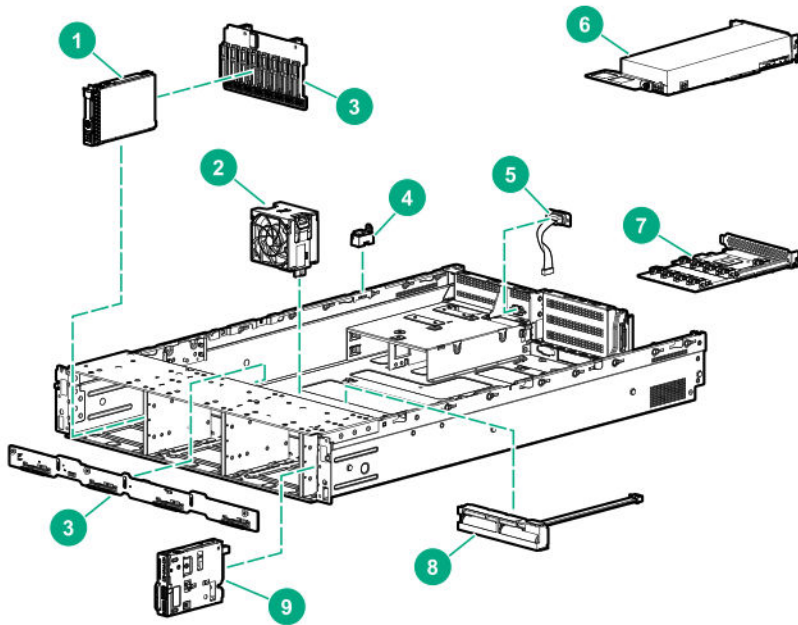
Customer self repair: mandatory

Description	Spare part number
System battery	319603-001

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 (<http://www.hpe.com/info/partssurfer>).





Item	Description
1	<u>Drive spare parts</u>
2	<u>Fan spare parts</u>
3	<u>Drive backplane board spare parts</u>
4	<u>Chassis Intrusion Detection Switch spare part</u>
5	<u>Rear serial port interface spare part</u>
6	<u>Accelerator spare parts</u>
7	<u>HPE DL38x Gen10 12Gb SAS Expander Card spare part</u>
8	<u>Energy pack spare parts</u>
9	<u>Power module spare parts</u>
10	<u>HPE NS204i-p Gen10+ Boot Device spare parts</u>
11	<u>Pensando Distributed Services Platform card spare parts</u>
12	<u>Flex bay enclosure kit spare parts*</u>
13	<u>Midtray drive cage spare part*</u>
14	<u>Cable spare parts*</u>
15	<u>Thermal grease spare part*</u>

* Not shown

For more information, see [Removal and replacement procedures](#).

Drive spare parts



Hard disk drive spare parts

Customer self repair: mandatory

Description	Spare part number
SFF HDD spare parts	—
300 GB SAS 10K SFF SC DS HDD	872735-001
300 GB SAS 15K SFF SC DS HDD	870792-001
600 GB SAS 15K SFF SC DS HDD	870794-001
600 GB SAS 10K SFF SC DS HDD	872736-001
900 GB SAS 15K SFF SC DS HDD	870795-001
1 TB SAS 7.2K SFF SC DS HDD	832984-001
1 TB SATA 7.2K SFF SC DS HDD	656108-001
1.2 TB SAS 10K SFF SC DS HDD	872737-001
1.8 TB SAS 10K SFF SC 512e DS HDD	872738-001
2 TB SAS 7.2K SFF SC 512e DS HDD	765873-001
2 TB SATA 7.2K SFF SC 512e DS HDD	765869-001
2.4 TB SAS 10K SFF SC 512e DS HDD	881507-001
LFF HDD spare parts	—
1 TB SATA 7.2K LFF LP DS HDD	862130-001
2 TB SAS 7.2K LFF LP DS HDD	834133-001
2 TB SATA 7.2K LFF LP DS HDD	862132-001
4 TB SAS 7.2K LFF LP DS HDD	834134-001
4 TB SATA 7.2K LFF LP DS HDD	862133-001
6 TB SAS 7.2K LFF LP 512e DS HDD	862136-001
6 TB SATA 7.2K LFF LP 512e DS HDD	862134-001
8 TB SAS 7.2K LFF LP 512e DS HDD	834132-001
8 TB SATA 7.2K LFF LP He 512e DS HDD	834131-001
10 TB SAS 7.2K LFF LP He 512e DS HDD	P11186-001
10 TB SATA 7.2K LFF LP He 512e DS HDD	P11184-001
12 TB SAS 7.2K LFF LP He 512e DS HDD	882398-001
12 TB SATA 7.2K LFF LP He 512e DS HDD	882401-001
14 TB SAS 7.2K LFF LP He 512e DS HDD	P11518-001
14 TB SATA 7.2K LFF LP He 512e DS HDD	P11519-001

NVMe solid state drive spare parts

Customer self repair: mandatory



Description	Spare part number
375 GB NVMe x4 WI SFF SCN DS SSD	P02559-001
750 GB NVMe x4 WI SFF SCN DS SSD	P06979-001
800 GB NVMe x4 MU SFF SCN DS SSD	P13826-001
800 GB NVMe x4 MU SFF SCN DS SSD	P10648-001
960 GB NVMe x4 RI SFF SCN DS SSD	P13831-001
960 GB NVMe x4 RI SFF SCN DS SSD	P10652-001
960 GB NVMe x4 RI SFF SCN DS SSD	P10645-001
1.6 TB NVMe x4 MU SFF SCN DS SSD	P13827-001
1.6 TB NVMe x4 MU SFF SCN DS SSD	P13835-001
1.6 TB NVMe x4 MU SFF SCN DS SSD	P10649-001
1.6 TB NVMe x4 MU SFF SCN DS SSD	P10470-001
1.6 TB NVMe Perf MU SFF SC U.3 SSD	P20737-001
1.92 TB NVMe x4 RI SFF SCN DS SSD	P13832-001
1.92 TB NVMe x4 RI SFF SCN DS SSD	P10646-001
1.92 TB NVMe x4 RI SFF SCN DS SSD	P10653-001
1.92 TB NVMe x4 RI SFF SCN DS SSD	P10466-001
1.92 TB NVMe Perf MU SFF SC U.3 SSD	P20735-001
2 TB NVMe x4 RI SFF SCN DS SSD	P13838-001
3.2 TB NVMe x4 MU SFF SCN DS SSD	P13828-001
3.2 TB NVMe x4 MU SFF SCN DS SSD	P13836-001
3.2 TB NVMe x4 MU SFF SCN DS SSD	P10650-001
3.2 TB NVMe x4 MU SFF SCN DS SSD	P10471-001
3.2 TB NVMe Perf RI SFF SC U.3 SSD	P20738-001
3.84 TB NVMe x4 RI SFF SCN DS SSD	P13833-001
3.84 TB NVMe x4 RI SFF SCN DS SSD	P10654-001
3.84 TB NVMe x4 RI SFF SCN DS SSD	P10647-001
3.82 TB NVMe x4 RI SFF SCN DS SSD	P10467-001
3.84 TB NVMe Perf RI SFF SC U.3 SSD	P20736-001
4 TB NVMe x4 RI SFF SCN DS SSD	P13839-001
6.4 TB NVMe x4 MU SFF SCN DS SSD	P13829-001
6.4 TB NVMe x4 MU SFF SCN DS SSD	P13837-001
6.4 TB NVMe x4 MU SFF SCN DS SSD	P10651-001
6.4 TB NVMe x4 MU SFF SCN DS SSD	P10472-001

Table Continued



Description	Spare part number
7.68 TB NVMe x4 RI SFF SCN DS SSD	P13834-001
7.68 TB NVMe x4 RI SFF SCN DS SSD	P10655-001
7.68 TB NVMe x4 RI SFF SCN DS SSD	P10468-001
15.36 TB NVMe x4 RI SFF SCN DS SSD	P10656-001

Solid state drive SAS spare parts

Customer self repair: mandatory

Description	Spare part number
400 GB SAS MU SFF SC DS SSD	P06576-001
400 GB SAS MU SFF SC DS SSD	P09922-001
400 GB SAS WI SFF SC DS SSD	P06600-001
400 GB SAS WI SFF SC DS SSD	P09947-001
400 GB SAS WI SFF SC SSD	P22585-001
800 GB SAS MU SFF SC DS SSD	P06577-001
800 GB SAS MU SFF SC DS SSD	P09923-001
800 GB SAS MU SFF SC SSD	P20838-001
800 GB SAS MU SFF SC SSD	P22581-001
800 GB SAS WI SFF SC DS SSD	P06602-001
800 GB SAS WI SFF SC DS SSD	P09948-001
800 GB SAS WI SFF SC SSD	P22586-001
960 GB SAS MU LFF LPC VS DS SSD	P10606-001
960 GB SAS RI SFF SC DS SSD	P06596-001
960 GB SAS RI SFF SC DS SSD	P08608-001
960 GB SAS RI SFF SC SSD	P20833-001
960 GB SAS RI SFF SC SSD	P22635-001
1.6 TB SAS MU SFF SC DS SSD	P06580-001
1.6 TB SAS MU SFF SC DS SSD	P09924-001
1.6 TB SAS MU SFF SC SSD	P20839-001
1.6 TB SAS MU LFF LPC DS SSD	P06581-001
1.6 TB SAS MU SFF SC SSD	P22582-001
1.6 TB SAS WI SFF SC DS SSD	P06604-001
1.6 TB SAS WI SFF SC DS SSD	P09949-001
1.6 TB SAS WI SFF SC SSD	P22587-001
1.92 TB SAS MU LFF LPC VS DS SSD	P10609-001

Table Continued



Description	Spare part number
1.92 TB SAS RI SFF SC DS SSD	P06597-001
1.92 TB SAS RI SFF SC DS SSD	P08609-001
1.92 TB SAS RI SFF SC SSD	P20834-001
1.92 TB SAS RI SFF SC SSD	P22636-001
3.2 TB SAS MU SFF SC DS SSD	P06582-001
3.2 TB SAS MU SFF SC DS SSD	P09925-001
3.2 TB SAS MU SFF SC SSD	P20840-001
3.2 TB SAS MU SFF SC SSD	P22583-001
3.2 TB SAS WI SFF SC DS SSD	P06605-001
3.84 TB SAS MU LFF LPC VS DS SSD	P10611-001
3.84 TB SAS RI SFF SC DS SSD	P06598-001
3.84 TB SAS RI SFF SC DS SSD	P08610-001
3.84 TB SAS RI SFF SC SSD	P20835-001
3.84 TB SAS RI SFF SC SSD	P22637-001
6.4 TB SAS MU SFF SC DS SSD	P06583-001
6.4 TB SAS MU SFF SC DS SSD	P09926-001
6.4 TB SAS MU SFF SC SSD	P20841-001
6.4 TB SAS MU SFF SC SSD	P22584-001
6.4 TB SAS RI SFF SC DS SSD	P06599-001
7.68 TB SAS RI SFF SC DS SSD	P08611-001
7.68 TB SAS RI SFF SC SSD	P20836-001
7.68 TB SAS RI SFF SC SSD	P22589-001
15.3 TB SAS RI SFF SC SSD	P20837-001
15.3 TB SAS RI SFF SC DS SSD	P08612-001
15.3 TB SAS RI SFF SC SSD	P22590-001
16 TB SAS 7.2K LFF ISE He LP HDD	P25245-001
30.72 TB SAS RI SFF SC SSD	P22580-001

Solid state drive SATA spare parts

Customer self repair: mandatory

Description	Spare part number
240 GB SATA MU M.2 2280 DS SSD	875850-001
240 GB SATA RI SFF SC DS SSD	P05319-001
240 GB SATA RI SFF SC MV SSD	P18481-001

Table Continued

Description	Spare part number
240 GB SATA RI SFF SC DS SSD	875652-001
240 GB SATA RI SFF SC SSD	P21080-001
480 GB SATA MU SFF SC DS SSD	P09907-001
480 GB SATA MU SFF SC MV SSD	P18477-001
480 GB SATA MU SFF SC DS SSD	P08690-001
480 GB SATA MU SFF SC SSD	P21088-001
480 GB SATA RI SFF SC SSD	P27212-001
480 GB SATA RI LFF LPC SSD	P21086-001
480 GB SATA RI SFF SC SSD	P21081-001
480 GB SATA RI LFF LPC DS SSD	P05317-001
480 GB SATA RI SFF SC DS SSD	P05320-001
480 GB SATA RI SFF SC DS SSD	P06571-001
480 GB SATA RI SFF SC MV SSD	P18482-001
480 GB SATA RI SFF SC DS SSD	P05312-001
960 GB SATA MU SFF SC DS SSD	P08692-001
960 GB SATA MU SFF SC DS SSD	P09909-001
960 GB SATA MU SFF SC MV SSD	P18478-001
960 GB SATA MU SFF SC SSD	P21089-001
960 GB SATA MU LFF LPC SSD	P21093-001
960 GB SATA RI SFF SC MV SSD	P18483-001
960 GB SATA RI SFF SC DS SSD	P06572-001
960 GB SATA RI SFF SC SSD	P21082-001
960 GB SATA RI SFF SC DS SSD	P05313-001
960 GB SATA RI SFF SC DS SSD	P05321-001
960 GB SATA RI LFF LPC DS SSD	P09847-001
1.92 TB SATA MU LFF LPC DS SSD	P08696-001
1.92 TB SATA MU SFF SC DS SSD	P09912-001
1.92 TB SATA MU SFF SC MV SSD	P19695-001
1.92 TB SATA MU SFF SC DS SSD	P08694-001
1.92 TB SATA MU LFF LPC DS SSD	P09914-001
1.92 TB SATA MU SFF SC SSD	P21090-001
1.92 TB SATA MU LFF LPC SSD	P21095-001
1.92 TB SATA RI LFF LPC DS SSD	P05318-001

Table Continued



Description	Spare part number
1.92 TB SATA RI SFF SC DS SSD	P05322-001
1.92 TB SATA RI SFF SC SSD	P21083-001
1.92 TB SATA RI SFF SC MV SSD	P18484-001
1.92 TB SATA RI SFF SC DS SSD	P06573-001
1.92 TB SATA RI SFF SC DS SSD	P05314-001
1.92 TB SATA RI LFF LPC SSD	P21087-001
1.92 TB SATA VRO SFF SC SSD	P25239-001
3.84 TB SATA MU SFF SC MV SSD	P18480-001
3.84 TB SATA MU SFF SC DS SSD	P02562-001
3.84 TB SATA MU SFF SC SSD	P21091-001
3.84 TB SATA RI SFF SC DS SSD	P05323-001
3.84 TB SATA RI SFF SC DS SSD	P06574-001
3.84 TB SATA RI SFF SC MV SSD	P18485-001
3.84 TB SATA RI SFF SC SSD	P21084-001
3.84 TB SATA RI SFF SC MV SSD	P05315-001
3.84 TB SATA VRO SFF SC SSD	P25240-001
3.84 TB SATA VRO LFF LPC SSD	P25241-001
7.68 TB SATA RI SFF SC MV SSD	P18486-001
7.68 TB SATA RI SFF SC DS SSD	P05316-001
7.68 TB SATA RI SFF SC SSD	P21085-001
7.68 TB SATA VRO SFF SC SSD	P25242-001
7.68 TB SATA VRO LFF LPC SSD	P25243-001
16 TB SATA 7.2K LFF ISE He LP HDD	P25244-001
16 TB SATA 7.2K LFF ISE He SC HDD	P25246-001

Optical drive spare parts

Customer self repair: mandatory

Description	Spare part number
9.5 mm SATA DVD-ROM drive	652296-001
9.5 mm SATA DVD-RW drive	652297-001
Mobile USB DVD-RW drive	775676-001

Fan spare parts

Customer self repair: mandatory



Description	Spare part number
Standard fan	P23971-001
Max performance fan for Gen10 Plus	P23970-001

Drive backplane board spare parts

Customer self repair: optional

Description	Spare part number
SFF drive backplane spares	—
2 SFF SAS/SATA backplane (front)	775401-001
2 SFF U.3 NVMe backplane	P22810-001
2 SFF SAS/SATA backplane plus cage assembly	875554-001
2 SFF x4 SAS/SATA backplane (stacked)	P24040-001
8 SFF NVMe backplane	872971-001
8 SFF SAS backplane, 12Gbs	878543-001
8 SFF U.3 backplane (premium)	P24047-001
LFF drive backplane spares	—
2 LFF backplane (stack/riser)	P24042-001
4 LFF SAS backplane	P23681-001

Chassis Intrusion Detection Switch spare part

Customer self repair: mandatory

Description	Spare part number
Chassis Intrusion Detection Switch	P24555-001

Rear serial port interface spare part

Customer self repair: mandatory

Description	Spare part number
Rear serial port interface	875571-001

Accelerator spare parts

Customer self repair: optional

Description	Spare part number
Computational accelerator spare part	—
NVIDIA Tesla T4 16 GB	P09571-001

Table Continued



Description	Spare part number
NVIDIA Tesla V100 32 GB	P05913-001
Workload accelerator spare parts	—
HPE 750 GB PCIe x4 Wl, HH, DS	P03580-001
HPE 1.6 TB NVMe x8 MU, HH, DS	P10670-001
HPE 3.2 TB NVMe x8 MU, HH, DS	P10671-001
HPE 6.4 TB NVMe x8 MU, HH, DS	P10672-001
GPU spare parts	
HPE NVIDIA Quadro RTX4000 Module	P11603-001
HPE NVIDIA Quadro RTX6000 Module	P11377-001
HPE NVIDIA Quadro RTX8000 Module	P11743-001

HPE DL38x Gen10 12Gb SAS Expander Card spare part

Customer self repair: optional

Description	Spare part number
HPE DL38x Gen10 Plus 12Gb SAS Expander Card	876907-001

Energy pack spare parts

Customer self repair: mandatory

Description	Spare part number
HPE Smart Storage Battery 96 W, 145 mm cable	878643-001
HPE Smart Storage Hybrid Capacitor, 145 mm cable	P07473-001

Power module spare parts

Customer self repair: mandatory

Description	Spare part number
Power switch module for SFF chassis (no SID)	P23972-001
Power/System Insight Display module	P00845-001
Power switch/optical drive module for 8 LFF chassis	P23973-001

HPE NS204i-p Gen10 Plus Boot Device spare parts

Customer self repair: mandatory



Description	Spare part number
HPE NS204i-p Gen10 Plus Boot Device	P14379-001
480 GB NVMe x4 RI M.2 22110 DS SSD	P24886-001

Pensando Distributed Services Platform card spare parts

Customer self repair: optional

Description	Spare part number
Pensando DSP DSC-25 2p SFP28 card	P27682-001

Flex bay enclosure kit spare parts

Customer self repair: optional

Description	Spare part number
Flex bay enclosure kit	775428-001
<ul style="list-style-type: none"> • 2 SFF drive cage • SATA drive backplane board • Power cable (275 mm) • SATA HDD cable (430 mm) 	

Midtray drive cage spare part

Customer self repair: optional

Description	Spare part number
8 SFF NVMe and SAS SC midtray drive cage kit	P24046-001

Cable spare parts

Customer self repair: mandatory

Description	Spare part number
SFF mini-SAS cable kit	875089-001
LFF mini-SAS cable kit	875090-001
NVMe direct attach kit	875092-001
HPE Smart Array type-a controller to expansion board cable kit	875093-001
Mini-SAS cable kit	875094-001
Data cables kit	875095-001
GPU cables kit	875097-001



SAS/SATA cable spare parts

Customer self repair: mandatory

Description	Spare part number
x4 Mini SAS 4 LFF/8 SFF primary/tertiary SAS to expansion board	P24139-001
<ul style="list-style-type: none">Box 2/3 x8 Mini SAS to ports 3-6 on expansion boardx4 Mini SAS port 1 and 2 on expansion board in primary riser to Smart Array controller port 1 and 2x4 Mini SAS port 1 and 2 on expansion board in tertiary riser to Smart Array controller port 1 and 24 LFF backplane ports 1-3 to expansion board/Smart Array controller	
2 SFF/4 LFF/8 LFF SAS/SATA cables	P24553-001
<ul style="list-style-type: none">Mini SAS/SATA on system board to 4 LFF, shortSlim SAS/SATA x4 8 LFF Box 1-2 to x8 Slim SASSlim SAS/SATA x4 8 LFF Box 3/midtray to x8 Slim SASSlim SAS to 7p SAS/SATA 2 SFF, frontx4 to 7p, SAS/SATA 2 SFF front/rear	

NVMe cable spare parts

Customer self repair: mandatory

Description	Spare part number
Box 3 to riser	P24130-001
<ul style="list-style-type: none">Box 3 premium ports 1-4 to riserBox 3 premium backplane single x32Box 2 premium backplane to system board ports 1-4	
Box 2 to x32, Box 1 to x16 primary/secondary	P24132-001
<ul style="list-style-type: none">Box 2 premium ports 1, 2, 3, 4 to x32 tri-mode controllerBox 1 premium ports 1, 2, 3, 4 to x32 tri-mode controllerBox 1 media 2 SFF -x16	
Box 2 to secondary riser, ports 1, 2 or 3, 4	P24131-001
<ul style="list-style-type: none">Box 2 premium port 1, 2 to x32 tri-mode controllerBox 2 premium port 3, 4 to x32 tri-mode controller	

Table Continued



Description	Spare part number
Box 3 premium ports 1-4 to x16 on primary riser <ul style="list-style-type: none"> • Box 3 ports 1-4 to x16 on primary riser • Box 1 ports 1-4 to x16 on secondary riser 	P24134-001
Box 2 premium ports 1, 2 or 3, 4 to x16 on secondary riser <ul style="list-style-type: none"> • Box 2 premium ports 1-2 to x16 on secondary riser • Box 2 premium ports 3-4 to x16 on secondary riser 	P24135-001
8 NVMe ports 1-4 to system board and controller <ul style="list-style-type: none"> • Box 1/2 premium ports 1-2 to 1A/1B (box 2) or 1B/2B (box 1) on system board • Box 2 premium port 3-4 to 1B/2B on system board • Box 2 premium port 3 to Smart Array controller (7A) • Box 2 premium port 4 to system board (8A) • Box 2 premium port 3-4 to 1C/2C on system board 	P24554-001

Power cable spare parts

Customer self repair: mandatory

Description	Spare part number
Power cable spare parts <ul style="list-style-type: none"> • I/O wire to system board, front • 1x5 to 2x4, LFF, 240mm • 1x5 to 2x4, LFF, 400mm • 1x5 to 2x4 +x, LFF, 400mm • 2x3 to 2x3, SFF • 2x5 to 2x3 + 2x4 	P23361-001

Miscellaneous cable spare parts

Customer self repair: mandatory



Description	Spare part number
Miscellaneous cables	P24138-001
<ul style="list-style-type: none"> • Display port + USB 2.0 • Internal USB to USB port, front • Optical disk drive, Slim SATA • Serial port 	
Mini SAS cable assembly kit	784621-001
Mini SAS cable kit	784629-001
Power cables kit	875096-001
I/O board to system board, front	P24127-001
Midtray, premium/basic host board	P24133-001
Re-timer cable kit	P27685-001
<ul style="list-style-type: none"> • NVMe • 8 SFF • Re-timer PCIe card 	
Split midtray port 1-4 to x32	P24136-001
SAS 1-3 SAS/SATA x8 SlimSAS	P24137-001
OCP NIC 3.0 cables	P24128-001
<ul style="list-style-type: none"> • Slim SAS x8 to low profile Slim SAS x8 • Low profile Slim SAS x8 to x8 OCP processor 1 	
Processor 1/2 to riser port 1/port 2 cables	P24129-001
<ul style="list-style-type: none"> • Processor to riser port 1, 686mm • Processor 1 to secondary riser, port 1, 248mm • Processor 1 to secondary riser, port 1, 686mm 	

Thermal grease spare part

Customer self repair: mandatory

Description	Spare part number
2.0g thermal grease (1g per processor)	777298-001

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 Teilkatalog 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)

Ihre 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 garantievoorzwaarden 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.
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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.



Removal and replacement procedures

Required tools

You need the following items for some procedures:

- T-10 Torx screwdriver
- T-15 Torx screwdriver
- T-20 Torx screwdriver

Safety considerations

Before performing service procedures, review all the safety information.

Preventing electrostatic discharge

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

Procedure

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

Symbols on equipment

The following symbols might be found on the equipment to indicate the presence of potentially hazardous conditions.



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

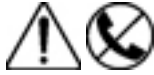
WARNING: To reduce the risk of injury from electric shock hazards, do not open this enclosure. Refer all maintenance, upgrades, and servicing to qualified personnel.



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

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





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

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



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

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



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

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



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

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

Server warnings and cautions



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.

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

AVERTISSEMENT: Pour réduire les risques d'incendie ou de brûlures après le retrait du module batterie :

- N'essayez pas de démonter, d'écraser ou de percer le module batterie.
- Ne court-circuitiez pas ses contacts externes.
- Ne jetez pas le module batterie dans le feu ou dans l'eau.

Après avoir déconnecté l'alimentation, une tension peut subsister dans la batterie durant 1 à 160 secondes.



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.

Preparation procedures

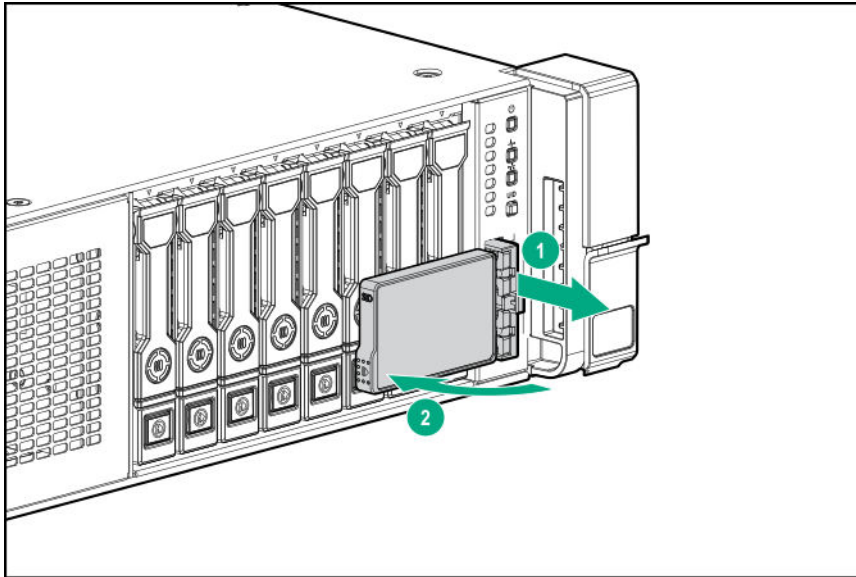
Access the Systems Insight Display

The Systems Insight Display is supported only on SFF models.

Procedure

1. Press and release the panel.
2. After the display fully ejects, rotate the display to view the LEDs.





Power down the server

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

! **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.

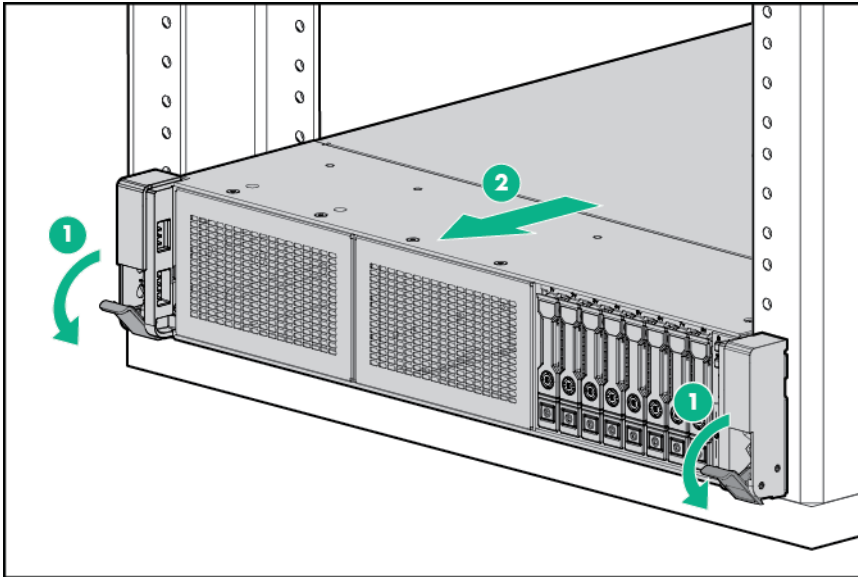
Before proceeding, verify that the server is in standby mode by observing that the system power LED is amber.

Extend the server from the rack

! **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.

1. Pull down the quick release levers on each side of the server.
2. Extend the server from the rack.





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

⚠ 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.

Remove the server from the rack

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

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.

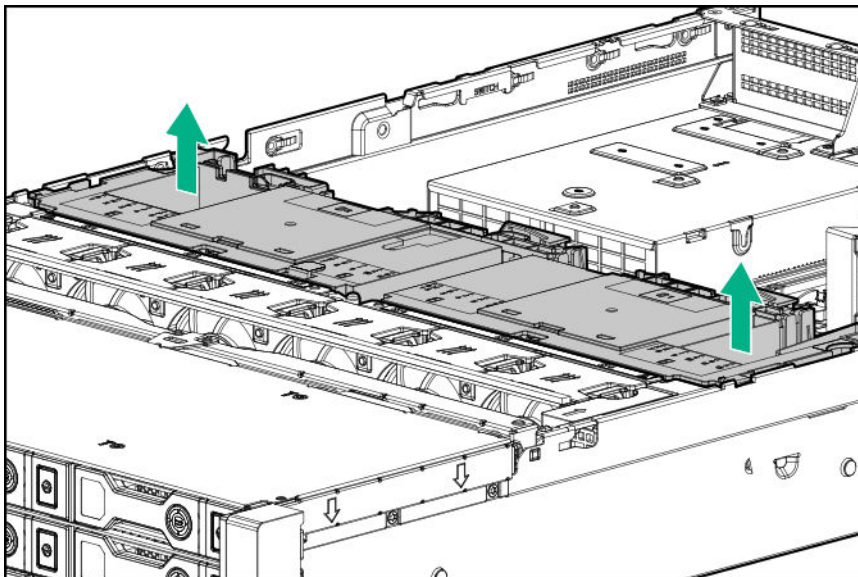
Removing the air baffle

⚠ CAUTION: Do not detach the cable that connects the battery pack to the cache module. Detaching the cable causes any unsaved data in the cache module to be lost.

⚠ 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.

Procedure

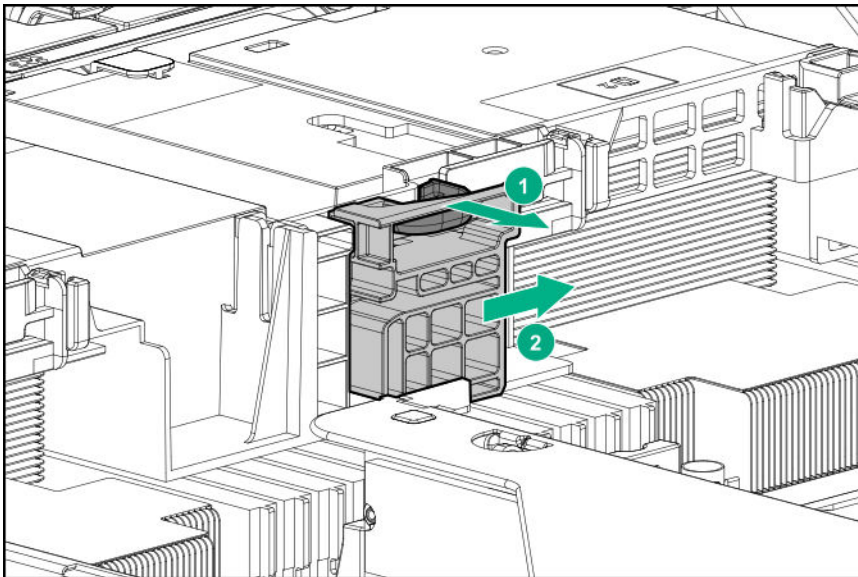
1. **Power down the server.**
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. Remove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



Release the full-length expansion board retainer

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
- 4. Remove the access panel.**
- 5. Remove the air baffle.**
6. Release the full-length expansion board retainer.



To replace the component, reverse the removal procedure.

Removing and replacing the rack 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

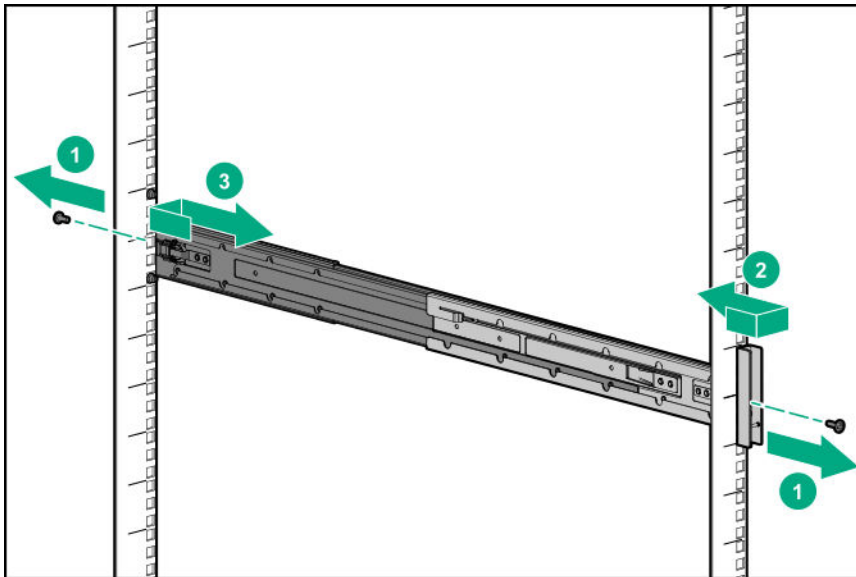
Before you begin, be sure that you have the appropriate screwdriver for the screws in the rack.

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. **Remove the server from the rack.**
4. Place the server on a sturdy, level surface.

! **IMPORTANT:** When removing the rail from the rack, always remove the front of the rail first.

5. Remove the rail from the rack.



To replace the component, reverse the removal procedure.

Removing and replacing the cable management arm

! **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 the appropriate screwdriver for the screws in the rack.

Procedure

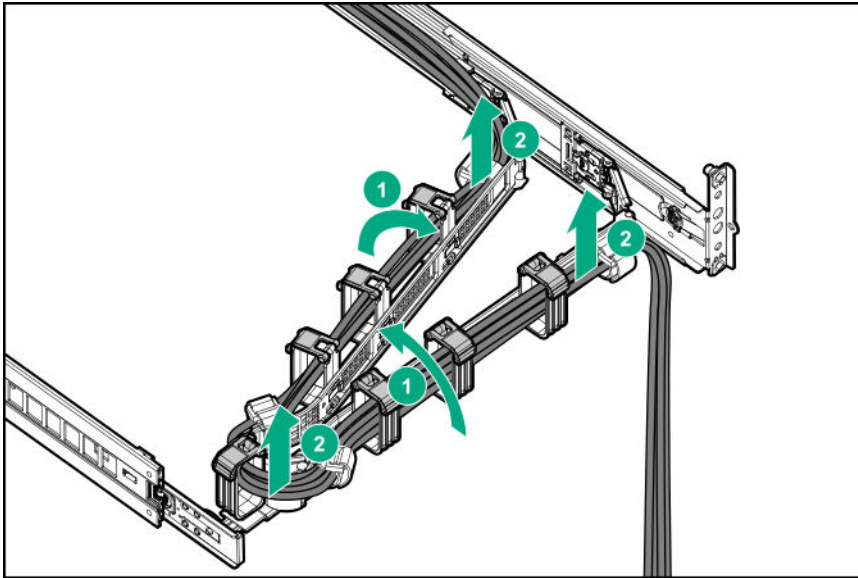
1. **Power down the server.**
2. Remove all power:



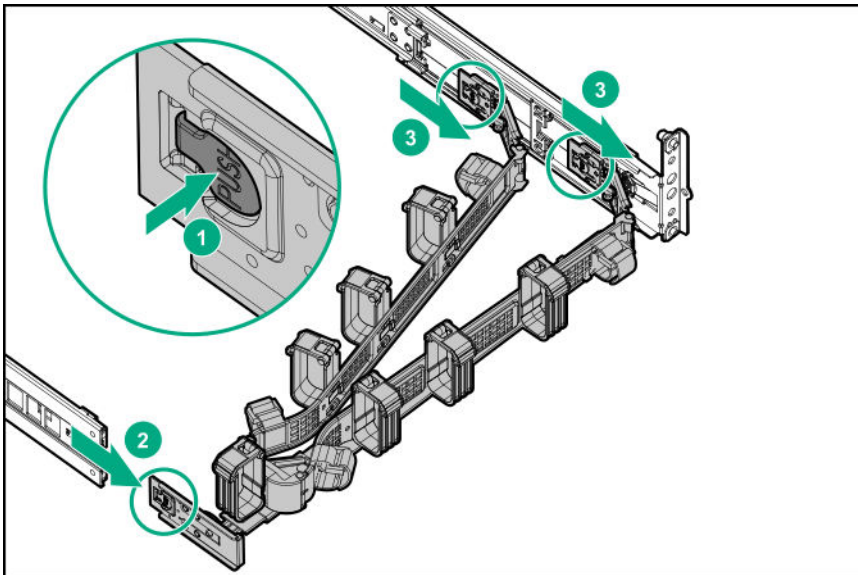
- a. Disconnect each power cord from the power source.
- b. Disconnect each power cord from the server.

3. Extend the server from the rack.

4. Remove the cables from the cable management arm.



5. Remove the cable management arm.



To replace the component, reverse the removal procedure.

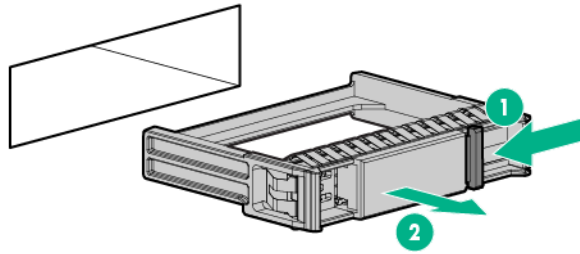
Removing and replacing a drive blank

- 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.



Procedure

Remove the drive blank.



To replace the blank, slide the blank into the bay until it locks into place.

Removing and replacing drives

Removing and replacing a hot-plug drive

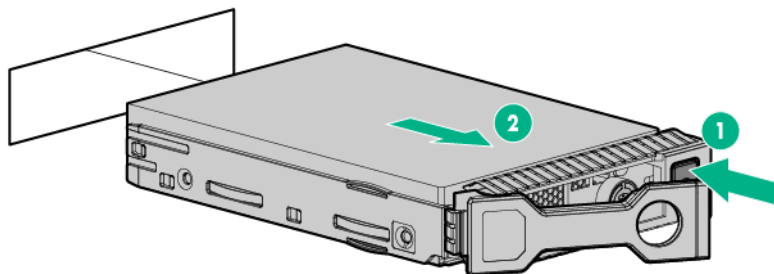
CAUTION: To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

1. Back up all server data on the drive.
2. Determine the status of the drive from the drive LED definitions.

For more information, see [SAS/SATA drive components and LEDs](#).

3. Remove the drive.



To replace the component, reverse the removal procedure.

Removing and replacing an NVMe drive

An NVMe SSD is a PCIe bus device. Devices attached to a PCIe bus cannot be removed without allowing the device and the bus to complete and cease signal/traffic flow.

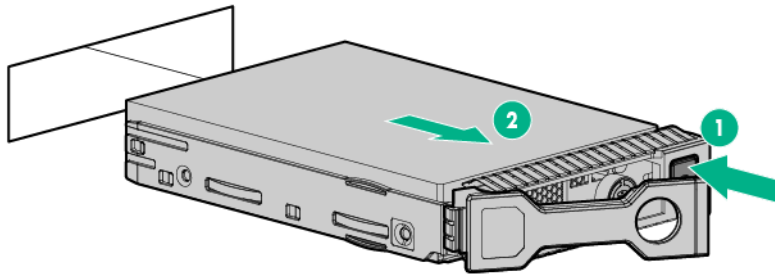
Procedure

1. Back up all server data.
2. Observe the LED status of the drive and determine if it can be removed.



For more information, see [HPE Smart Carrier components and LEDs](#).

3. Remove the drive.



Removing and replacing the hot-plug fan

Procedure

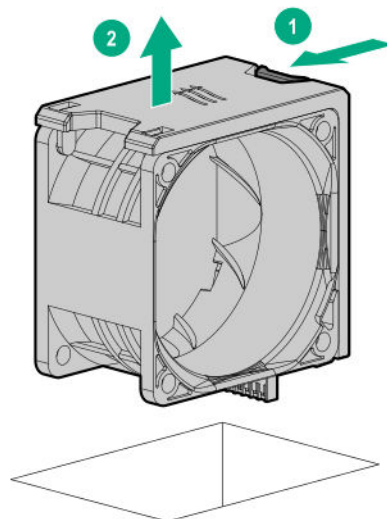
1. **Extend the server from the rack.**
2. **Remove the access panel.**

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.

For more information, see [Fan bay numbering](#).

3. Remove the fan.

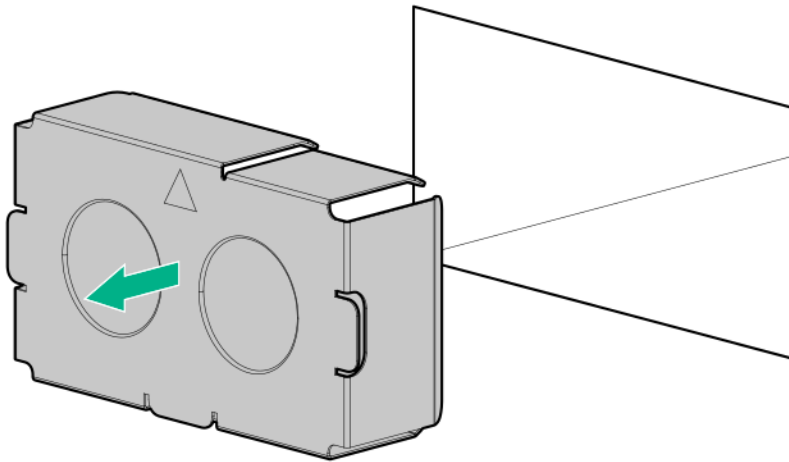


To replace the component, reverse the removal procedure.

Removing and replacing a power supply blank

Procedure

Remove the component as indicated.



To replace the component, reverse the removal procedure.

Removing and replacing the AC power supply

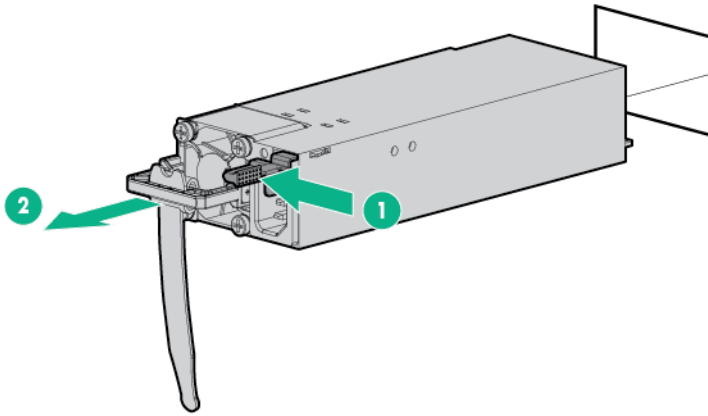
CAUTION: To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

1. **Power down the server.**
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.
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.





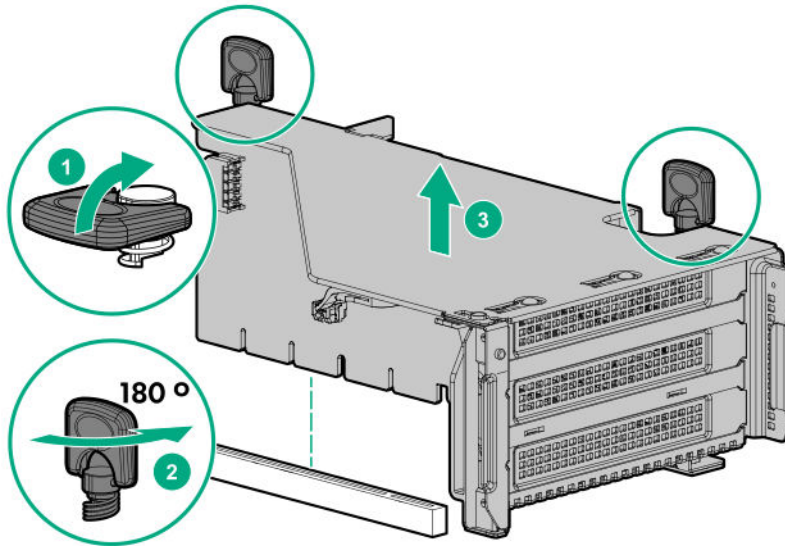
To replace the component, reverse the removal procedure.

Removing and replacing the primary PCIe riser cage

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.

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. Disconnect any internal cables that are connected to the expansion board.
7. **Remove the expansion board.**
8. Remove the PCIe riser cage.



To replace the component, reverse the removal procedure.

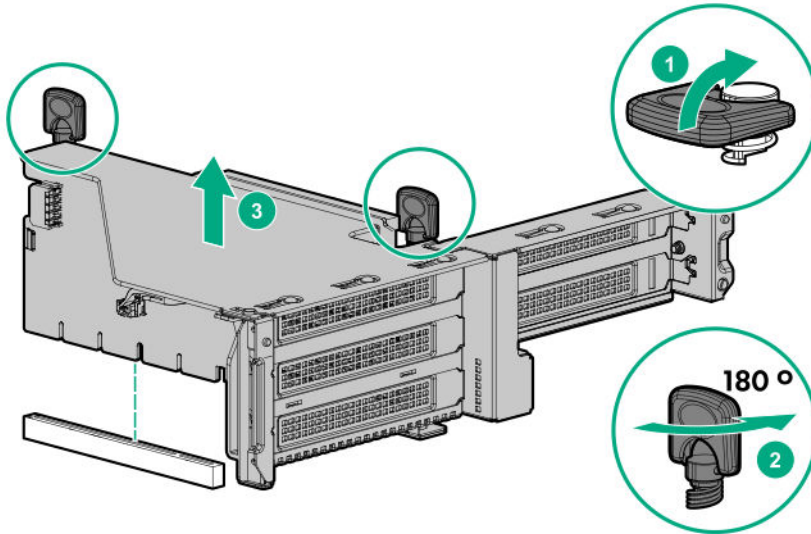
Removing and replacing the secondary and tertiary PCIe riser cages

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.

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. Disconnect any internal cables that are connected to the expansion board.
7. **Removing and replacing an expansion board.**
8. Remove the PCIe riser cage.





To replace the component, reverse the removal procedure.

Removing and replacing the PCIe riser blank

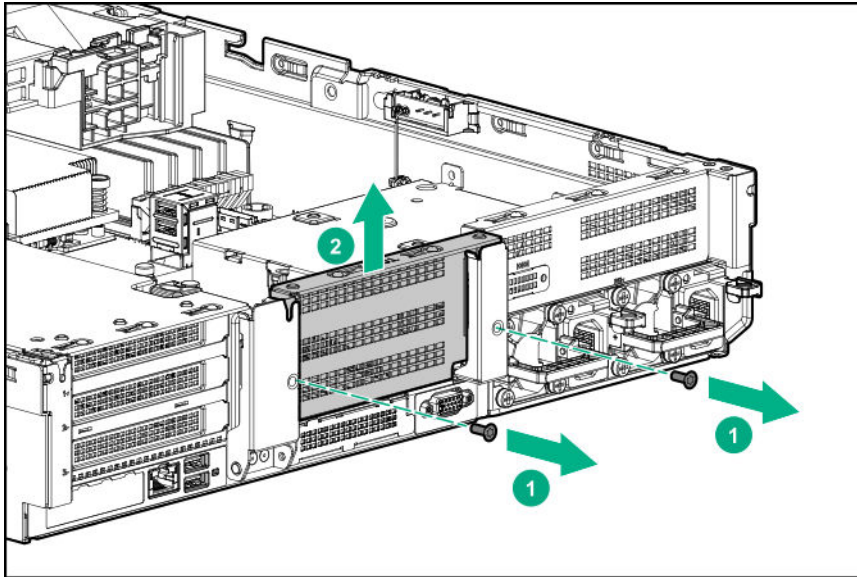
CAUTION: To prevent improper cooling and thermal damage, do not operate the server unless all PCI slots have either an expansion slot cover or an expansion board installed.

Prerequisites

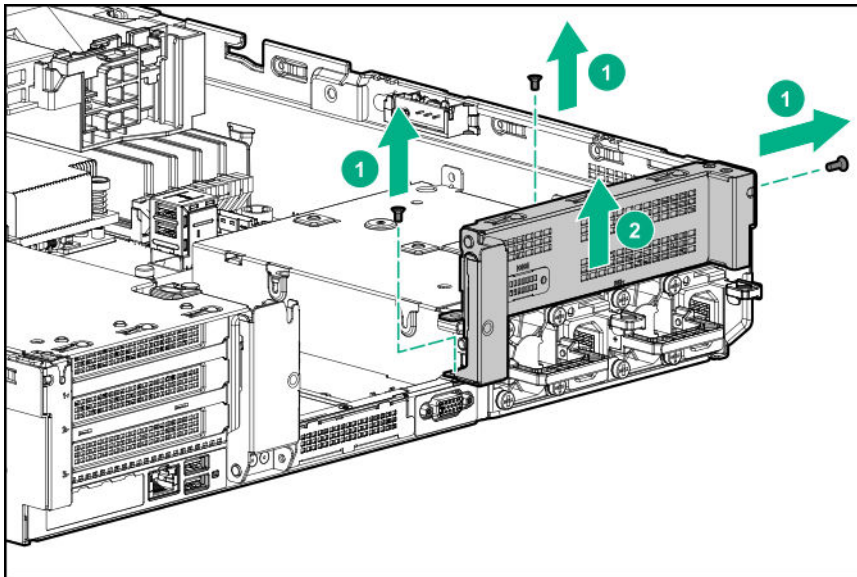
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

Procedure

- 1. Power down the server.**
- Remove all power:
 - Disconnect each power cord from the power source.
 - Disconnect each power cord from the server.
- Do one of the following:
 - Extend the server from the rack.**
 - Remove the server from the rack.**
- 4. Remove the access panel.**
- Remove the PCIe riser blank:
 - Secondary



- Tertiary



To replace the component, reverse the removal procedure.

Removing and replacing the PCIe riser board

Prerequisites

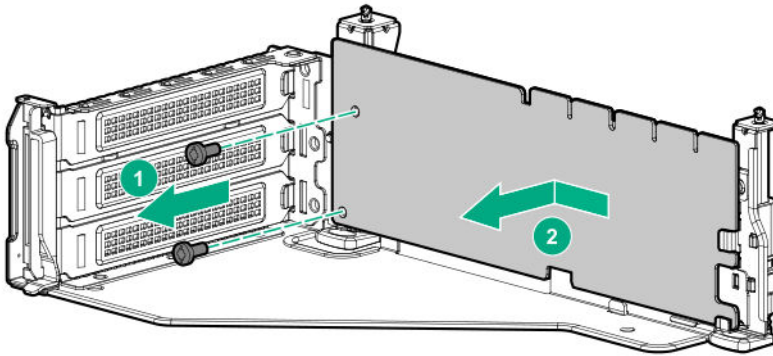
Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

Procedure

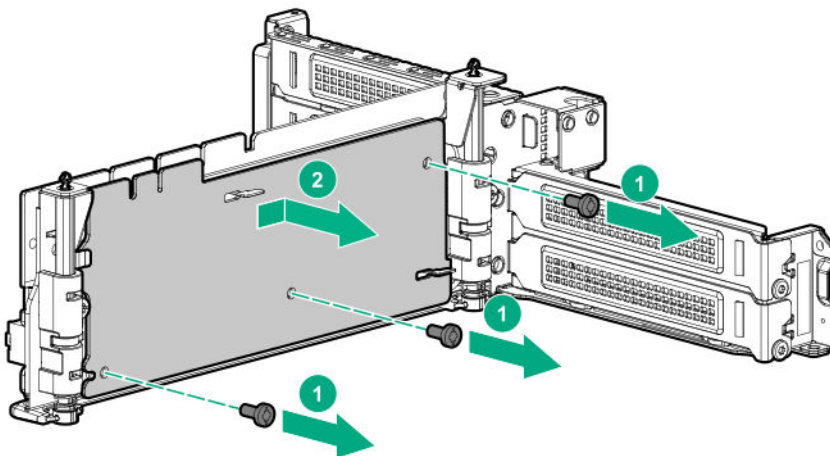
1. **Power down the server.**
2. Remove all power:



- a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
 4. **Remove the access panel.**
 5. **Release the full-length expansion board retainer.**
 6. Remove the PCIe riser cage:
 - **Remove the primary PCIe riser cages**
 - **Remove the secondary and tertiary PCIe riser cage**
 7. Remove any expansion boards from the PCIe riser cage.
 8. Remove the PCIe riser board:
 - Primary and secondary riser cage



- Tertiary riser cage



To replace the component, reverse the removal procedure.

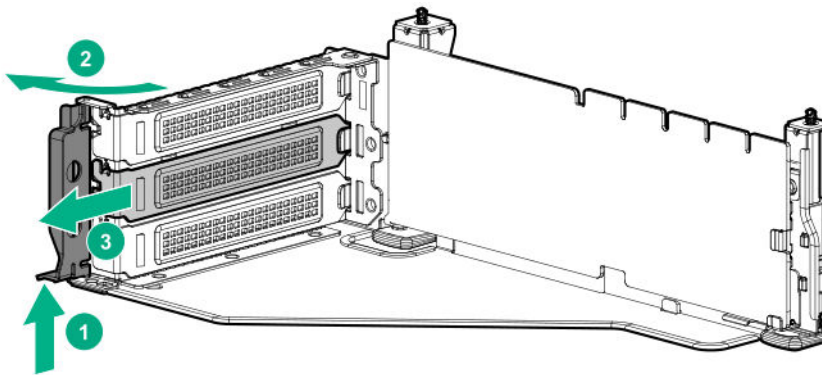
Removing and replacing an expansion slot blank

⚠ 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.

⚠ 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.

Procedure

- 1. Power down the server.**
- Remove all power:
 - Disconnect each power cord from the power source.
 - Disconnect each power cord from the server.
- Do one of the following:
 - Extend the server from the rack.**
 - Remove the server from the rack.**
- Remove the access panel.**
- Remove the PCIe riser cage:
 - Remove the primary PCIe riser cages**
 - Remove the secondary and tertiary PCIe riser cage**
- Remove the expansion slot blank.



To replace the component, reverse the removal procedure.



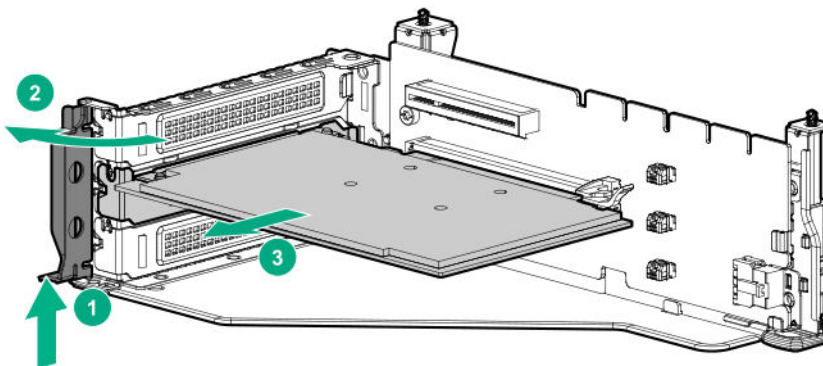
Removing and replacing an expansion board



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. 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. Disconnect any internal cables that are connected to the expansion board.
7. **Release the full-length expansion board retainer.**
8. Remove the PCIe riser cage:
 - **Remove the primary PCIe riser cages**
 - **Remove the secondary and tertiary PCIe riser cage**
9. Remove the expansion board.



To replace the component, reverse the removal procedure.



Removing and replacing a GPU enablement board



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 shut off system power. Portions of the power supply and some internal circuitry remain active until AC power is removed.

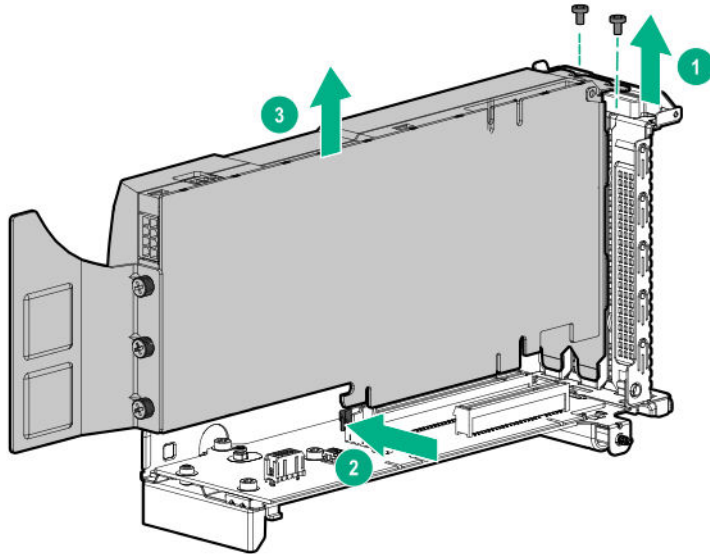


CAUTION: To prevent improper cooling and thermal damage, do not operate the server unless all PCI slots have either an expansion slot cover or an expansion board installed.

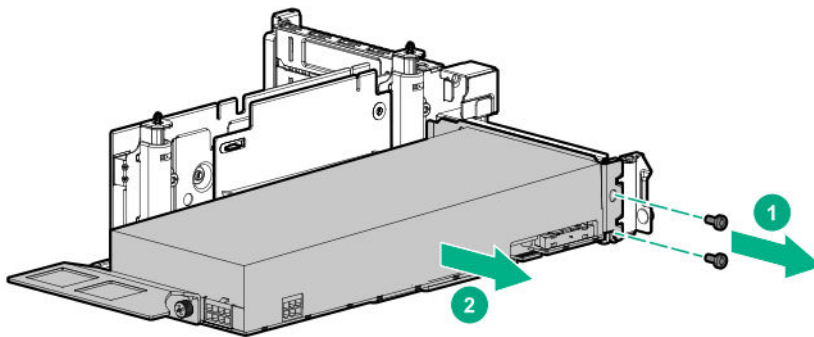
Procedure

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. **Remove the air baffle.**
6. **Release the full-length expansion board retainer.**
7. Remove the PCIe riser cage:
 - **Remove the primary PCIe riser cages**
 - **Remove the secondary and tertiary PCIe riser cage**
8. Disconnect the power cable from the GPU.
9. Remove the GPU enablement board from the GPU-enabled riser cage:
 - Primary riser cage





- Secondary and tertiary riser cage



To replace the component, reverse the removal procedure.

Removing and replacing the fan cage

Procedure

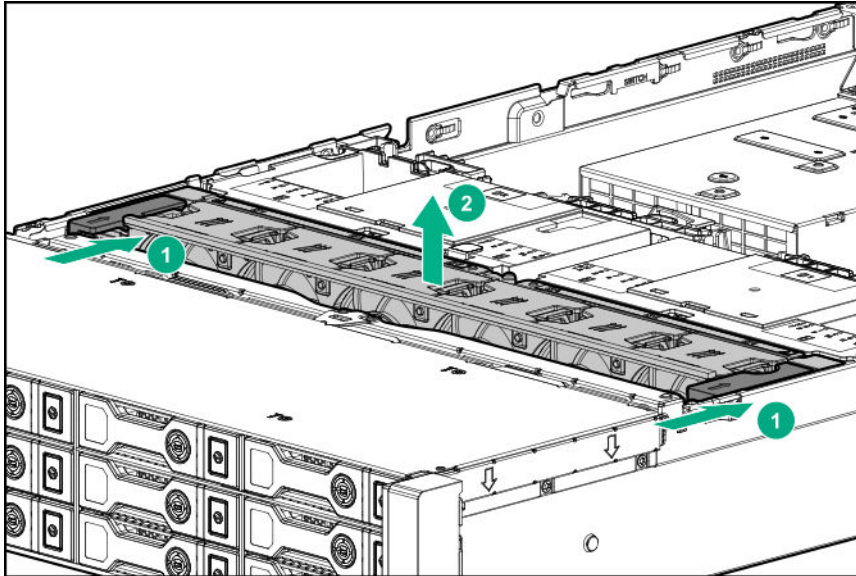
- 1. Power down the server.**
- Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
- Do one of the following:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**



4. **Remove the access panel.**

⚠ 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.

5. Remove the fan cage.



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

For more information, see [Fan bay numbering](#).

To replace the component, reverse the removal procedure.

Removing and replacing the OCP NIC 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:

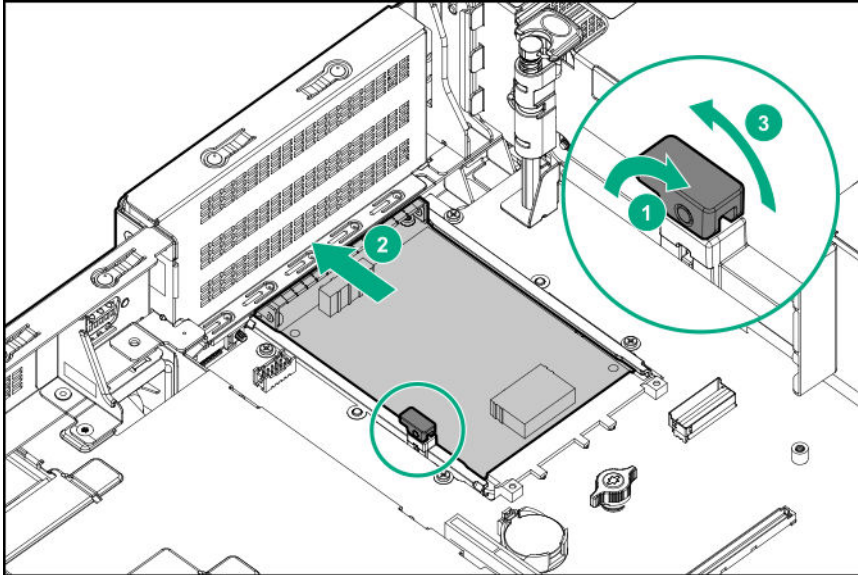


- **Extend the server from the rack.**
- **Remove the server from the rack.**

5. Remove the access panel.

6. Remove the secondary riser cage (if equipped) (**Removing and replacing the secondary and tertiary PCIe riser cage.**)

7. Remove the OCP NIC 3.0 adapter.



To replace the component, reverse the removal procedure.

Removing and replacing the SFF universal media bay

Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

Procedure

1. 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:

- **Extend the server from the rack.**
- **Remove the server from the rack.**

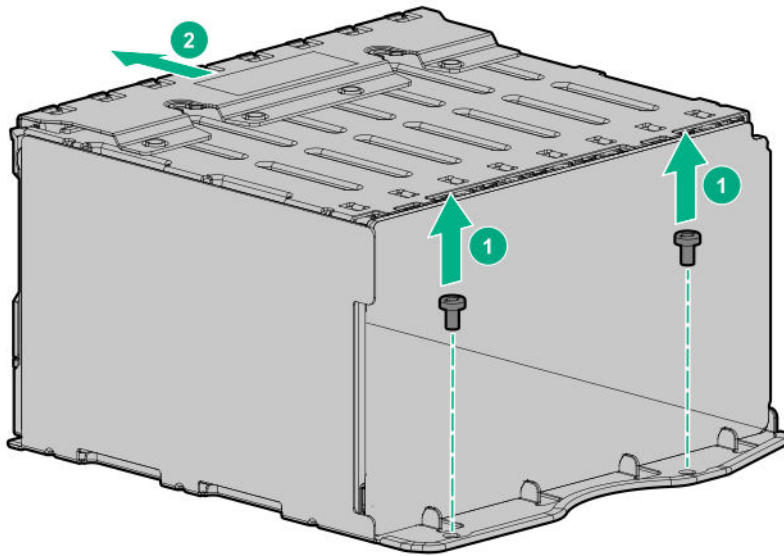
4. Remove the access panel.

5. Remove all hot-plug hard drives.

6. Remove the fan cage.



7. Disconnect all cables from the universal media bay.
8. Remove the universal media bay.



To replace the component, reverse the removal procedure.

Removing and replacing the LFF power switch module

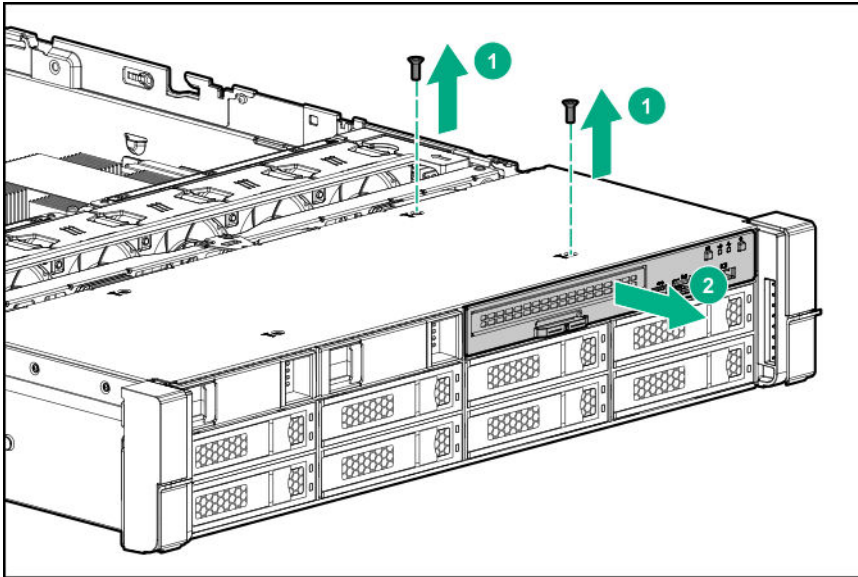
Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. **Remove all hot-plug hard drives.**
6. **Remove the fan cage.**
7. Disconnect all cables connecting the power switch module to the system board and other components.
8. Feeding the cables through the front of the server, remove the power switch module.





To replace the component, reverse the removal procedure.

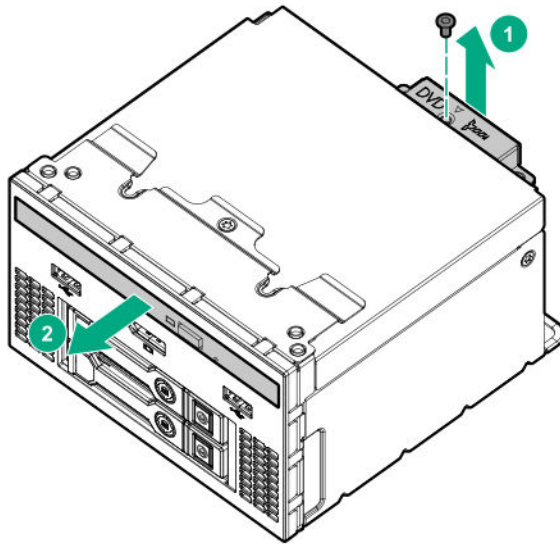
Removing and replacing the SFF optical drive

Prerequisites

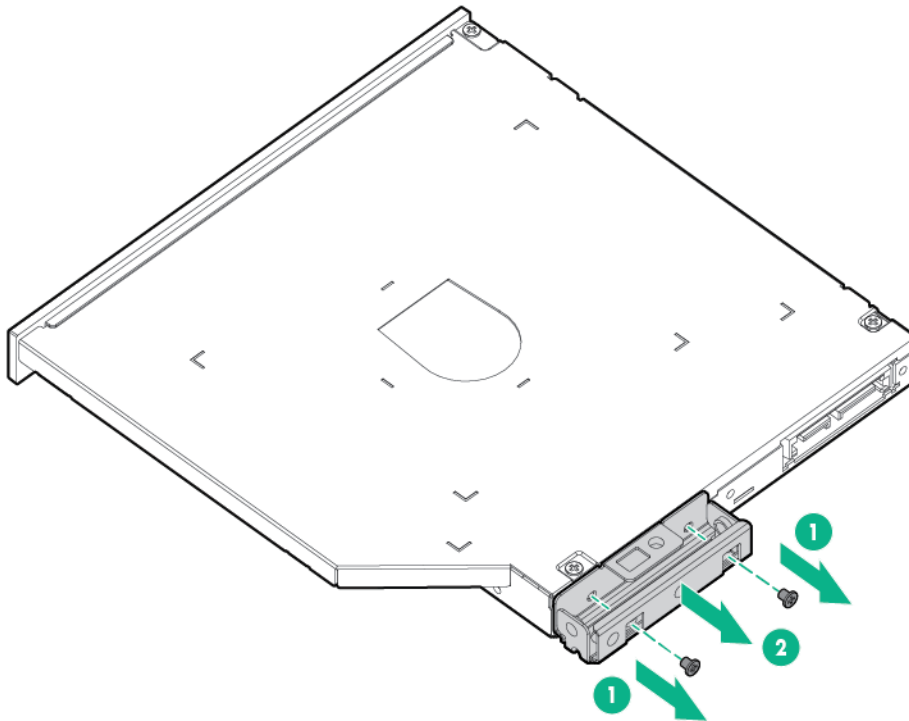
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. **Remove the fan cage.**
6. Disconnect all cables from the SFF universal media bay.
7. **Remove the SFF universal media bay.**
8. Remove the optical drive.

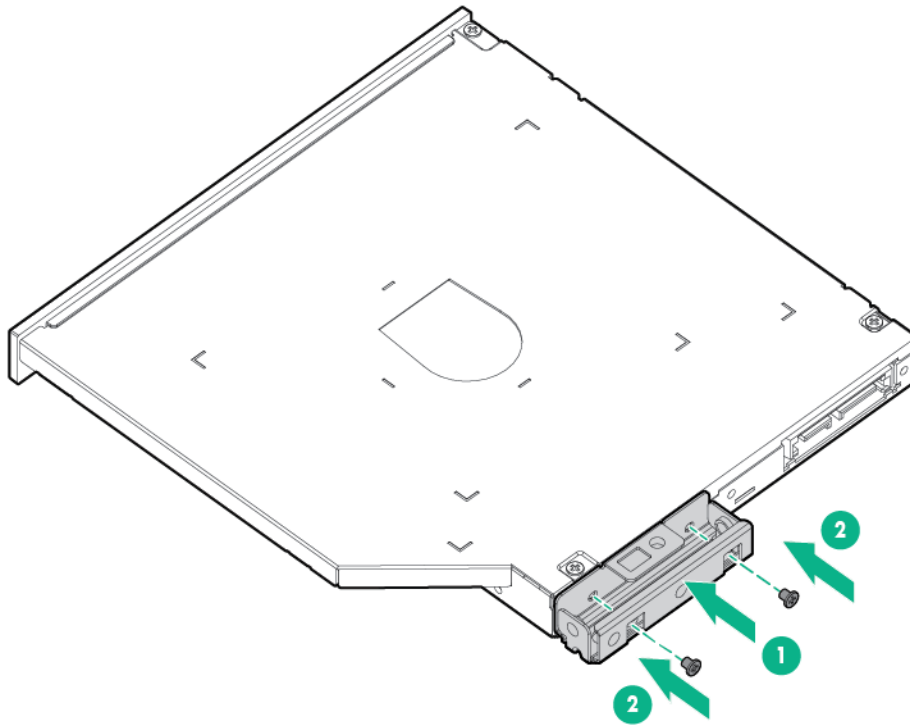


9. Remove the optical drive bracket and retain for use with the replacement optical drive.



10. Before replacing the component, install the optical drive bracket retained from the optical drive you are replacing.





To replace the component, reverse the removal procedure.

Removing and replacing the LFF optical drive

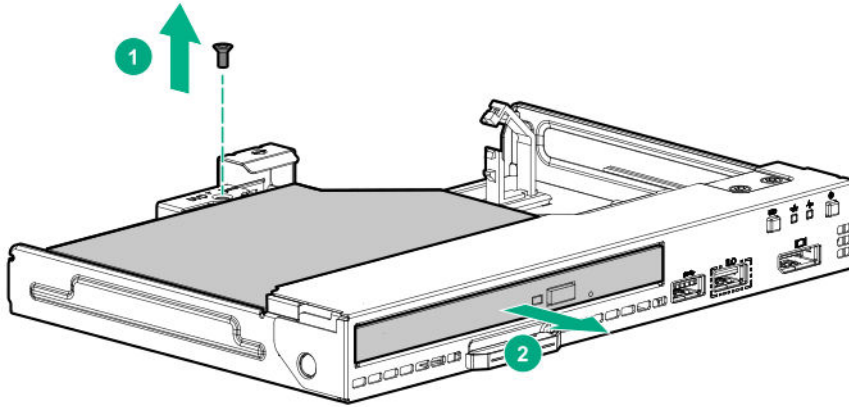
Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. **Remove the fan cage.**
6. Disconnect all cables from the LFF power switch module.
7. **Remove the LFF power switch module.**
8. Remove the optical drive.





To replace the component, reverse the removal procedure.

Removing and replacing the 8 SFF drive cage

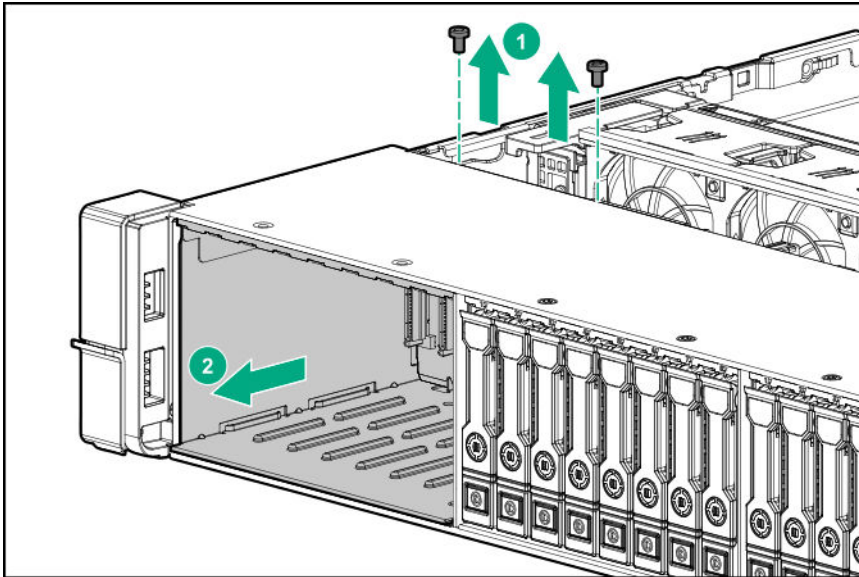
Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. **Remove all drives.**
6. **Remove the fan cage.**
7. Disconnect all cables from the drive backplane.
8. Remove the drive cage.





To replace the component, reverse the removal procedure.

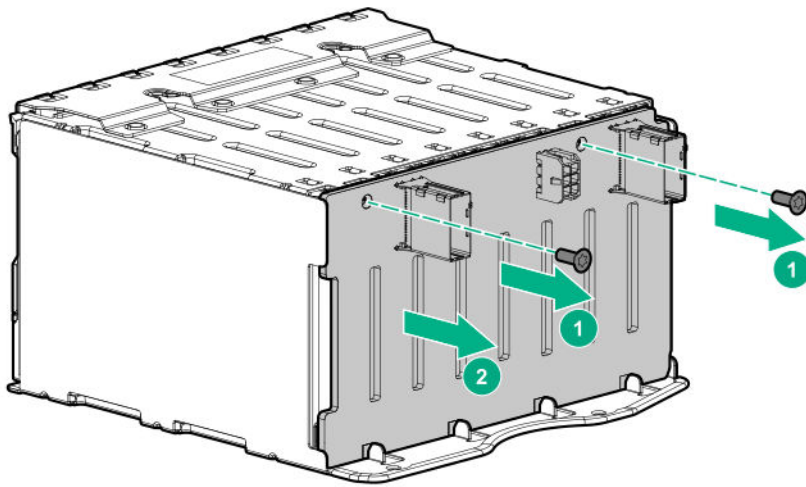
Removing and replacing the 8 SFF drive backplane

Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. **Remove the fan cage.**
6. **Remove all drives.**
7. **Remove the 8 SFF drive cage.**
8. Remove the drive backplane.



To replace the component, reverse the removal procedure.

Removing and replacing the 2 SFF front drive cage

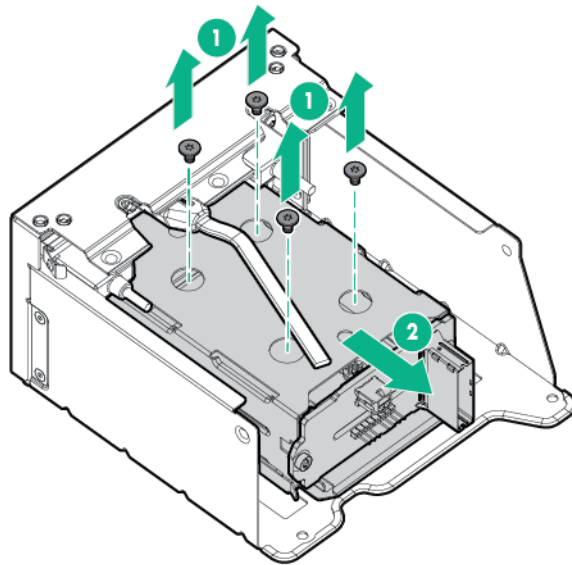
Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. **Remove all drives.**
6. Disconnect all cables from the drive backplane.
7. Remove the drive cage.





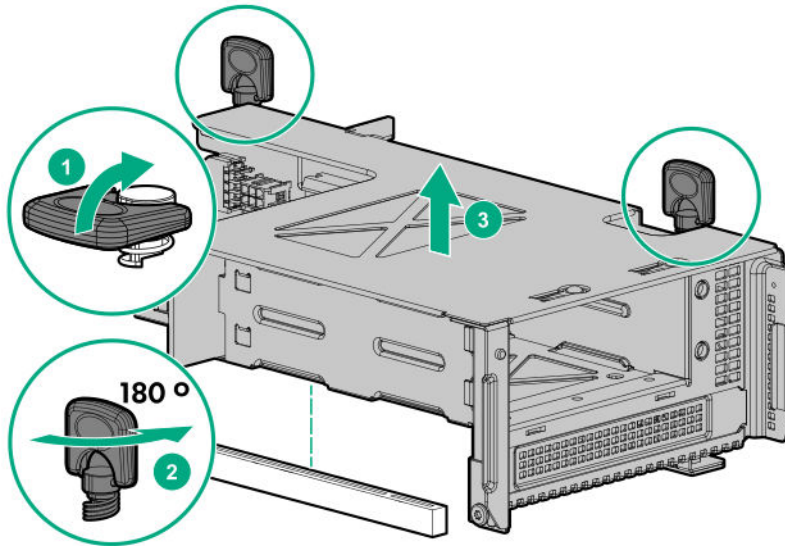
To replace the component, reverse the removal procedure.

Removing and replacing the 2 SFF rear drive bay and 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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. **Remove all drives.**
6. Disconnect all cables from the drive backplane.
7. Remove the drive cage.





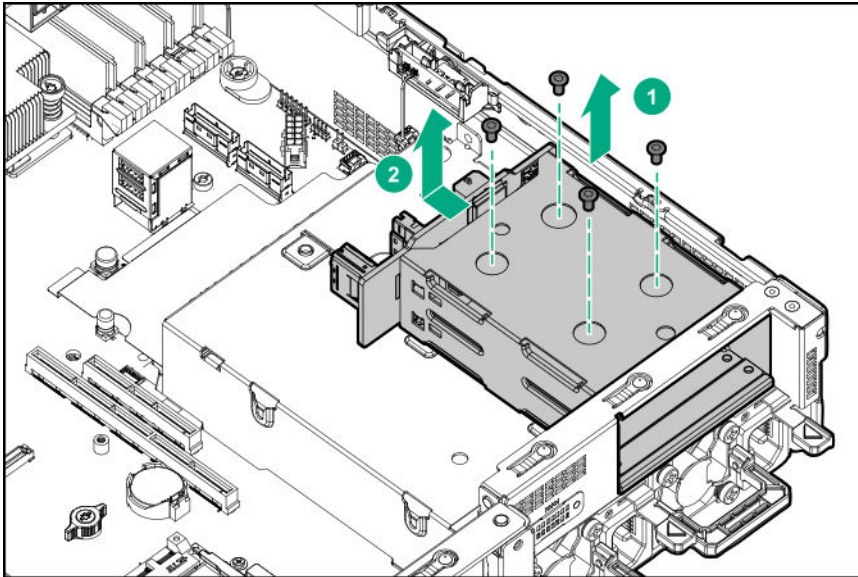
To replace the component, reverse the removal procedure.

Removing and replacing the 2 SFF drive 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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. **Remove all drives.**
6. Disconnect all cables from the drive backplane.
7. Remove the drive cage.





To replace the component, reverse the removal procedure.

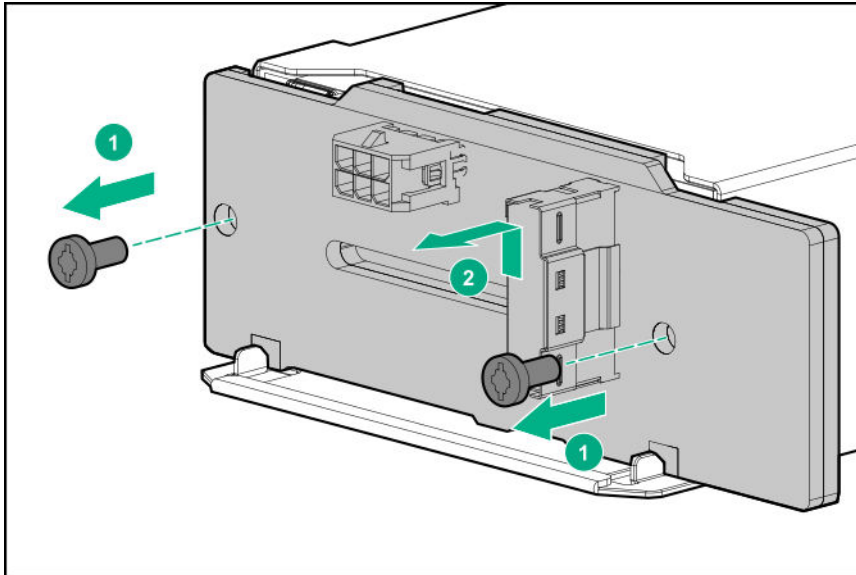
Removing and replacing the 2 SFF rear drive backplane

Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. **Remove the fan cage.**
6. **Remove all drives.**
7. **Remove the 2 SFF drive cage.**
8. Remove the drive backplane.



To replace the component, reverse the removal procedure.

Removing and replacing the NVMe drive backplane

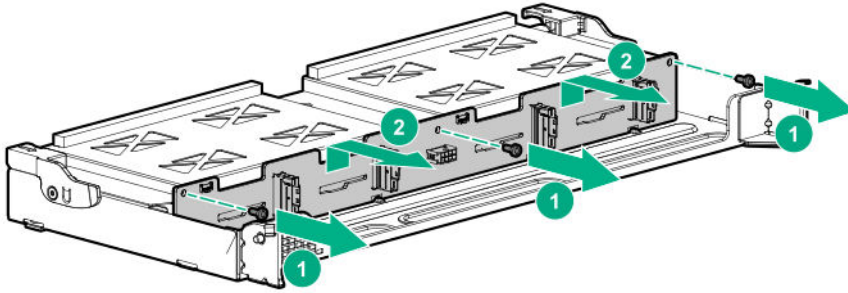
Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. **Remove the LFF midplane cage.**
6. Remove the NVMe drive backplane.





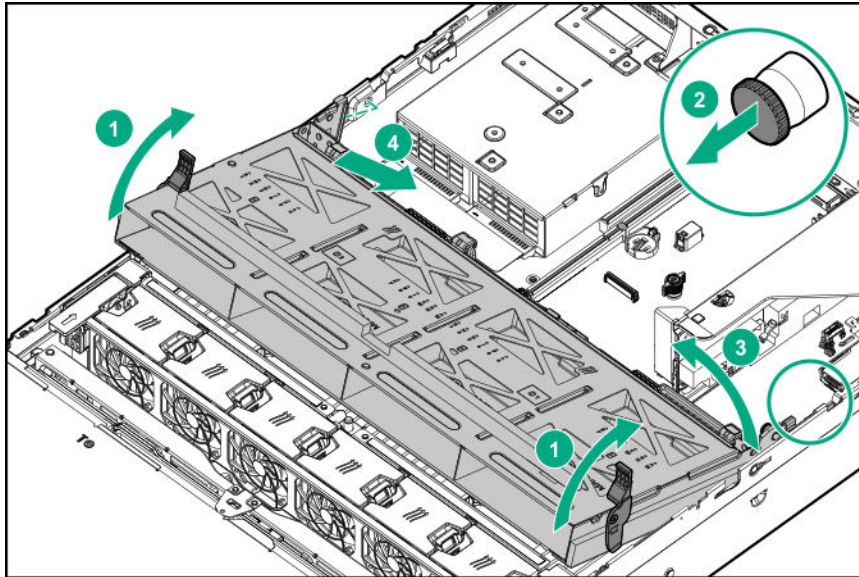
To replace the component, reverse the removal procedure.

Removing and replacing an LFF midplane 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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. If installed, remove all riser cages:
 - **Remove the primary PCIe riser cage**
 - **Remove the secondary and tertiary PCIe riser cage**
6. Disconnect the power and cables from the drive cage.
7. Raise the blue tabs on the drive tray and lift the drive cage to a 15 degree angle.
8. Pull the plunger pin to disengage it.
9. **Remove all drives.**
10. Using both hands, remove the drive cage from the server.





To replace the component, reverse the removal procedure.

Removing and replacing the LFF backplane assembly

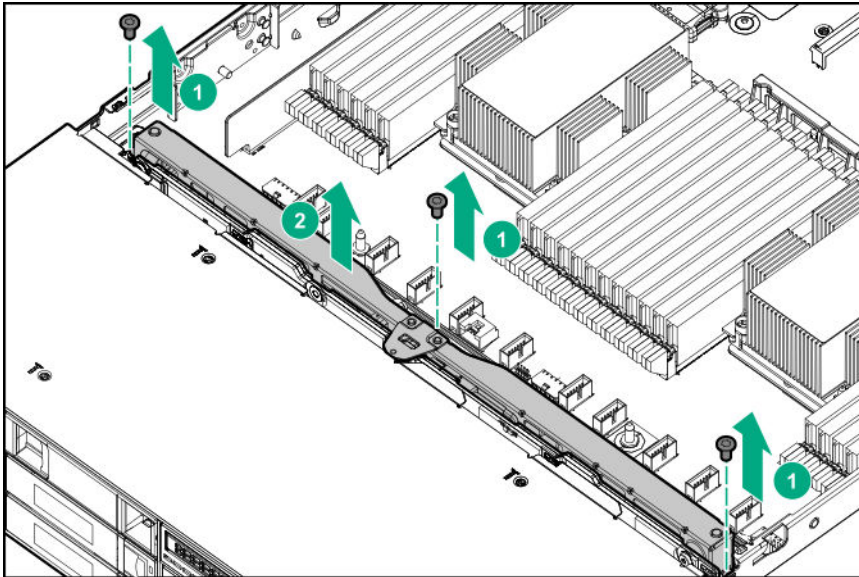
Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. **Remove the fan cage).**
6. **Remove all drives.**
7. Disconnect all cables connected to the LFF backplane assembly.
8. Remove the LFF backplane assembly.





To replace the component, reverse the removal procedure.

Removing and replacing a front LFF drive backplane

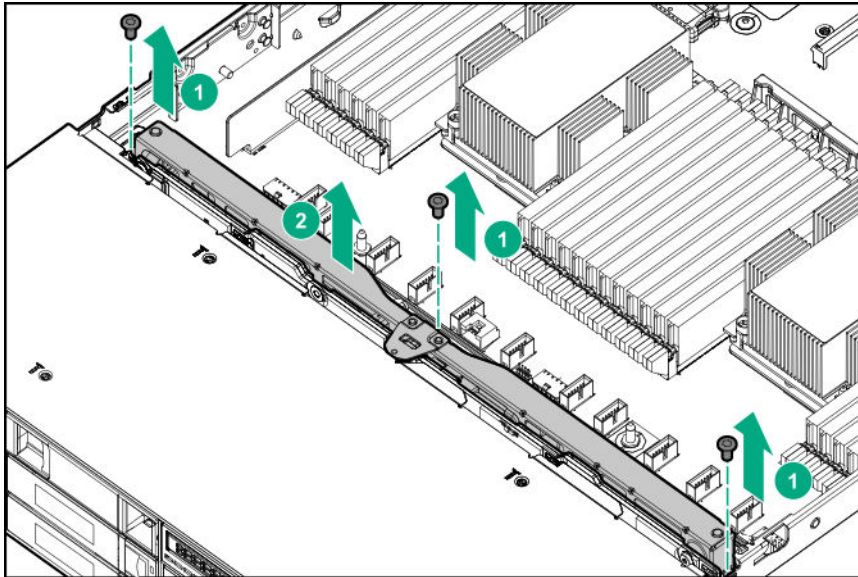
Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

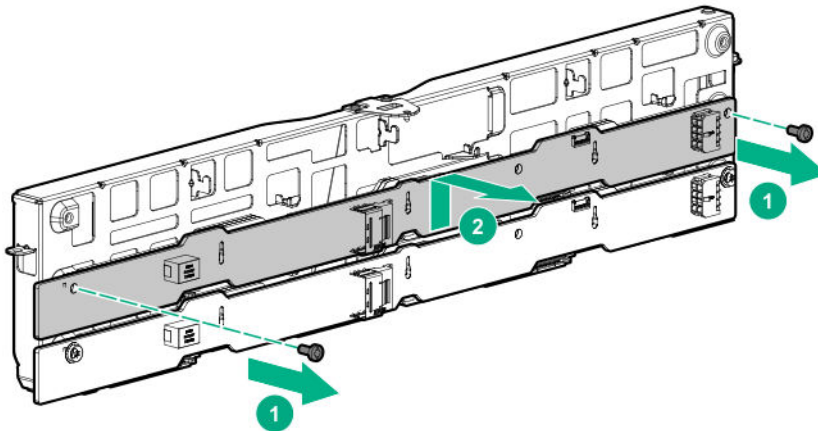
Procedure

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. **Remove the fan cage.**
6. **Remove all drives.**
7. Disconnect all cables connected to the LFF backplane assembly.
8. Remove the LFF backplane assembly.





9. Remove the drive backplane.



To replace the component, reverse the removal procedure.

Removing and replacing a rear serial port interface (primary)

Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

Procedure

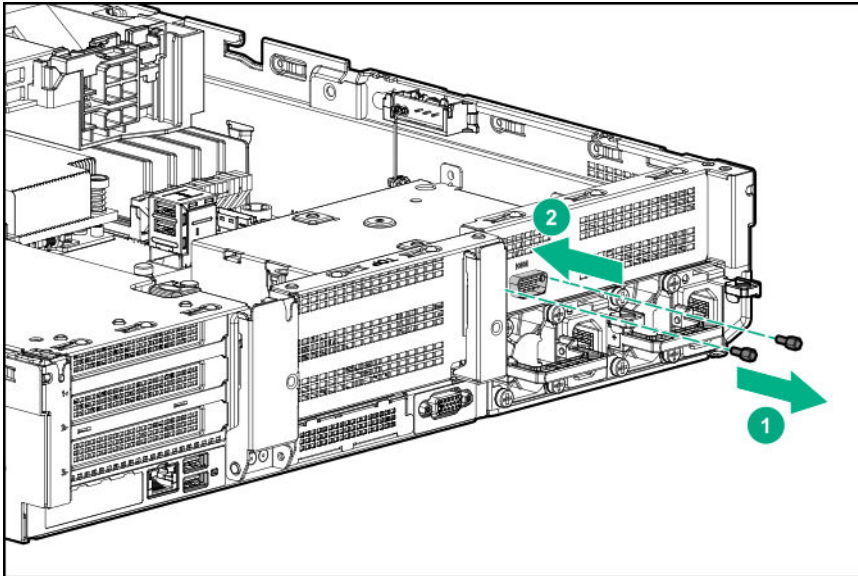
1. **Power down the server.**
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Do one of the following:



- **Extend the server from the rack.**
- **Remove the server from the rack.**

4. Remove the access panel.

5. Using a T-10 Torx screwdriver, remove the screws securing the serial port.



6. Disconnect and remove the serial cable.

To replace the component, reverse the removal procedure.

Removing a rear serial port interface (secondary and tertiary)

Prerequisites

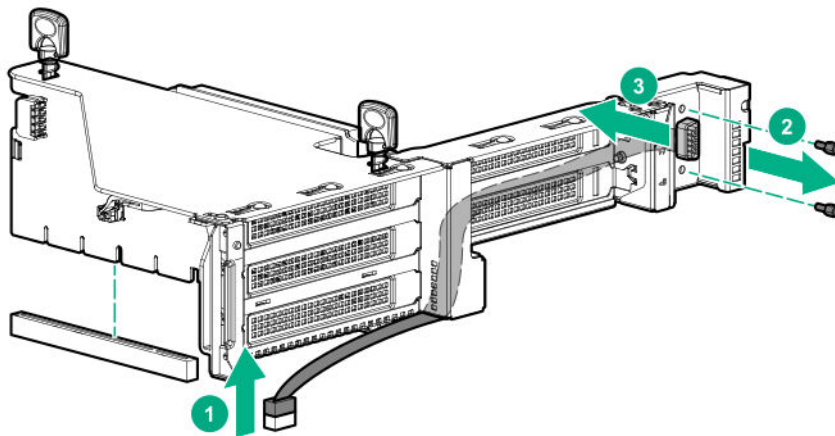
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

Procedure

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



6. Remove the riser cage.
7. Using a T-10 Torx screwdriver, remove the serial port interface.



To replace the component, reverse the removal procedure.

Removing and replacing an SFF power switch module

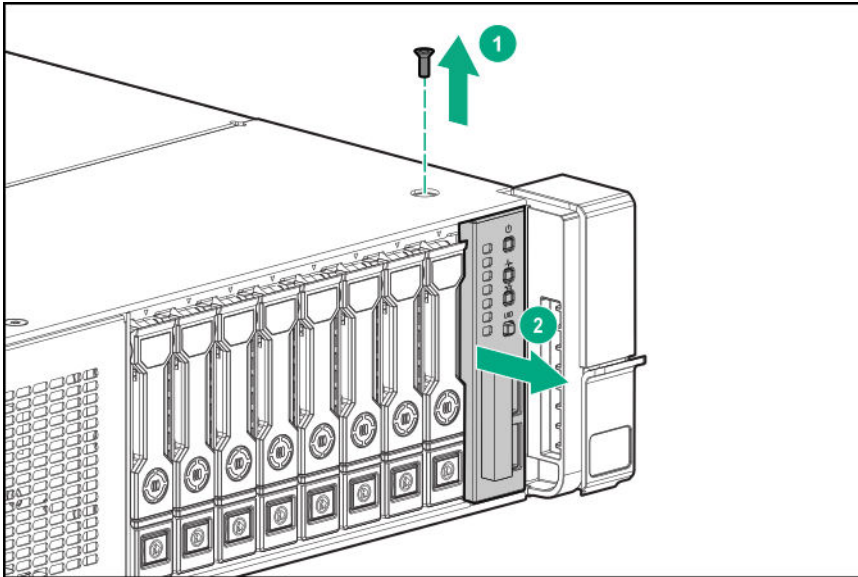
Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

Procedure

1. **Power down the server.**
2. Do one of the following:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
3. **Remove the access panel.**
4. Disconnect cables from the power switch module.
5. Remove the power switch module.





To replace the component, reverse the removal procedure.

Removing and replacing an SFF chassis ear

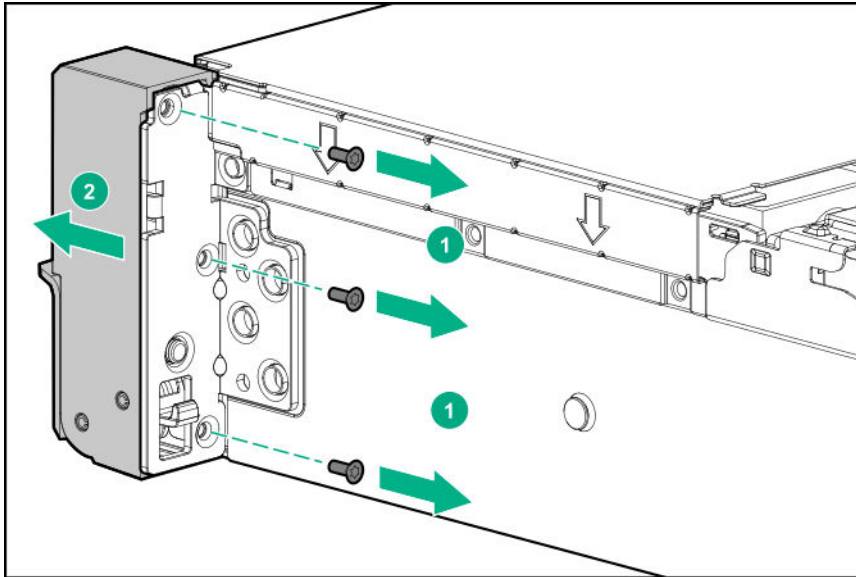
Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

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. Remove the server from the rack.**
- 4. Remove the chassis ear.**





To replace the component, reverse the removal procedure.

Removing and replacing the front I/O board in the LFF right chassis ear

Prerequisites

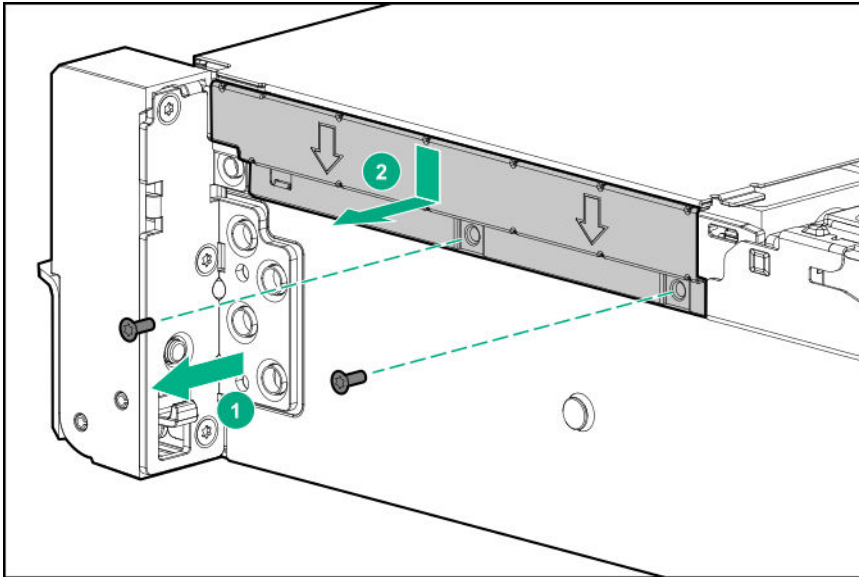
Before you perform this procedure, make sure that you have the following tools available:

- T-10 Torx screwdriver
- Small flat head screwdriver

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. Remove the server from the rack.**
- 4. Remove the access panel.**
- 5. Remove the cable protection panel.**

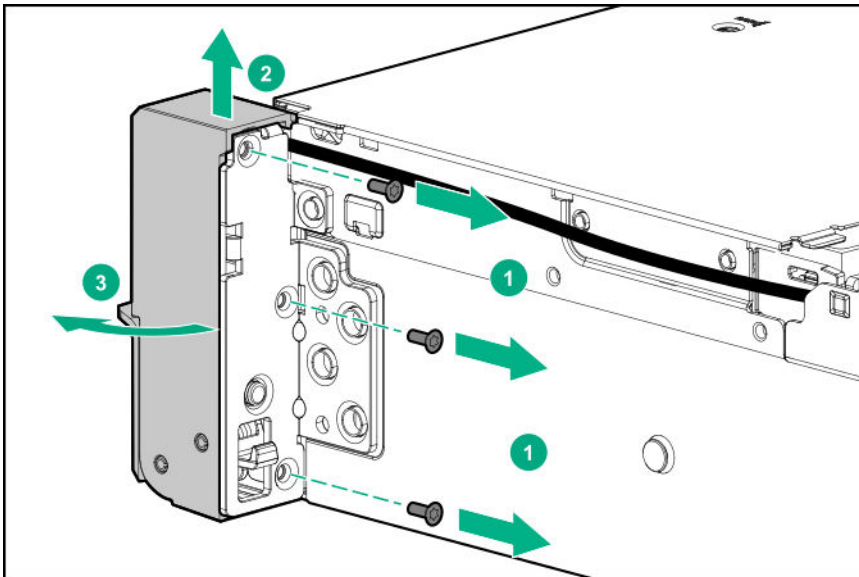




6. To allow some cable slack for disengaging the right chassis ear, detach the power switch cable from the side of the chassis.

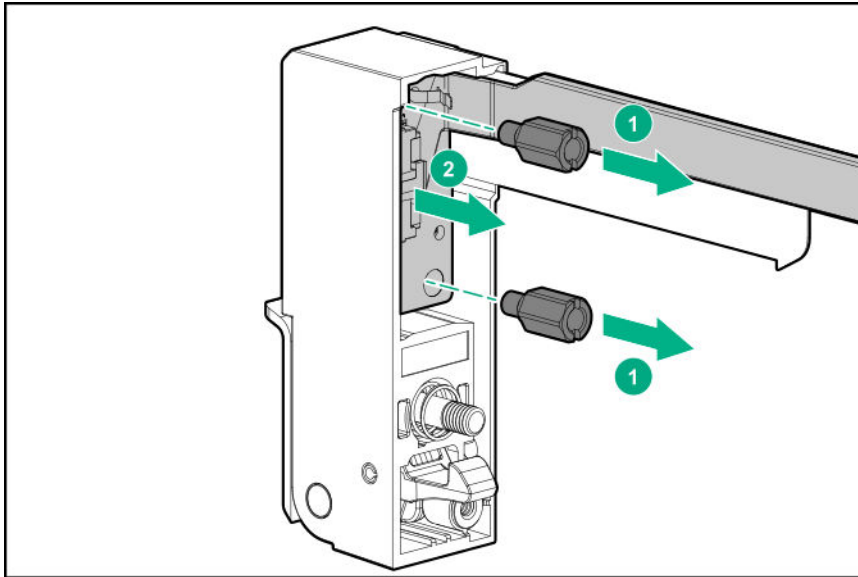
7. Disengage the right chassis ear:

- a.** Remove the screws behind the chassis ear.
- b.** Pull up on the chassis ear.
- c.** Rotate the chassis ear open.

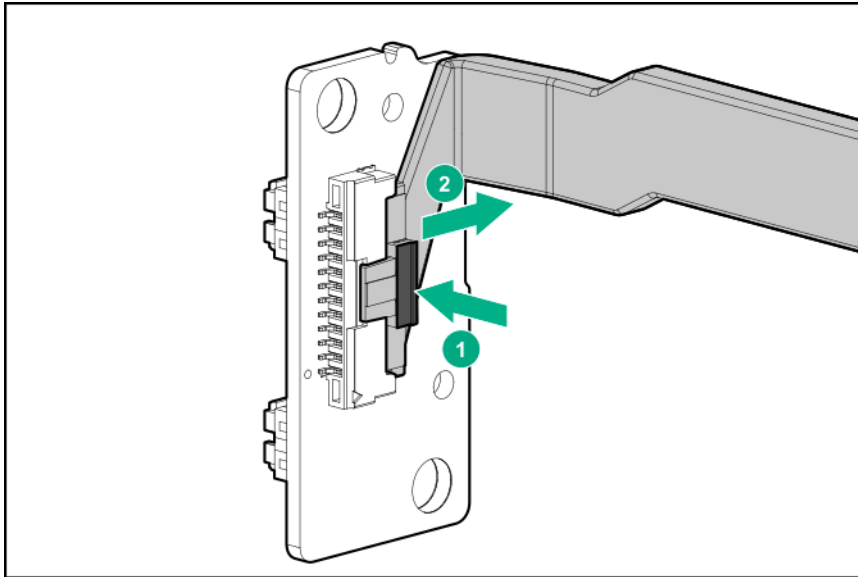


8. Remove the front I/O board from the right chassis ear.





9. Press and hold the cable latch, and then disconnect the power switch cable.



To replace the component, reverse the removal procedure.

Removing and replacing the LFF chassis ear assembly

Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

Procedure

1. **Power down the server.**
2. Remove all power:

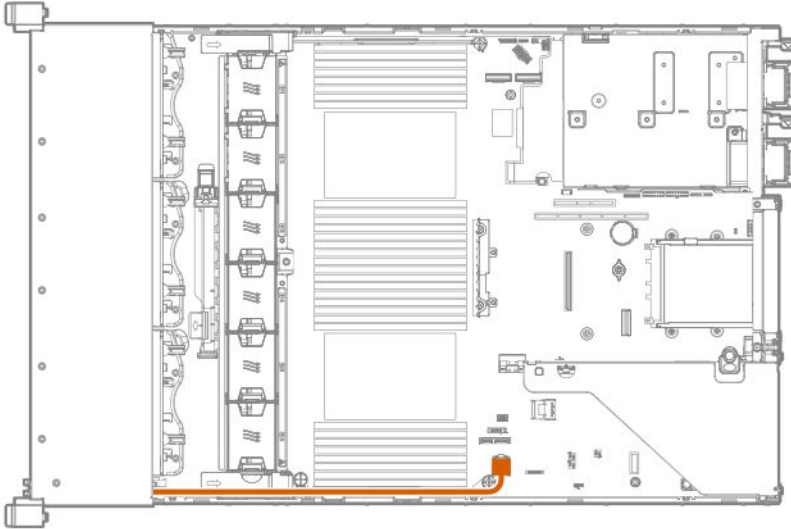


- a. Disconnect each power cord from the power source.
- b. Disconnect each power cord from the server.

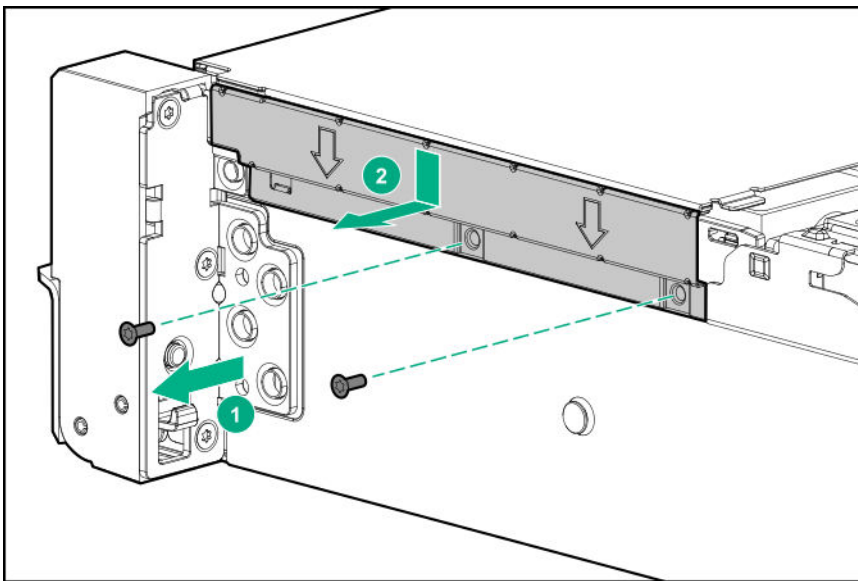
3. Remove the server from the rack.

4. Remove the access panel.

5. Disconnect the power switch cable.

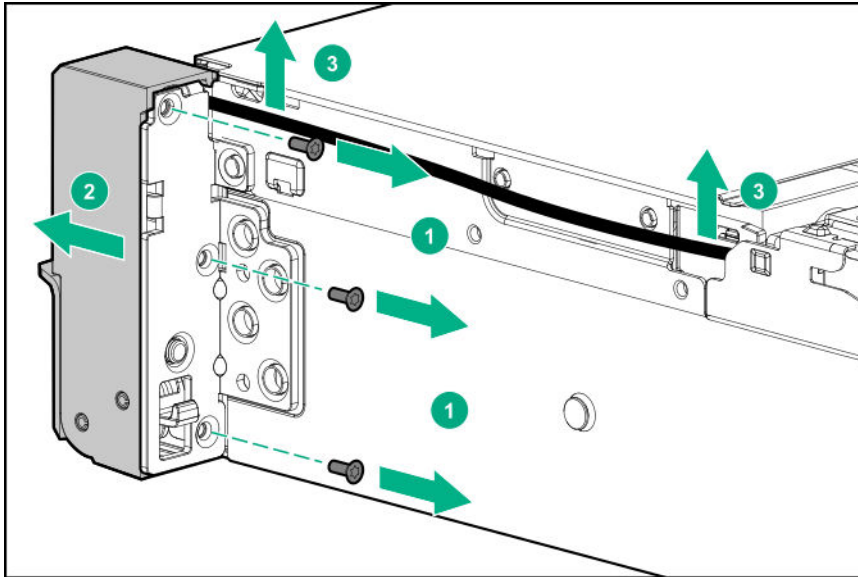


6. Remove the cable protection panel behind the chassis ear.



7. Remove the chassis ear assembly.





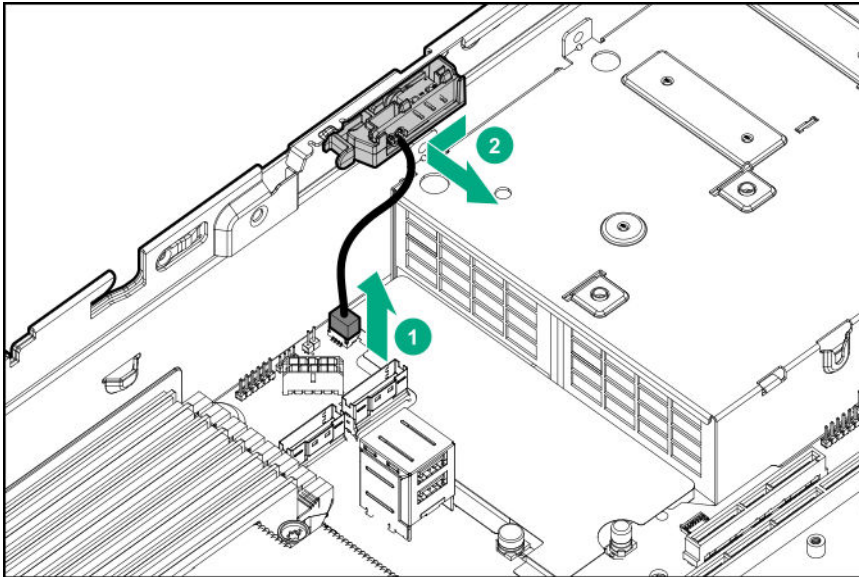
To replace the component, reverse the removal procedure.

Removing and replacing the chassis 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. **Remove the server from the rack.**
4. **Remove the access panel.**
5. Remove the chassis intrusion detection switch.





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:

AMD EPYC processors support DDR4-3200 DIMMS.

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

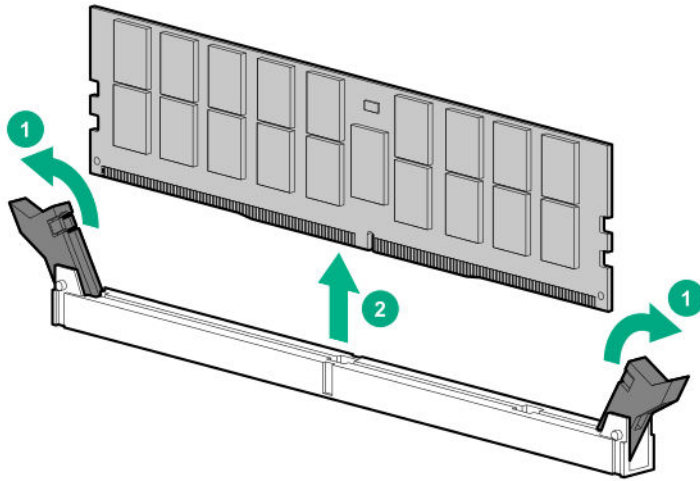
Removing and replacing a DIMM

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

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. Do one of the following:
 - **Remove the air baffle.**
 - **Remove the 4 LFF midplane cage.**
6. Remove the DIMM.





To replace the component, reverse the removal procedure.

For DIMM configuration information, see the server user guide.

Removing and replacing a heatsink

This procedure shows a standard heatsink as an example. The replacement process is the same for both the standard and high-performance heatsinks.

Hewlett Packard Enterprise recommends **identifying the processor and socket components** before performing this procedure.

Prerequisites

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

- T-20 screwdriver
- 1.0 gm (0.5 ml) or two 0.5 gm (0.25 ml) of thermal grease
- Alcohol wipe

Procedure

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



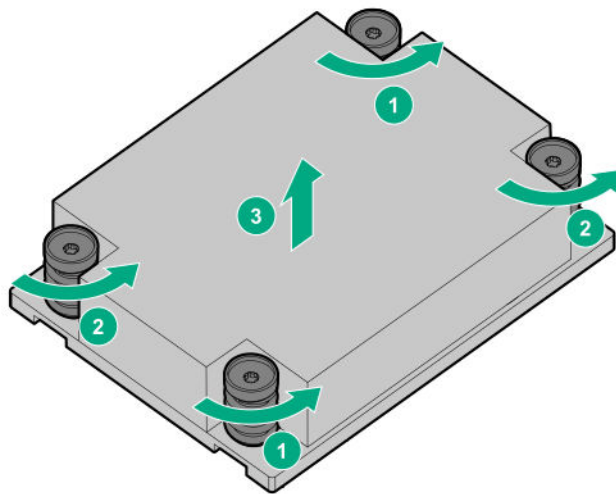
- **Remove the air baffle.**
- If installed, remove the 4 LFF midplane drive cage (**Removing and replacing a 4 LFF midplane cage**).

6. Allow the existing heatsink to cool.
7. Remove the heatsink:

CAUTION: To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of its baseplate. Do not touch the heatsink fins.

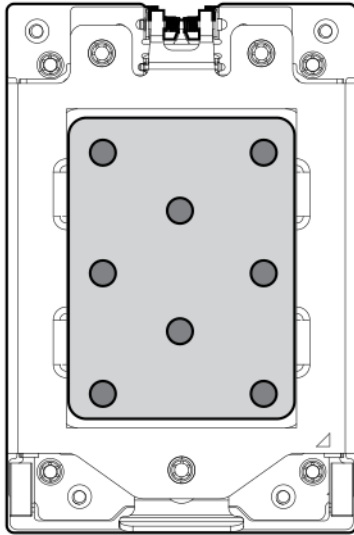
CAUTION: Heatsink screws must be tightened and loosened in alternating sequence as shown on the heatsink label.

- a. Use a T-20 screwdriver to loosen the captive screws in the sequence specified on the heatsink label.
- b. Lift the heatsink away from the system board.



- c. Place the heatsink on a flat work surface with its contact side facing up.
8. Use an alcohol wipe to remove the existing thermal grease from the processor.
Allow the alcohol to evaporate before continuing.
 9. Apply new thermal grease to the processor in the pattern shown in the following illustration. Use the full contents of the thermal grease syringe.





10. Remove the thermal interface protective cover from the new heatsink.

11. Install the heatsink.

⚠ CAUTION: To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

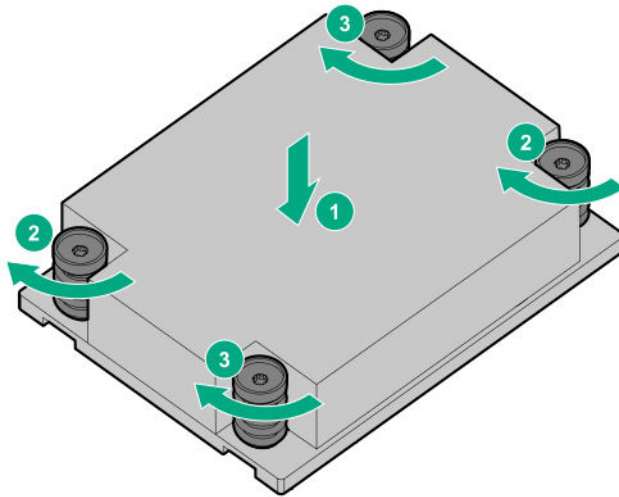
⚠ CAUTION: To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

⚠ CAUTION:
Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

a. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.

b. Use a T-20 screwdriver to tighten the captive screws in the sequence specified on the heatsink label until fully seated.





12. Install the air baffle.
13. Install the access panel.
14. Install the server into rack.
15. Connect each power cord to the server.
16. Connect each power cord to the power source.
17. Power up the server.

Removing and replacing a processor

Hewlett Packard Enterprise recommends **identifying the processor and socket components** before performing this procedure.

Prerequisites

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

- T-20 Torx screwdriver
- 1.0 gm (0.5 ml) or two 0.5 gm (0.25 ml) of thermal grease
- Alcohol wipe

Procedure

1. Observe the following alerts.

CAUTION: To avoid damage to the processor or system board, only authorized personnel should attempt to replace or install the processor in this server.

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](#).

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

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 air baffle (Removing the air baffle).

7. Allow the heatsink to cool.

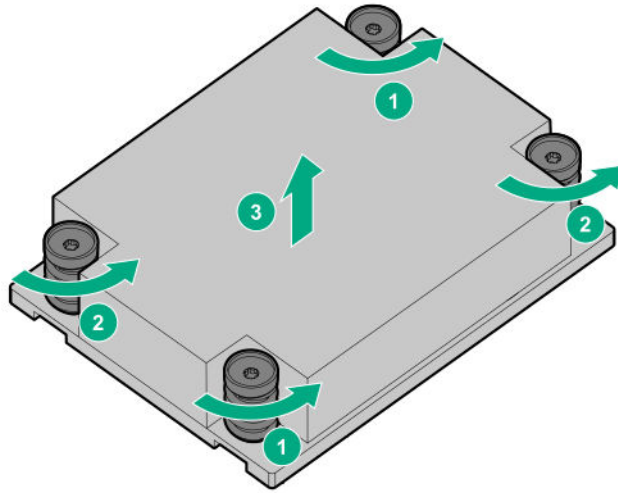
8. Remove the heatsink:

⚠ CAUTION: To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

⚠ CAUTION: Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

- a. Use a T-20 Torx screwdriver to loosen the captive screws in the sequence specified on the heatsink label.
- b. Lift the heatsink away from the system board.

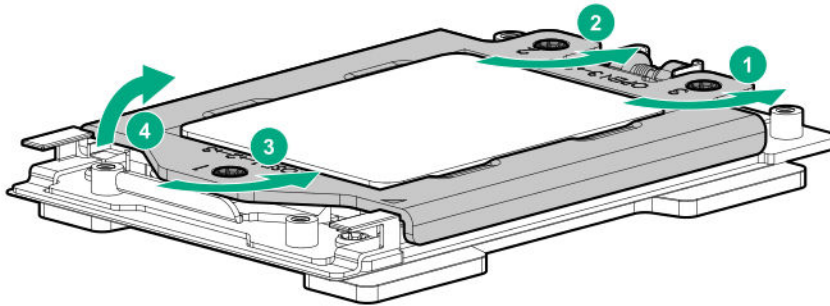




c. Place the heatsink on a flat work surface with its contact side facing upward.

9. Use an alcohol wipe to remove the existing thermal grease from the heatsink. Allow the alcohol to evaporate before continuing.

10. Use a T-20 Torx screwdriver to loosen the three captive screws in the sequence shown in the following image, and then pivot the force frame upward.

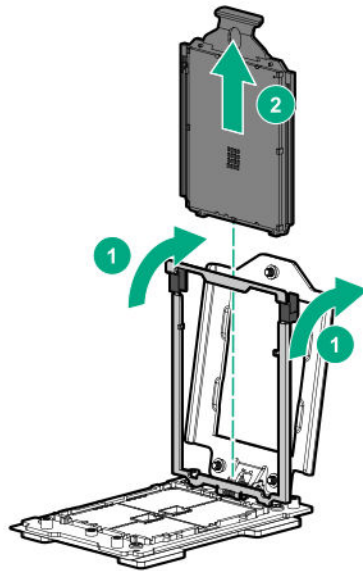


11. Remove the processor:

a. Hold the lift tabs near the front end of the rail frame, and then pivot the rail frame to the vertical position.

b. Slide the processor out of the rail frame.

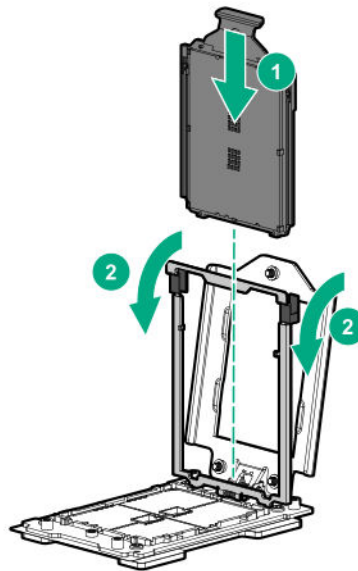




12. Install the spare processor:

- a. Hold the processor by its carrier handle and slide the processor into the rail frame until it engages with a click sound.
- b. Hold the lift tabs near the front end of the rail frame and pivot the rail frame to the closed position.

A click sound indicates that the rail frame is properly engaged.



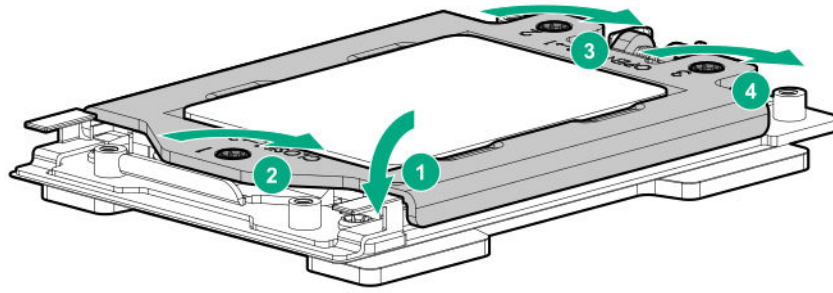
13. Close the force frame:

CAUTION: Do not overtighten the screws as this might damage the system board or the processor socket.

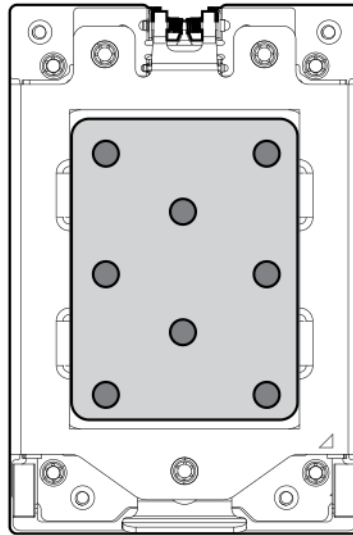
- a. Pivot the spring loaded force frame downward and hold it down (callout 1).
- b. Use a T-20 Torx screwdriver to tighten the captive screws in the sequence shown in the following image (callouts 2–4).

When using a torque wrench to tighten the screws, apply a torque of 1.58 N-m (14 lbf-in).





14. Apply new thermal grease to the processor in the pattern shown in the following image. Use the full contents of the thermal grease syringe.

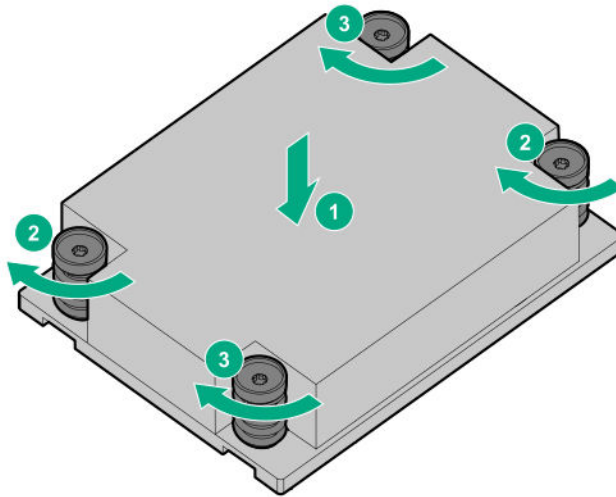


15. Install the heatsink:

-
- ⚠ **CAUTION:** To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.
-
- ⚠ **CAUTION:** To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.
-
- ⚠ **CAUTION:** Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.
-

- a. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.
- b. Use a T-20 Torx screwdriver to tighten the captive screws in the sequence specified on the heatsink label.
When using a torque wrench to tighten the screws, apply a torque of 1.58 N-m (14 lbf-in).





16. Install the air baffle.
17. Install the access panel.
18. Install the server into the rack.
19. Connect each power cord to the server.
20. Connect each power cord to the power source.
21. Power up the server.

Removing and replacing an energy pack

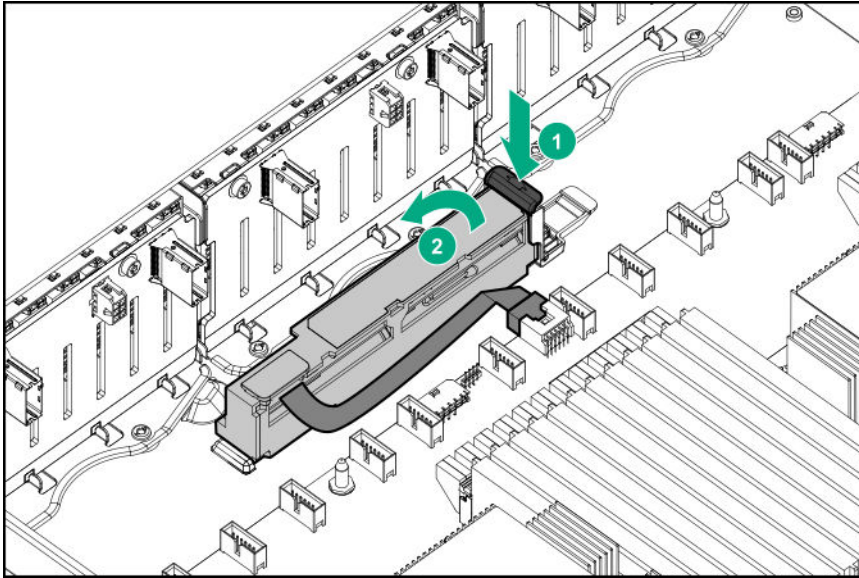
Procedure

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:
 - **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
5. Do one of the following:
 - **Remove the air baffle.**
 - **Remove the 4 LFF midplane cage.**



6. Remove the fan cage.

7. Disconnect the energy pack cable, and then remove the energy pack.



To replace the component, reverse the removal procedure.

Removing and replacing a Smart Array type-a modular 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:

- **Extend the server from the rack.**
- **Remove the server from the rack.**

4. Remove the access panel.

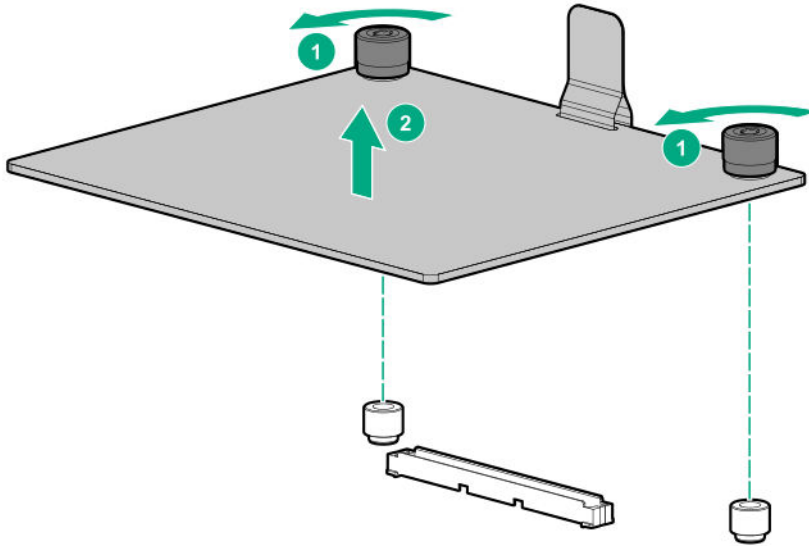
5. Do one of the following:

- **Remove the air baffle.**
- **Remove the 4 LFF midplane cage.**

6. Disconnect the SAS cables.

7. Remove the modular controller.





To replace the component, reverse the removal procedure.

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

Decommissioning the Pensando DSP DSC-25 2p SFP28 card

Procedure

Before removing the DSC-25 card from the server, you must first decommission the card using the Pensando Policy and Services Manager (PSM).

For more information, see *Pensando Distributed Services Card for Single-Wire Management (DSC-25-SWM) Removal/Replacement Guide* on the Hewlett Packard Enterprise website (<https://www.hpe.com/support/dsc25-replacement>).

Removing the Pensando DSP DSC-25 2p SFP28 card

NOTE: Images might differ from the actual product.

Prerequisites

The DSC-25 card has been decommissioned.

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: Electrostatic discharge (ESD) can damage electronic components. Be sure that you are properly grounded (earthed) before beginning any installation procedure.



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.

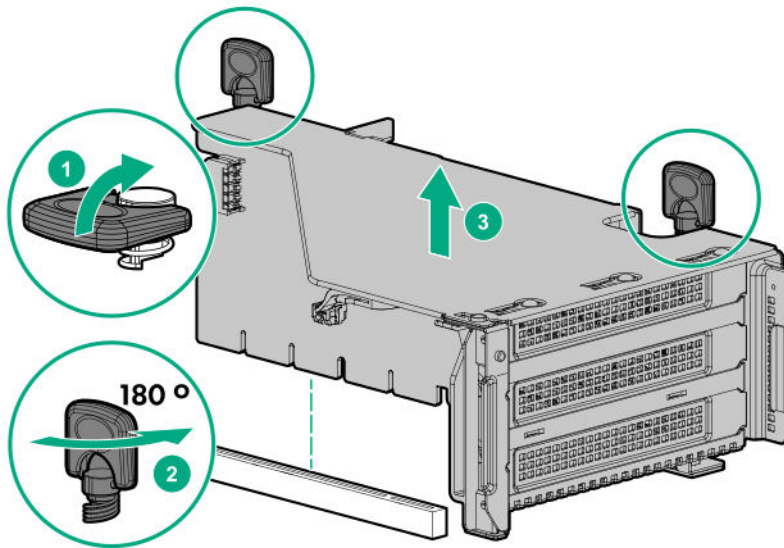
4. Do one of the following:

- **Extend the server from the rack.**
- **Remove the server from the rack.**

5. Remove the access panel.

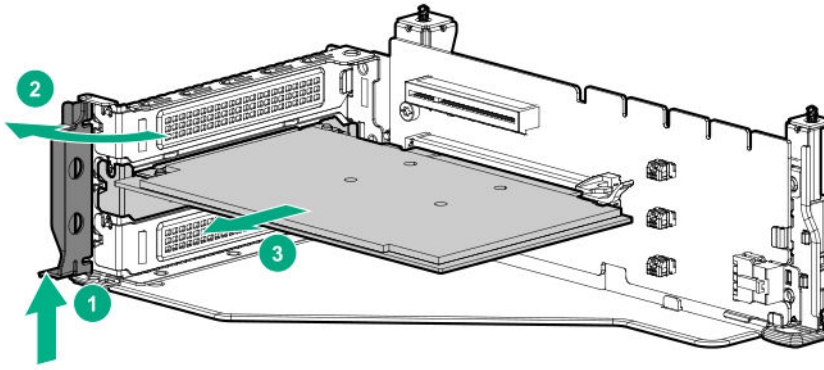
CAUTION: Do not operate the server for long periods with the access panel open or removed. Operating the server in this manner results in improper airflow and improper cooling that can lead to thermal damage.

6. Remove the primary PCIe riser cage.



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



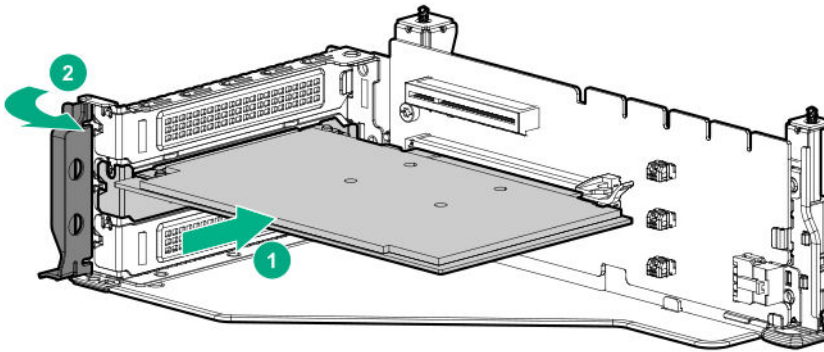


Replacing the Pensando DSP DSC-25 2p SFP28 card

Pensando DSP iLO Sideband ALOM Module requires that the accompanying Smart I/O card (Pensando DSP DSC-25 2p SFP28 card) be installed on slot 1 of the primary PCIe riser cage.

Procedure

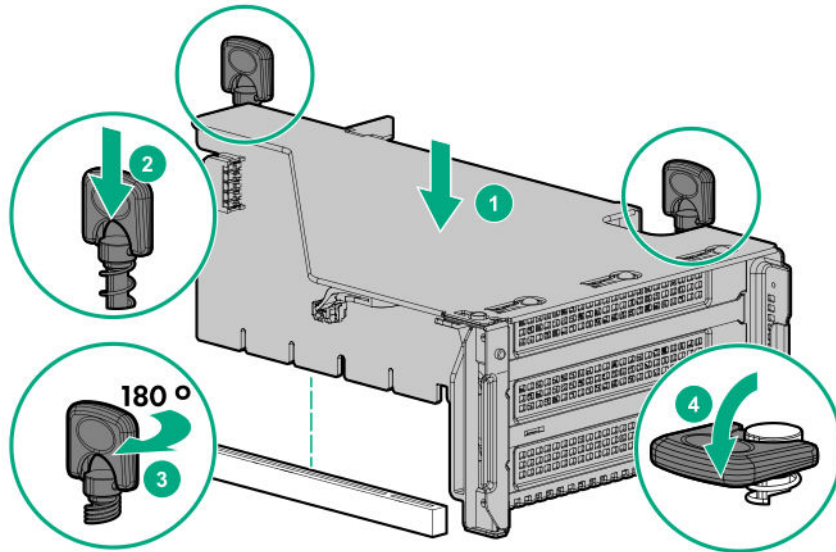
1. Install the DSC-25 card into the PCIe slot:



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 DSC-25 card to the Pensando Policy and Services Manager (PSM).

For more information, see *Pensando Distributed Services Card for Single-Wire Management (DSC-25-SWM) Removal/Replacement Guide* on the Hewlett Packard Enterprise website (<https://www.hpe.com/support/dsc25-replacement>).

Removing and replacing the HPE NS204i-p Gen10 Plus Boot Device option

Removing and replacing the boot device

Prerequisites

Procedure

1. Observe the following alerts:

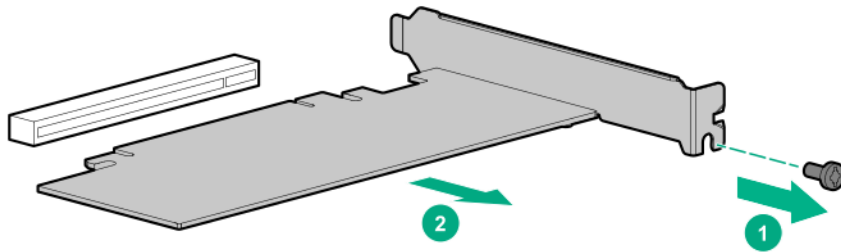
CAUTION: The boot device and the drives installed on the boot device are not hot-pluggable. To remove the boot device, or a drive from the boot device, you must first power down the server.

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

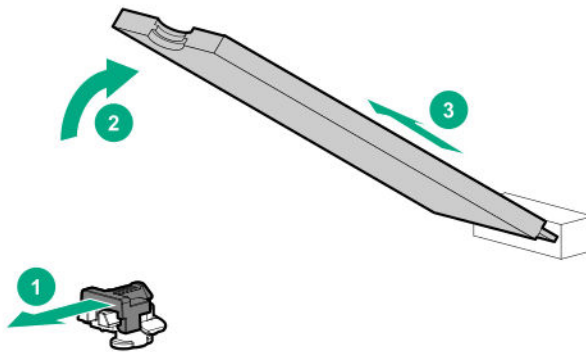
2. Back up all server data.
3. Power down the server.



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.**
 - Remove the compute module from the enclosure.
6. Place the server on a flat, level work surface.
7. **Remove the access panel.**
8. **Remove the primary PCIe riser cage.**
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 model (110mm)
- 22080 model (80mm)



Two drives of the same physical size, or one of each size (80mm and 110mm), can be installed at the same time. Depending on the replacement drive model, you might be required 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.

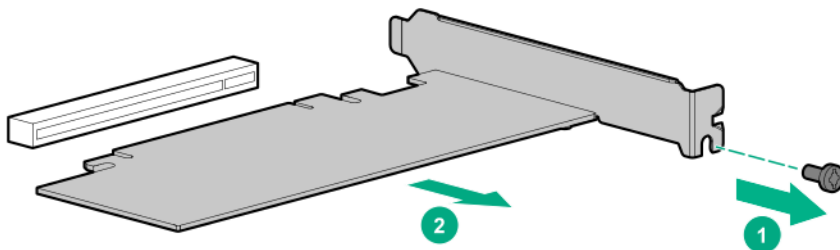
Procedure

1. Observe the following alerts:

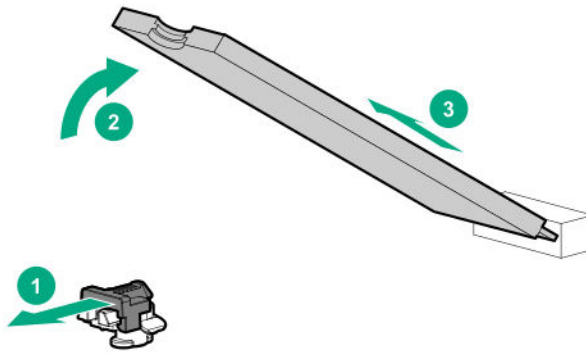
CAUTION: The boot device and the drives installed on the boot device are not hot-pluggable. To remove the boot device, or a drive from the boot device, you must first power down the server.

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:
 - Extend the server from the rack (**Extend the server from the rack**).
 - Remove the server from the rack (**Remove the server from the rack**).
 - Remove the compute module from the enclosure.
6. Place the server on a flat, level work surface.
7. Remove the access panel, if necessary (**Remove the access panel**).
8. Remove the PCIe riser cage, if necessary (**Removing and replacing the primary PCIe riser cage**).
9. Remove the boot device.



10. Remove the failed drive from the boot device.

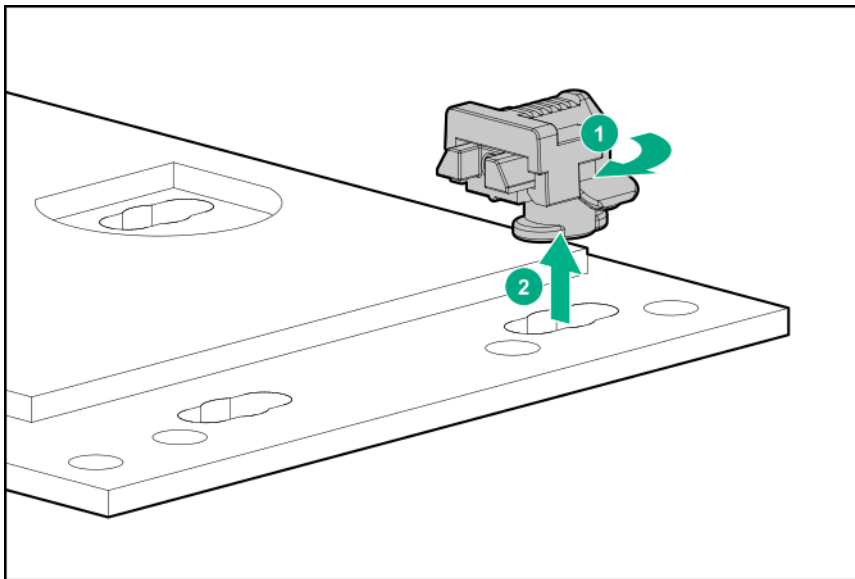


To replace the component, reverse the removal procedure.

Relocating the M.2 drive retaining latches

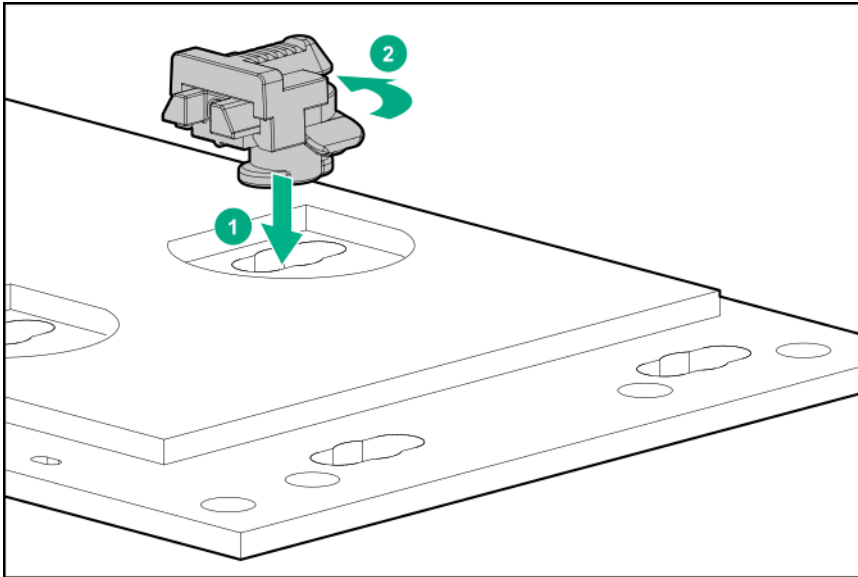
Procedure

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



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





System battery replacement

System battery information

The server contains an internal lithium manganese dioxide, a vanadium pentoxide, or an alkaline battery that provides power to the real-time clock. If this battery is not properly handled, a risk of the fire and burns exists. 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 the battery in fire or water.
- If the server no longer automatically displays the correct date and time, then replace the battery that provides power to the real-time clock. Under normal use, battery life is 5 to 10 years.

Replace the system battery

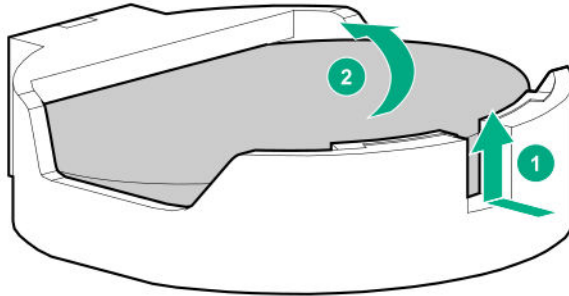
Prerequisites

Before you perform this procedure, make sure that you have a small, flat-bladed, nonconductive tool available.

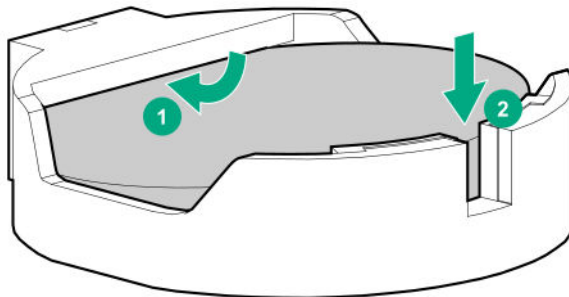
Procedure

- 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:

- **Extend the server from the rack.**
 - **Remove the server from the rack.**
4. **Remove the access panel.**
 5. If installed, **remove the tertiary riser cage.**
 6. **Locate the battery on the system board.**
 7. Use a small flat-bladed, nonconductive tool to carefully lift the front of the battery from the socket.
 8. Remove the battery.



9. Install the system battery.



For more information about battery replacement or proper disposal, contact an authorized reseller or a support specialist.

Removing and replacing the system board

Removing the system board

Prerequisites

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

- T-15 screwdriver (for system board screws)
- T-20 screwdriver for processor and heatsink screws
- Alcohol wipe



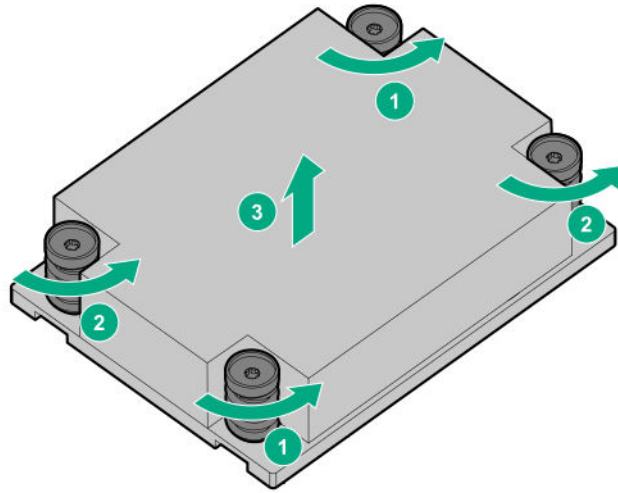
Procedure

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. **Remove the server from the rack.**
4. **Remove all power supplies.**
5. **Remove the access panel.**
6. Do one of the following:
 - **Remove the air baffle.**
 - **Remove the 4 LFF midplane cage.**
7. **Remove the primary PCIe riser cage.**
8. If installed, remove the secondary or tertiary PCIe riser cage (**Remove the secondary or tertiary PCIe riser cage.**).
9. **Remove the OCP network adapter.**
10. Allow the existing heatsink to cool.
11. Remove the heatsink:

⚠ CAUTION: To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of its baseplate. Do not touch the heatsink fins.

⚠ CAUTION: Heatsink screws must be tightened and loosened in alternating sequence as shown on the heatsink label.

- a. Use a T-20 screwdriver to loosen the captive screws in the sequence specified on the heatsink label.
- b. Lift the heatsink away from the system board.

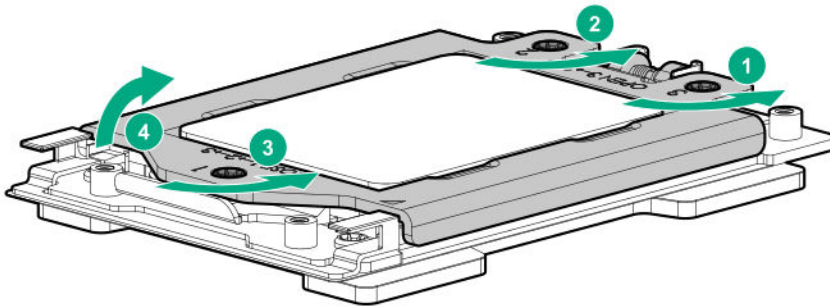


c. Place the heatsink on a flat work surface with its contact side facing up.

12. Use an alcohol wipe to remove the existing thermal grease from the heatsink and the processor.
Allow the alcohol to evaporate before continuing.

Allow the alcohol to evaporate before continuing.

13. Use a screwdriver to loosen the three captive screws in the sequence shown and then pivot the force frame up.

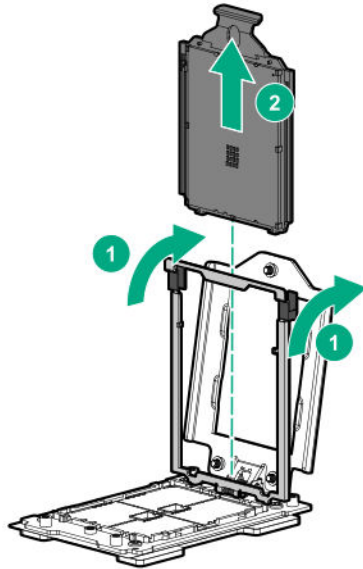


14. Remove the processor:

a. Hold the lift tabs near the front end of the rail frame, and then pivot the rail frame to the vertical position.

b. Slide the processor out of the rail frame.





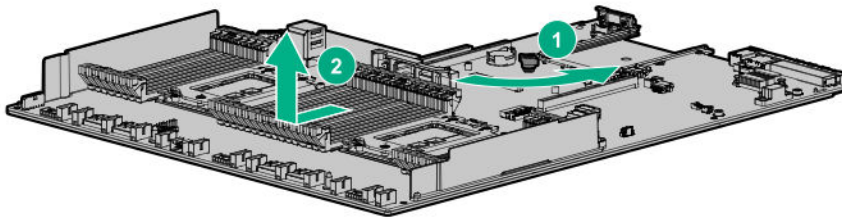
15. Remove a DIMM.

16. Remove the fan cage.

17. Disconnect all cables connected to the system board.

18. Loosen the system board thumbscrews.

19. Remove the system board.



Replacing the system board

Prerequisites

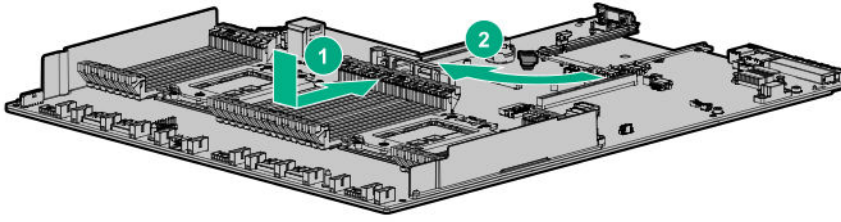
Before you perform this procedure, make sure that you have the following items available:

- T-15 screwdriver (for system board screws)
- T-20 screwdriver for processor and heatsink screws
- Alcohol wipe
- Thermal grease (spare part number 777298-001)

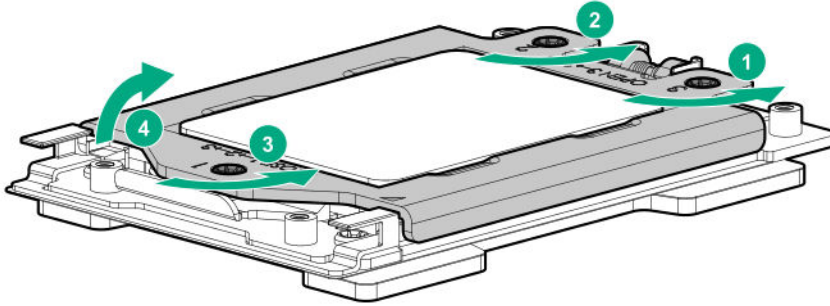
Procedure

- 1.** Install the spare system board.



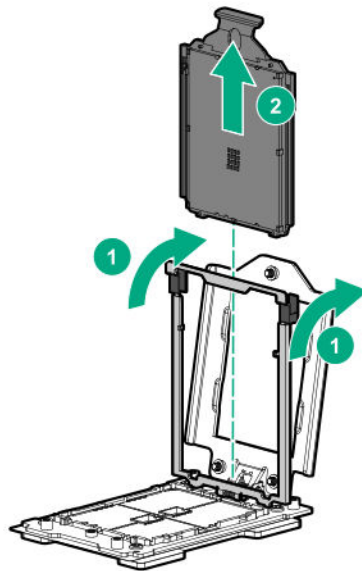


2. Use a screwdriver to loosen the three captive screws in the sequence shown and then pivot the force frame up.



3. Remove the external cap.
 - a. Hold the lift tabs near the front end of the rail frame, and then pivot the rail frame to the vertical position.
 - b. Slide the external cap out of the rail frame.

Retain the external cap for future use.

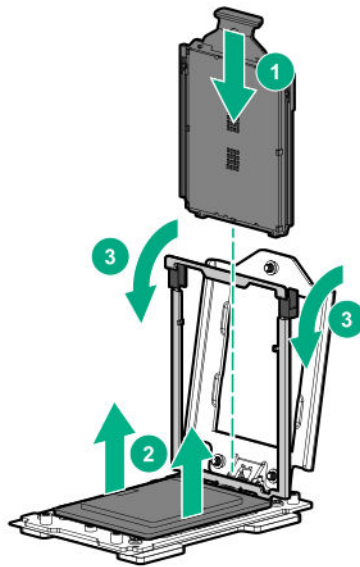


4. Install the processor:
 - a. Hold the processor by its carrier handle and slide the processor into the rail frame until it engages with a click sound.
 - b. Remove the pin field cover cap.



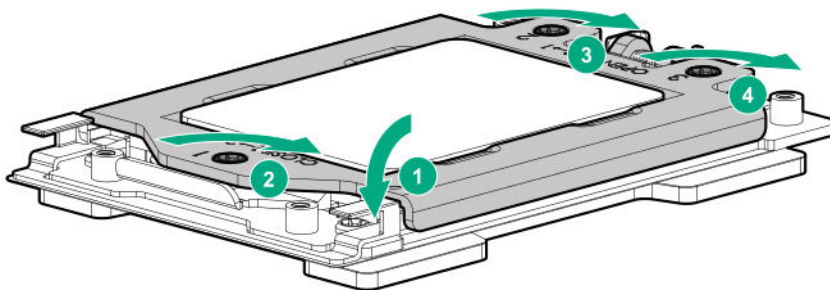
⚠ CAUTION: To prevent the risk of damaging the pins in the processor socket, do not reinstall the pin field cover cap after removing it.

- c. Hold the lift tabs near the front end of the rail frame, and then pivot the rail frame to the closed position. A click sound indicates that the rail frame is properly engaged.



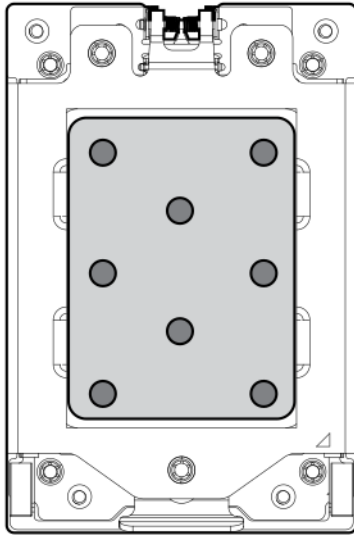
5. Close the force frame.

⚠ CAUTION: Do not overtighten the screws as this might damage the system board or the processor socket.



6. Apply new thermal grease to the processor in the pattern shown in the following image. Use the full contents of the thermal grease syringe.





7. Remove the thermal interface protective cover from the new heatsink.
8. Install the heatsink.

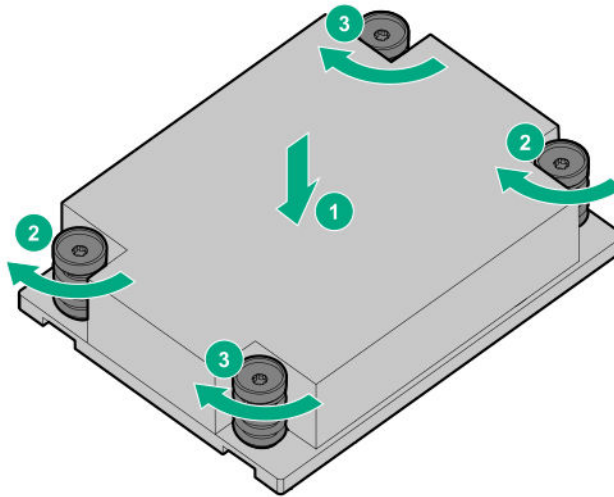
⚠ CAUTION: To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

⚠ CAUTION: To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

⚠ CAUTION: Heatsink screws must be tightened and loosened in alternating sequence as shown on the heatsink label. Do not overtighten the screws as this might damage the system board or the processor socket.

- a. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.
- b. Use a T-20 screwdriver to tighten the captive screws in the sequence specified on the heatsink label until fully seated.





9. Install all components removed from the failed system board.
10. Install the access panel.
11. Install the power supplies.
12. Power up the server.
13. Ensure all firmware, including option cards and embedded devices, is updated to the same versions to ensure that the latest drivers are being used.
14. Re-enter any Secure Boot Keys that were previously added in the Secure Boot configuration.
15. **Re-enter the server serial number and product ID.**

Re-entering the server serial number and product ID

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

Procedure

1. During the server startup sequence, press the F9 key to access UEFI System Utilities.
2. Select the System Configuration > BIOS/Platform Configuration (RBSU) > Advanced Options > Advanced System ROM Options > Serial Number, and then press Enter.
3. Enter the serial number and press Enter. The following message appears: `The serial number should only be modified by qualified service personnel. This value should always match the serial number located on the chassis.`
4. Press Enter to clear the warning.
5. Enter the serial number and press Enter.
6. Select Product ID. The following warning appears: `Warning: The Product ID should ONLY be modified by qualified service personnel. This value should always match the Product ID located on the chassis.`



7. Enter the product ID and press Enter.
8. Press the F10 key to confirm exiting System Utilities. The server automatically reboots.

HPE Trusted Platform Module 2.0 Gen10 Plus option

The 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 (system board). Contact a Hewlett Packard Enterprise authorized service provider for a replacement system board and TPM module.



Troubleshooting

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 servers and HPE Synergy* provides a list of error messages and information to assist with interpreting and resolving error messages.
- *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 Information Library:

- For Gen10 servers, see <https://www.hpe.com/info/gen10-troubleshooting>.
- For Gen10 Plus servers, see <https://www.hpe.com/info/gen10plus-troubleshooting>.



Diagnostic tools

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, 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 3.30 and later includes HPE Rapid Setup Software. When you launch F10 mode from the POST screen, you are prompted to select whether you want to enter the Intelligent Provisioning or HPE Rapid Setup Software mode.

NOTE: After you have selected a mode, you must re provision the server to change the mode that launches when you boot to F10.

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.

 **IMPORTANT:** HPE ProLiant DX/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 **Always On**. **Always On** allows you to access Intelligent Provisioning without rebooting your server.

Intelligent Provisioning operation

NOTE: Intelligent Provisioning 3.40 and later requires iLO firmware version 2.10.



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.

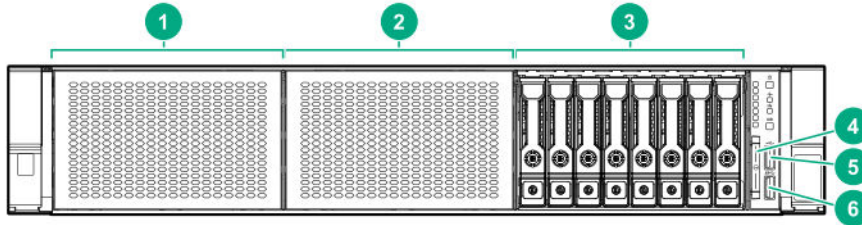
For more information, see *HPE Smart Array SR Gen10 Configuration Guide* at the [Hewlett Packard Enterprise website](#).



Component identification

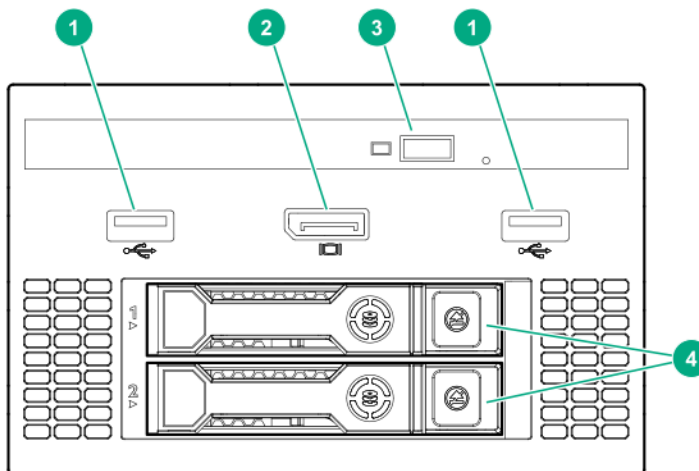
Front panel components

SFF front panel components



Item	Description
1	Box 1 (optional drives or universal media bay)
2	Box 2 (optional drives)
3	Box 3 drives 1 through 8
4	Serial label pull tab or optional Systems Insight Display LEDs
5	iLO service port
6	USB 3.1 Gen1 port

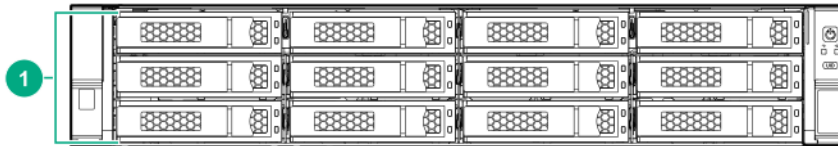
Universal media bay components



Item	Description
1	USB 2.0 port
2	Video display port
3	Optical disc drive (optional)
4	Drives (optional)



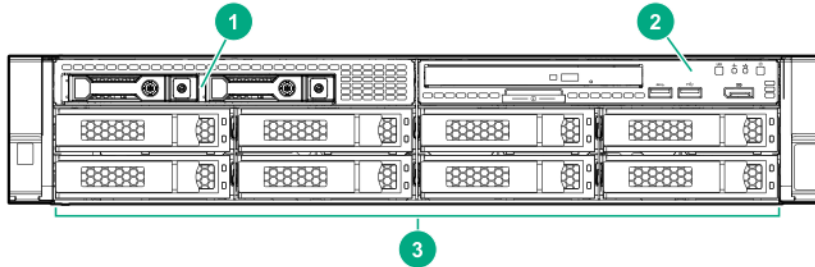
12 LFF front panel components



Item	Description
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1	Drive bays
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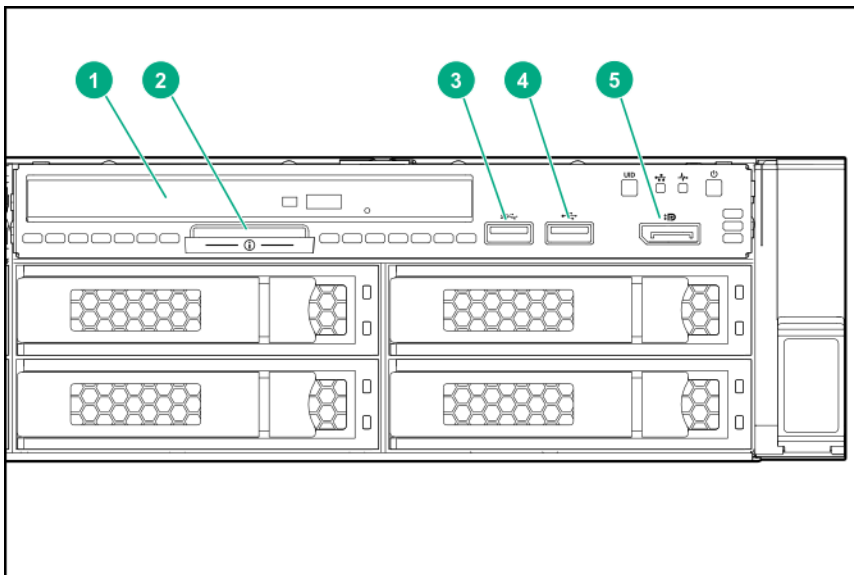
8 LFF front panel components



Item	Description
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1	Drives (optional)
2	LFF power switch module
3	Drive bays

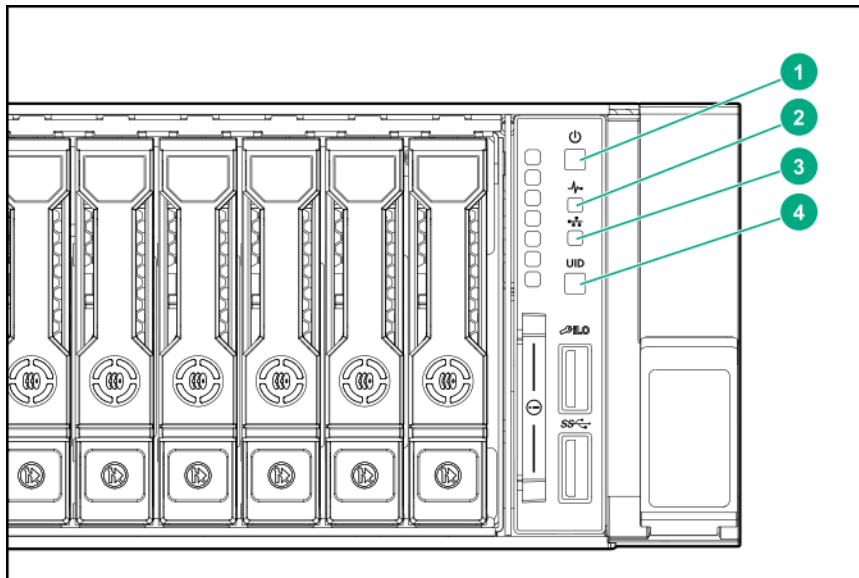
LFF power switch module components



Item	Description
1	Optical disc drive
2	Serial label pull tab
3	USB 3.1 Gen1 port
4	iLO service port
5	Video display port

Front panel LEDs and buttons

SFF front panel LEDs and button



Item	Description	Status
1	Power On/Standby button and system power LED ¹	<ul style="list-style-type: none"> • Solid green = System on • Flashing green (1 Hz/cycle per sec) = Performing power on sequence • Solid amber = System in standby • Off = No power present²
2	Health LED ¹	<ul style="list-style-type: none"> • Solid green = Normal • Flashing green (1 Hz/cycle per sec) = iLO is rebooting • Flashing amber = System degraded • Flashing red (1 Hz/cycle per sec) = System critical³

Table Continued



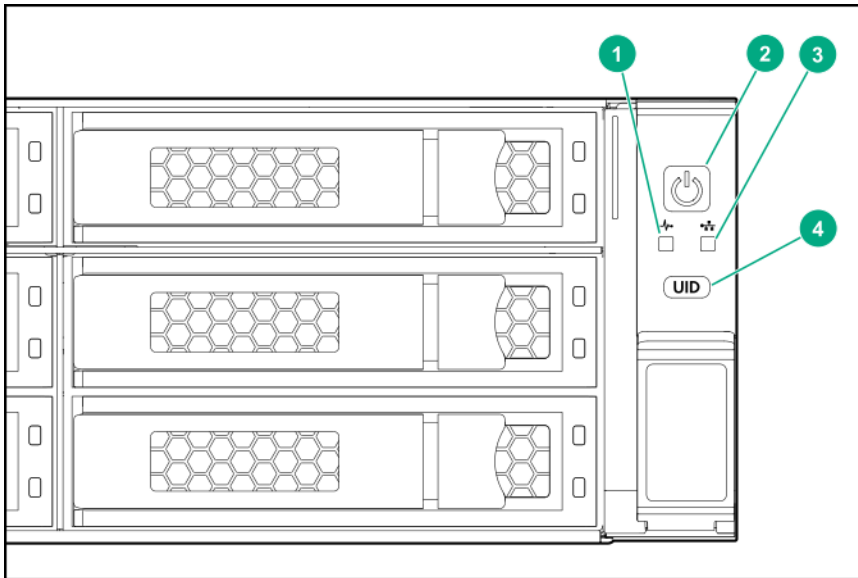
Item	Description	Status
3	NIC status LED ¹	<ul style="list-style-type: none"> • Solid green = Link to network • Flashing green (1 Hz/cycle per sec) = Network active • Off = No network activity
4	UID button/LED ¹	<ul style="list-style-type: none"> • Solid blue = Activated • Flashing blue: <ul style="list-style-type: none"> ◦ 1 Hz/cycle per sec = Remote management or firmware upgrade in progress ◦ 4 Hz/cycle per sec = iLO manual reboot sequence initiated ◦ 8 Hz/cycle per sec = iLO manual reboot sequence in progress ◦ Off = Deactivated

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

² Facility power is not present, the 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.

12 LFF front panel LEDs and button



Item	Description	Status
1	Health LED ¹	<ul style="list-style-type: none"> • Solid green = Normal • Flashing green (1 Hz/cycle per sec) = iLO is rebooting • Flashing amber = System degraded • Flashing red (1 Hz/cycle per sec) = System critical²
2	Power On/Standby button and system power LED ¹	<ul style="list-style-type: none"> • Solid green = System on • Flashing green (1 Hz/cycle per sec) = Performing power on sequence • Solid amber = System in standby • Off = No power present³
3	NIC status LED ¹	<ul style="list-style-type: none"> • Solid green = Link to network • Flashing green (1 Hz/cycle per sec) = Network active • Off = No network activity
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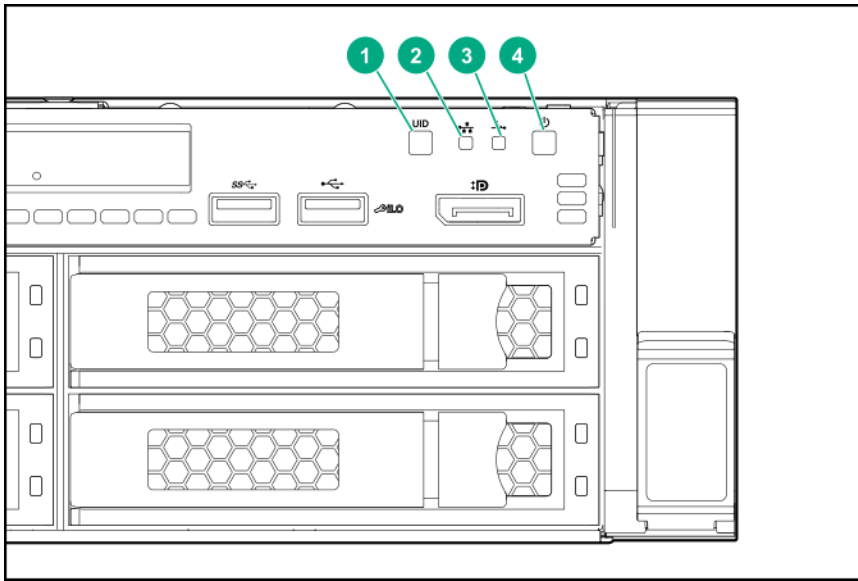
¹ When all four LEDs described in this table flash simultaneously, a power fault has occurred.

² If the health LED indicates a degraded or critical state, review the system IML or use iLO to review the system health status.

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



LFF power switch module LEDs and button



Item	Description	Status
1	UID button/LED ¹	<ul style="list-style-type: none"> • Solid blue = Activated • Flashing blue: <ul style="list-style-type: none"> ◦ 1 Hz/cycle per sec = Remote management or firmware upgrade in progress ◦ 4 Hz/cycle per sec = iLO manual reboot sequence initiated ◦ 8 Hz/cycle per sec = iLO manual reboot sequence in progress • Off = Deactivated
2	NIC status LED ¹	<ul style="list-style-type: none"> • Solid green = Link to network • Flashing green (1 Hz/cycle per sec) = Network active • Off = No network activity

Table Continued



Item	Description	Status
3	Health LED ¹	<ul style="list-style-type: none"> • Solid green = Normal • Flashing green (1 Hz/cycle per sec) = iLO is rebooting • Flashing amber = System degraded • Flashing red (1 Hz/cycle per sec) = System critical²
4	Power On/Standby button and system power LED ¹	<ul style="list-style-type: none"> • Solid green = System on • Flashing green (1 Hz/cycle per sec) = Performing power on sequence • Solid amber = System in standby • Off = No power present³

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

² If the health LED indicates a degraded or critical state, review the system IML or use iLO to review the system health status.

³ Facility power is not present, the 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

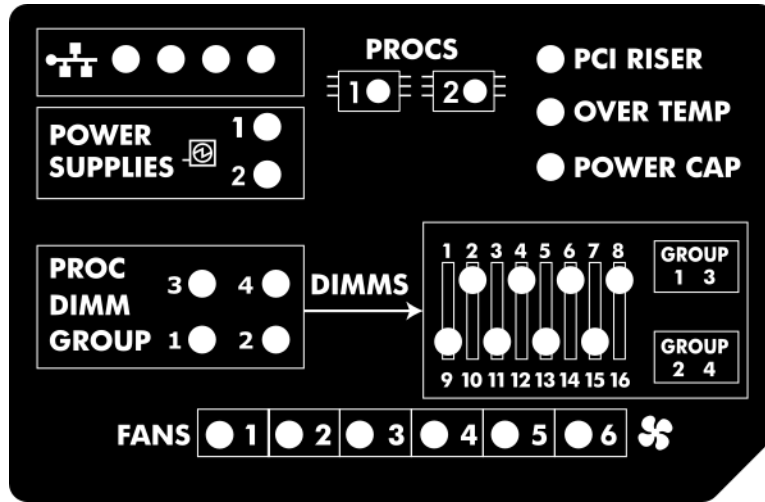
The following table provides a list of power fault codes, and the subsystems that are affected. Not all power faults are used by all servers.

Subsystem	LED behavior
System board	1 flash
Processor	2 flashes
Memory	3 flashes
Riser board PCIe slots	4 flashes
FlexibleLOM	5 flashes
Storage controllers	6 flashes
System board PCIe slots	7 flashes
Power backplane or storage backplane	8 flashes
Power supply	9 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	<ul style="list-style-type: none"> Off = Normal Amber = Failed processor
DIMM LEDs	<ul style="list-style-type: none"> Off = Normal Amber = Failed DIMM or configuration issue
Fan LEDs	<ul style="list-style-type: none"> Off = Normal Amber = Failed fan or missing fan
NIC LEDs ¹	<ul style="list-style-type: none"> Off = No link to network Solid green = Network link Flashing green = Network link with activity <p>If power is off, the front panel LED is not active. For status, see Rear panel LEDs.</p>
Power supply LEDs	<ul style="list-style-type: none"> Off = Normal Solid amber = Power subsystem degraded, power supply failure, or input power lost
PCI riser LED	<ul style="list-style-type: none"> Off = Normal Amber = Incorrectly installed PCI riser cage
Over temp LED	<ul style="list-style-type: none"> Off = Normal Amber = High system temperature detected

Table Continued



Description	Status
AMP status LED	<ul style="list-style-type: none"> Off = AMP modes disabled Solid green = AMP mode enabled Solid amber = Failover Flashing amber = Invalid configuration
Power cap LED	<ul style="list-style-type: none"> Off = System is in standby, or no cap is set Solid green = Power cap applied

¹ For Networking Choice server models, the embedded NIC ports are not equipped on the server. Therefore, the NIC LEDs on the Systems Insight Display will flash based on the FlexibleLOM network port activity. In the case of a dual-port FlexibleLOM, 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: <ul style="list-style-type: none"> 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.

Table Continued

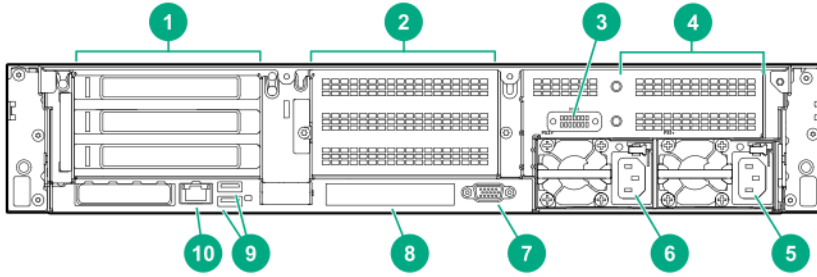


Systems Insight Display LED and color	Health LED	System power LED	Status
Over temp (amber)	Red	Amber	The server has detected a hardware critical temperature level.
PCI riser (amber)	Red	Green	The PCI riser cage is not seated properly.
Fan (amber)	Amber	Green	One fan has failed or has been removed.
Fan (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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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.
Power cap (green)	—	Flashing green	Waiting for power.
Power cap (green)	—	Green	Power is available.
Power cap (flashing amber)	—	Amber	Power is not available.

! **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.



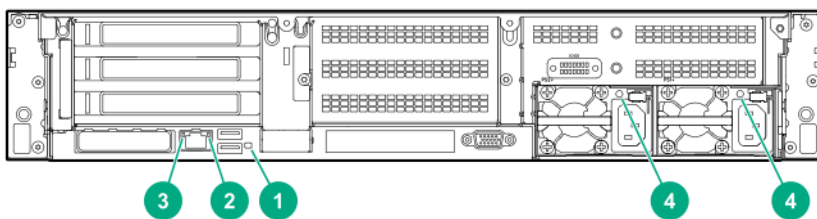
Rear panel components



Item	Description
1	Primary riser slots 1–3 (optional drive cage)
2	Optional secondary riser slots 4–6 (optional drive cage)
3	Serial port (optional) ¹
4	Optional tertiary riser slots 7–8 (optional drive cage)
5	Power supply 1
6	Power supply 2
7	Video port
8	OCP NIC 3.0 slot
9	USB 3.1 Gen1 connectors (2)
10	Dedicated iLO management port

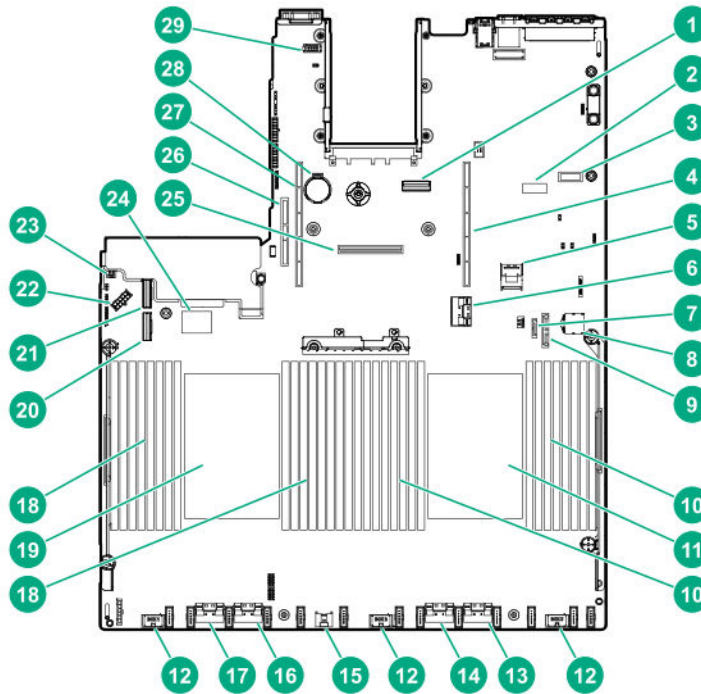
¹ When a secondary or tertiary riser cage is installed as shown, the serial port can be installed in the riser slot 8.

Rear panel LEDs



Item	Description	Status
1	UID LED	<ul style="list-style-type: none"> Off = Deactivated Solid blue = Activated Flashing blue = System is being managed remotely
2	Status LED	<ul style="list-style-type: none"> Off = No network activity Solid green = Link to network Flashing green = Network activity
3	Link LED	<ul style="list-style-type: none"> Off = No network link Green = Network link
4	Power supply LEDs	<ul style="list-style-type: none"> Off = System is off or power supply has failed Solid green = Normal

System board components



Item	Description
1	OCP X16 Slimline Connector
2	System maintenance switch
3	Display port/USB connector
4	Primary (processor 1) PCIe riser connector
5	x2 SATA port 1
6	NVMe port 8A
7	x1 SATA port 2
8	Front power/USB 3.1 Gen1 connector
9	Optical/SATA port 3
10	DIMMs
11	Processor 1
12	Drive backplane power connectors
13	NVMe port 2A
14	NVMe port 1A
15	Energy Pack connector
16	NVMe port 2B
17	NVMe port 1B
18	DIMMs
19	Processor 2
20	NVMe port 1C
21	NVMe port 2C
22	Drive backplane power connector
23	Chassis Intrusion Detection connector
24	Dual USB port
25	Flexible Smart Array connector
26	Tertiary (processor 2) PCI riser connector
27	Secondary (processor 2) PCIe riser connector
28	System battery
29	Serial port connector



System maintenance switch descriptions

Position	Default	Function
S1 ¹	Off	<ul style="list-style-type: none"> Off = iLO security is enabled. On = iLO security is disabled.
S2	Off	Reserved
S3	Off	Reserved
S4	Off	Reserved
S5	Off	<ul style="list-style-type: none"> Off = Power-on password is enabled. On = Power-on password is disabled.
S6 ^{2, 3}	Off	<ul style="list-style-type: none"> Off = No function On = Restore default manufacturing settings
S7	Off	Reserved
S8	—	Reserved
S9	—	Reserved
S10	—	Reserved
S11	—	Reserved
S12	—	Reserved

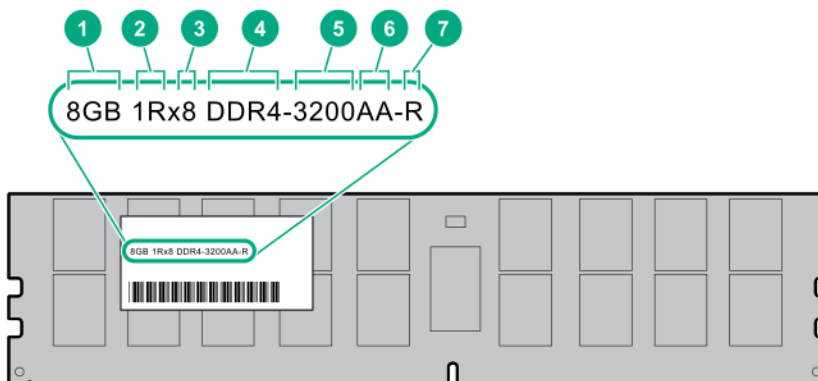
¹ To access the redundant ROM, set S1, S5, and S6 to On.

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 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>).

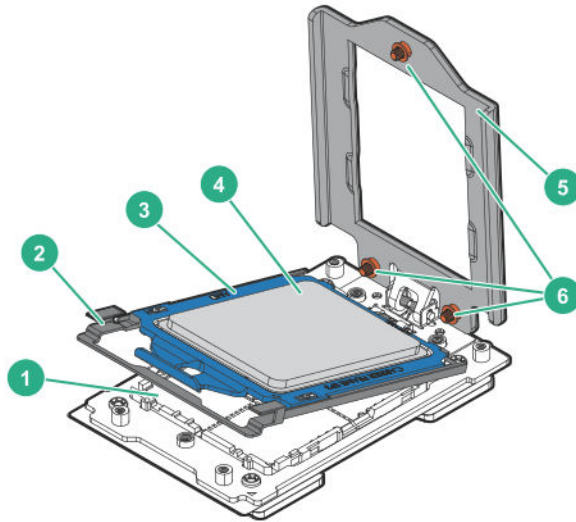
DIMM slot locations

DIMM slots are numbered sequentially (1 through 16) for each processor. The supported AMP modes use the letter assignments for population guidelines.





Processor and socket components

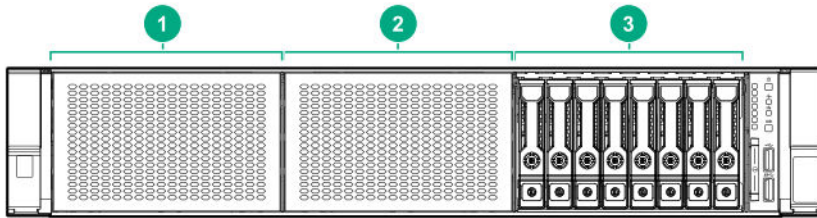


Item	Description
1	Pin field
2	Rail frame
3	Carrier frame
4	Processor
5	Force frame
6	Captive screws (Torx T-20)

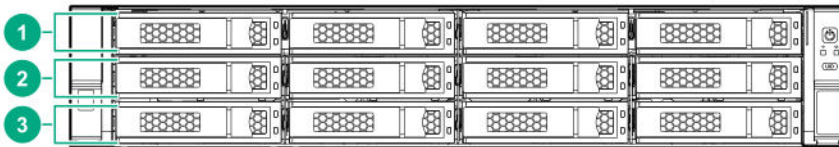


Drive box identification

Front boxes

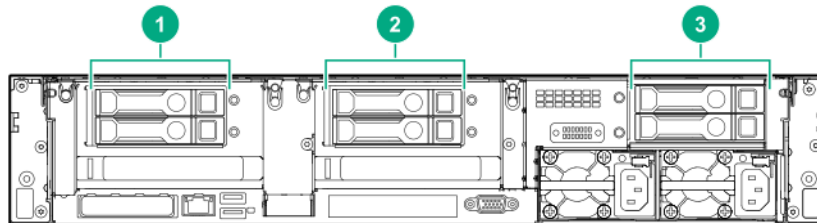


Item	Description
1	Box 1
2	Box 2
3	Box 3



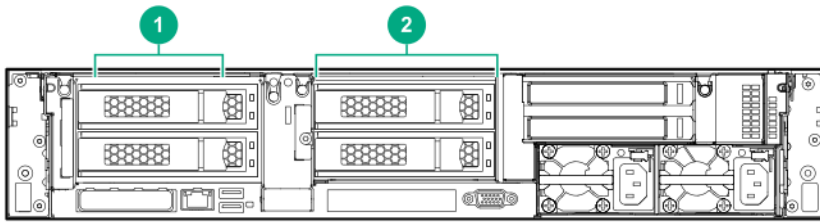
Item	Description
1	Box 1
2	Box 2
3	Box 3

Rear boxes



Item	Description
1	Box 4
2	Box 5
3	Box 6

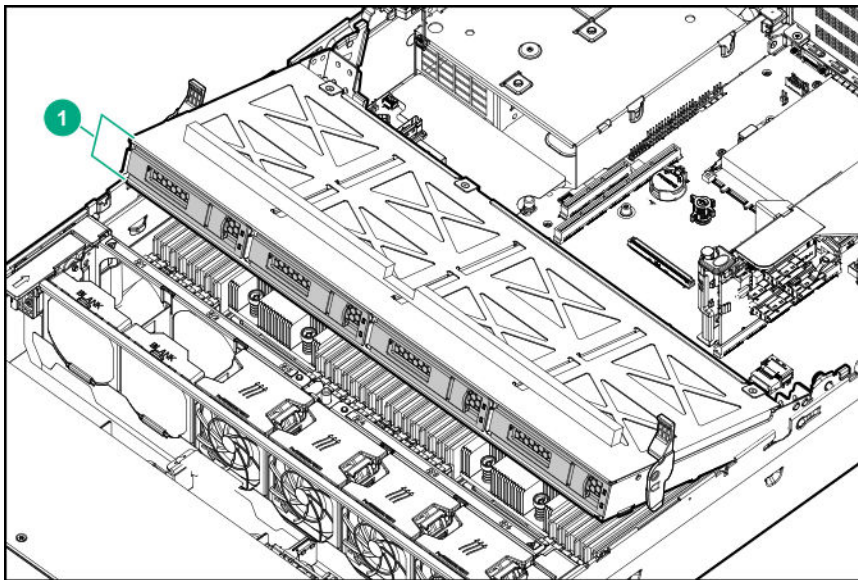




Item Description

1	Box 4
2	Box 5

Midplane box (LFF)

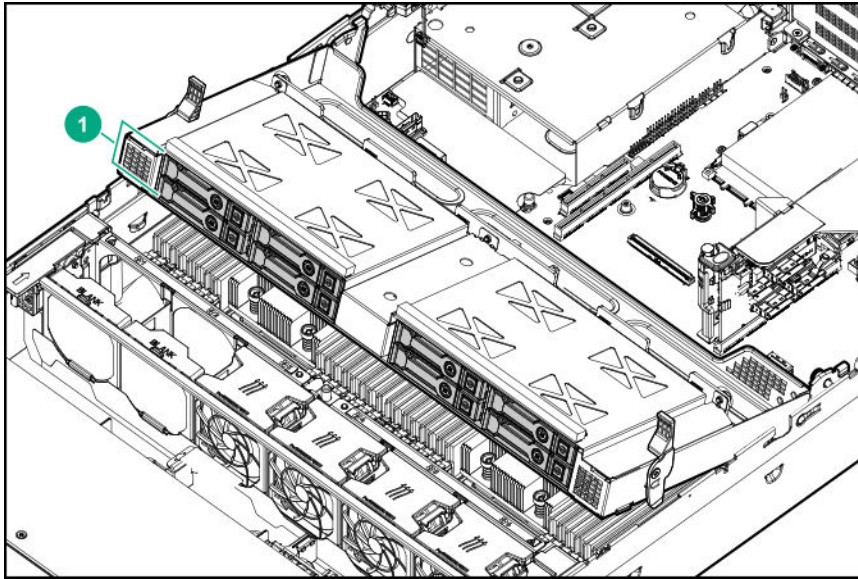


Item Description

1	Box 7
---	-------



Midplane box (SFF)



Item	Description
------	-------------

1	Box 7
---	-------

Drive bay numbering

Drive bay numbering depends on how the drive backplanes are connected:

- To a controller:
 - Embedded controllers use the onboard SATA ports.
 - Type-a controllers install to the type-a smart array connector.
 - Type-p controllers install to a PCIe riser.
- To a SAS expander:
 - Installs in the primary or secondary PCIe riser

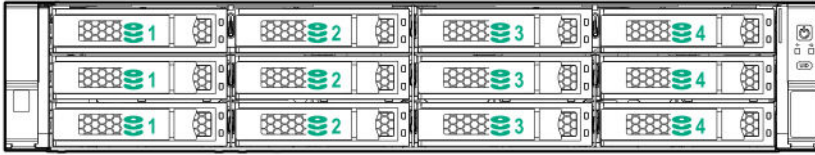
Drive bay numbering: Smart Array controller

When the drive backplane is connected directly to a storage controller, then each drive box starts at 1. The following images are examples of common configurations.

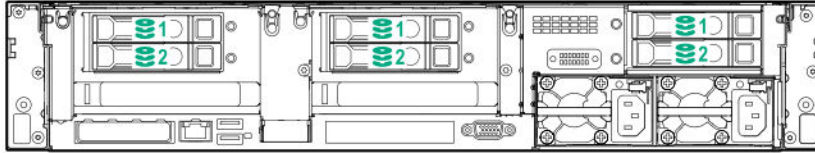
24 SFF



12 LFF



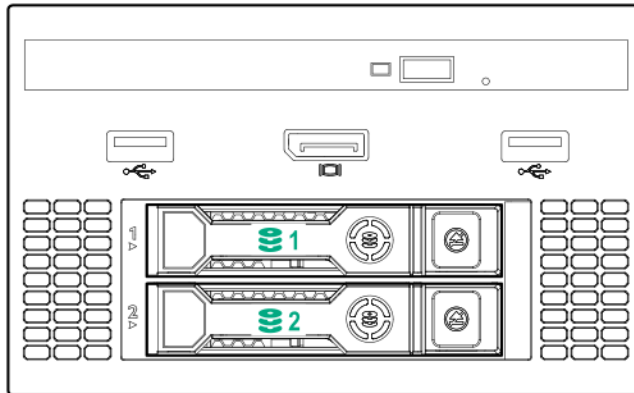
6 SFF rear panel



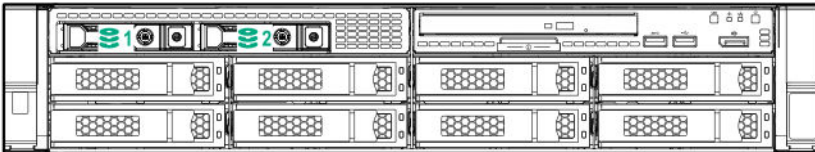
2x 2 LFF rear panel



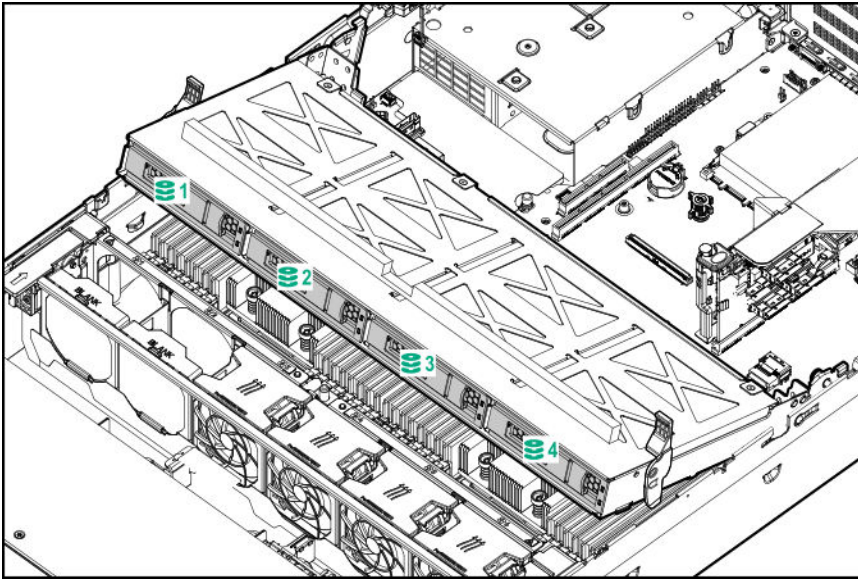
Universal media bay



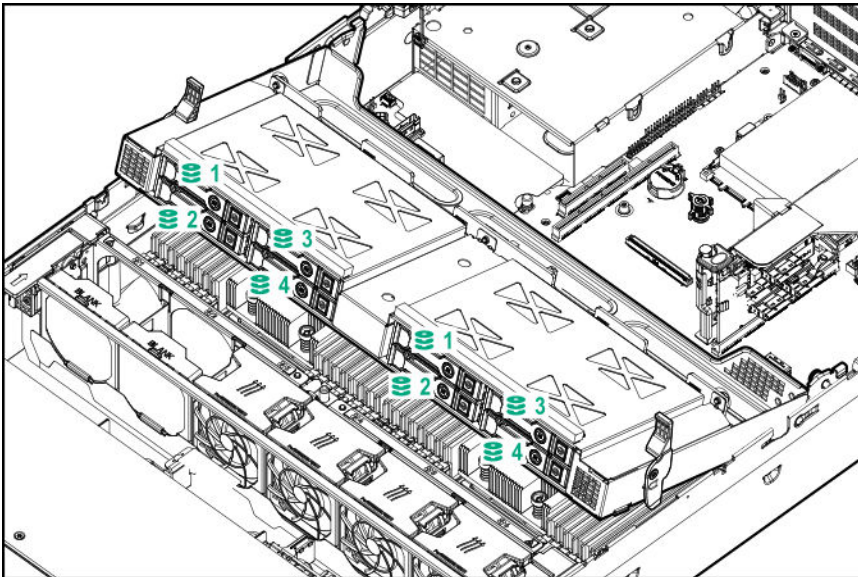
8 LFF + Universal media bay, optional 2 SFF, and optical drive



Midplane box LFF



Midplane box SFF



Drive bay numbering: SAS expander

Drive numbering through a SAS Expander is continuous:

- SAS expander port 1 always connects to port 1 of the controller.
- SAS expander port 2 always connects to port 2 of the controller.
- SAS expander port 3 = drive numbers 1 to 4.
- SAS expander port 4 = drive numbers 5 to 8.
- SAS expander port 5 = drive numbers 9 to 12.
- SAS expander port 6 = drive numbers 13 to 16.
- SAS expander port 7 = drive numbers 17 to 20.



- SAS expander port 8 = drive numbers 21 to 24.
- SAS expander port 9 = drive numbers 25 to 28.

Common configuration examples:

NVMe drives

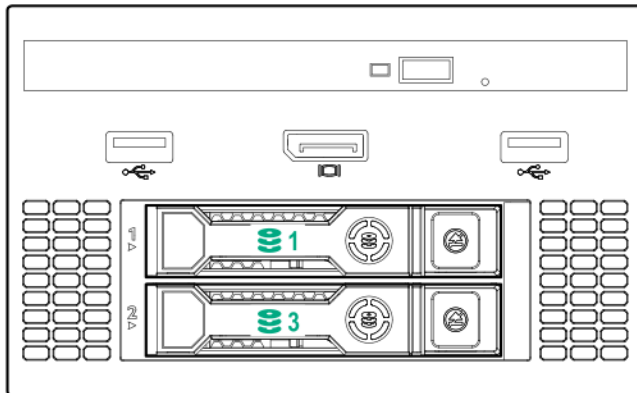


When any stacked 2 SFF drive cage is connected to the SAS expander, the drive numbering skips the second number. For example, when a rear 2 SFF drive cage is connected to SAS expander port 9, then the drive numbers are 25 and 27.



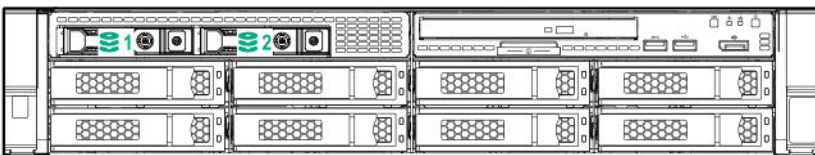
When the front 24 SFF bays are populated, any installed rear 2 SFF drives are always 25 and 27.

Universal media bay

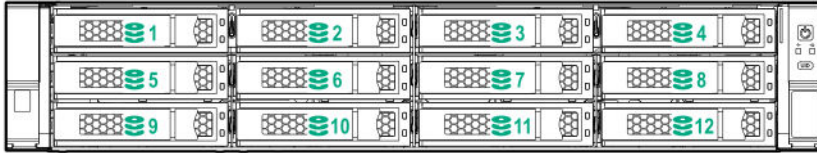


If a 2 SFF drive cage is connected to SAS expander port 3, then the drive numbers are 1 and 3.

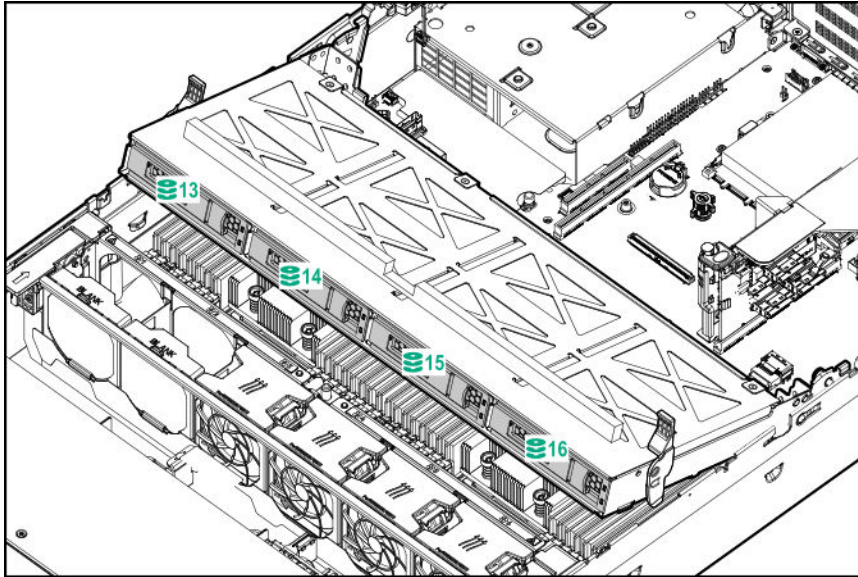
8 LFF front panel



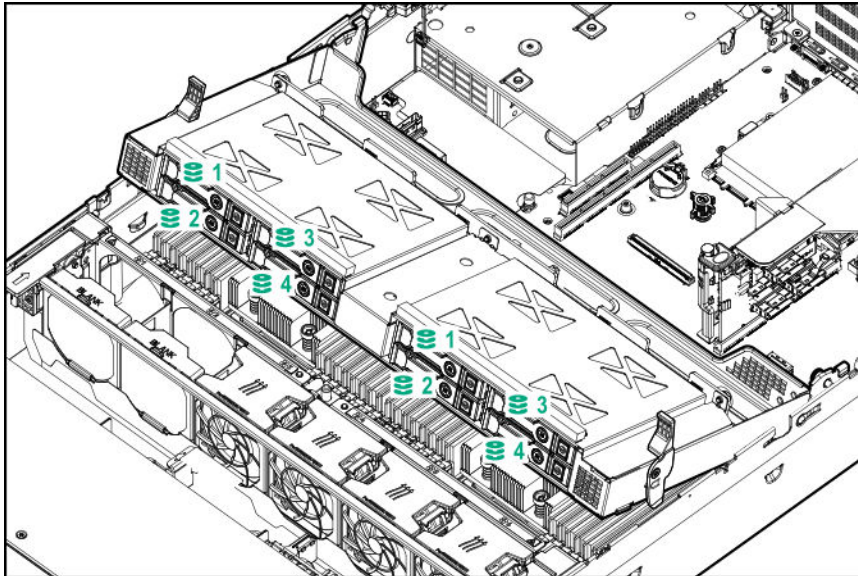
12 LFF front panel



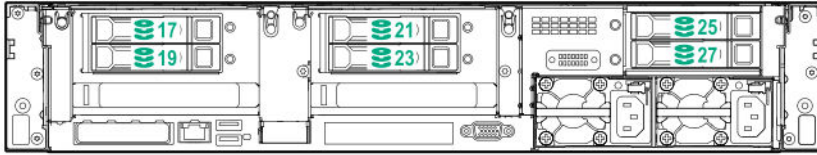
Midplane box (LFF)



Midplane box (SFF)



Front 12 LFF + Midplane 4 LFF + All rear 2 SFF



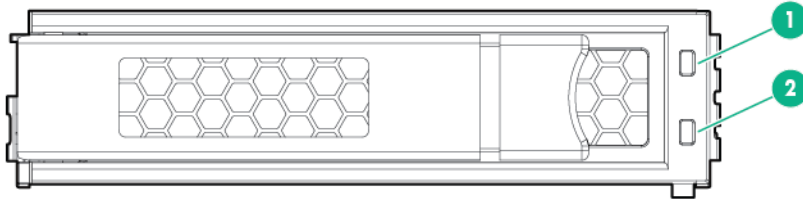
Drive bay numbering: NVMe drives

Server populated with NVMe drives and NVMe risers



Drives

LFF drive LED definitions



Item	LED	Status	Definition
1	Fault/Locate	Solid amber	The drive has failed, is unsupported, or is invalid.
		Solid blue	The drive is operating normally and is being identified by a management application.
		Flashing amber/blue (1Hz)	The drive has failed, or a predictive failure alert has been received for this drive; it also has been identified by a management application.
		Flashing amber (1Hz)	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 (4Hz)	The drive is operating normally and has activity.

Table Continued

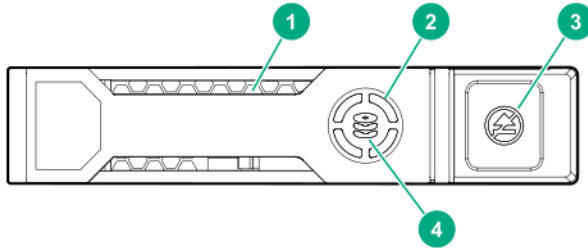


Item	LED	Status	Definition
		Flashing green (1Hz)	The drive is rebuilding, RAID migration, stripe size migration, capacity expansion, logical drive extension, erasing, or spare activation.
		Off	The drive is not configured by a RAID controller or a spare drive.

HPE Smart Carrier drive LEDs and components

This HPE Smart Carrier supports SAS, SATA, and NVMe drives.

HPE Smart Carrier drive LEDs



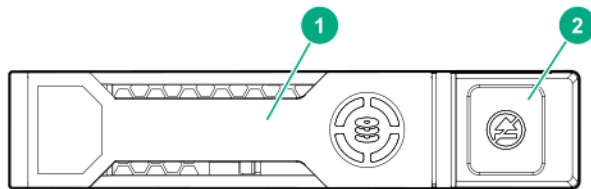
Item	Description	Status
1	Locate	<ul style="list-style-type: none"> Solid blue = The drive is being identified by a host application. Flashing blue = The drive carrier firmware is being updated or requires an update.
2	Activity ring	<ul style="list-style-type: none"> Rotating green = Drive activity. Off = No drive activity.

Table Continued



Item	Description	Status
3	Do not remove	<ul style="list-style-type: none"> • Solid white = Do not remove the drive. Removing the drive causes one or more of the logical drives to fail. • Off = Removing the drive does not cause a logical drive to fail.
4	Drive status	<ul style="list-style-type: none"> • Solid green = The drive is a member of one or more logical drives. • Flashing green = The drive is doing one of the following: <ul style="list-style-type: none"> ◦ Rebuilding or performing a RAID migration ◦ Performing a strip size migration ◦ Performing a capacity expansion ◦ Performing a logical drive extension ◦ Erasing • Flashing amber/green = The drive is a member of one or more logical drives and predicts the drive will fail. • Flashing amber = The drive is not configured and predicts the drive will fail. • Solid amber = The drive has failed, is unsupported, or is invalid. • Off = The drive is not configured by a RAID controller or a spare drive.

HPE Smart Carrier components



Item	Description	Definition
1	Drive handle	<ul style="list-style-type: none"> • Pull the open handle to remove a drive. • Close the handle to fully seat and lock a drive into place.
2	Handle release button	Releases the drive handle for removal and insertion.



DSC-25 2-port SFP28 card ports and LEDs

Ports

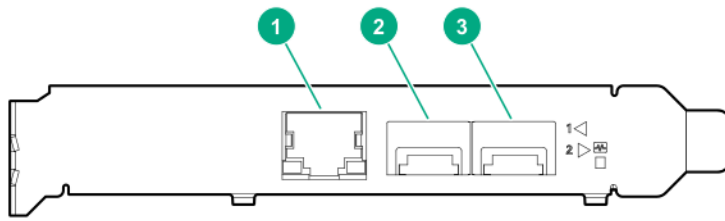


Table 1: Ports

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.

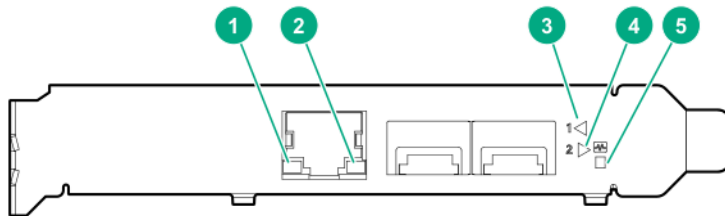


Table 2: LED indicators

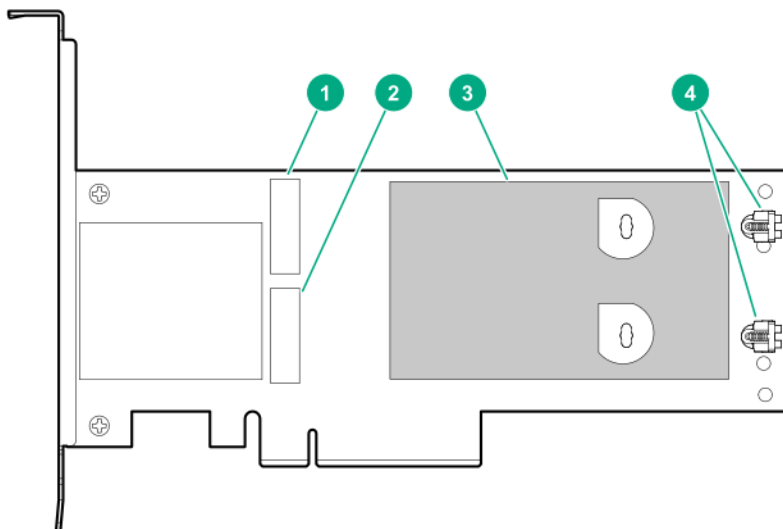
Item	LED	Status	Description
1	Management Port Activity LED	Off	No activity
		Flashing	Passing traffic; flashing frequency indicates traffic intensity
2	Management Port Link LED	Off	A link has not been established
		Solid green	Valid Ethernet link

Table Continued



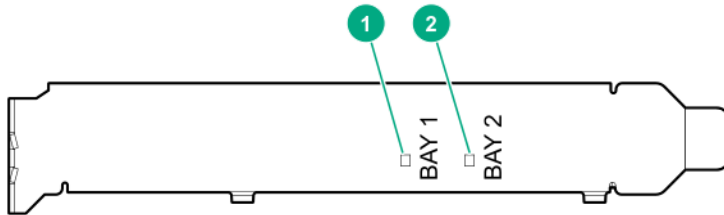
Item	LED	Status	Description
3	SFP Port 1 Link/Activity LED	Off	A link has not been established
		Solid green	Valid Ethernet link
		Flashing green	Passing traffic; flashing frequency indicates traffic intensity
		Solid amber	Link fault
4	SFP Port 2 Link/Activity LED	Off	A link has not been established
		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 Gen10 Plus Boot Device components



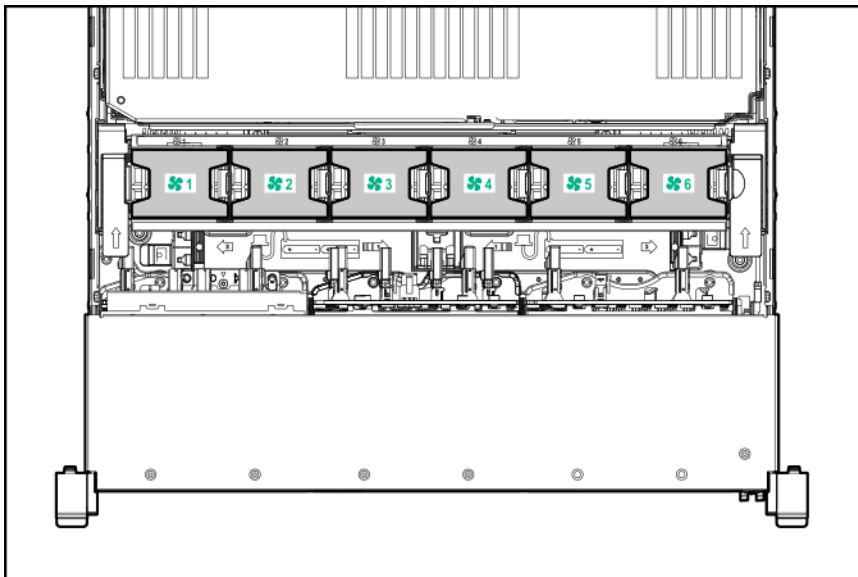
Item	Description
1	Drive bay 1
2	Drive bay 2
3	Thermal interface pad with removable liner
4	M.2 drive retaining latches

HPE NS204i-p Gen10 Plus 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

Fan bay numbering



Cabling

HPE ProLiant Gen10 Plus DL Servers Storage Cabling Guidelines

When installing cables, observe the following:

- All ports are labeled:
 - System board ports
 - Controller ports
 - 12G SAS Expander ports
- Most data cables have labels near each connector with destination port information.
- Some data cables are pre-bent. Do not unbend or manipulate the cables.
- Before connecting a cable to a port, lay the cable in place to verify the length of the cable.
- When routing cables from the front to the rear of the server, use the cable channels on either side of the chassis.

Cabling diagrams

Use the following tables to find cabling information and diagrams. For additional cabling configurations, see <https://www.hpe.com/info/proliantcablingmatrix>.

Table 3: SAS/SATA options

Option kit	Cable part number	From	To
Optical disk drive, Slim SATA cable	756914-001	Optical disk drive	System board
2 SFF Slim SAS SAS/SATA Universal Media Bay	P22760-001	Universal Media Bay	System board
2 SFF Slim SAS x8 SAS/SATA Universal Media Bay	P22761-001	2 SFF Side by Side backplane	System board

Table 4: LFF/SFF x4 SAS Cable options

Option kit	Cable part number	From	To
x8 Mini SAS cable to x8 Mini SAS cable (x4)	747568-001	8 SFF SAS/SATA option, box 3	HPE Smart Array P408i-a or P816i-a Gen10 Controller, ports 1 and 2
x8 Mini SAS cable to x8 Mini SAS cable (x4)	747568-001	8 SFF SAS/SATA option, box 3	HPE 12GB SAS Expander Card, ports 7 and 8 in the primary riser cage

Table Continued



Option kit	Cable part number	From	To
x8 Mini SAS cable to x8 Mini SAS cable (x4)	<u>776402-001</u>	8 SFF SAS/SATA option, box 1 or 2	HPE Smart Array P816i-a Gen10 Controller, ports 3 and 4
x8 Mini SAS cable to x8 Mini SAS cable (x4)	776402-001	8 SFF SAS/SATA option, box 1 or 2	HPE 12GB SAS Expander Card, ports 3 and 4 in the primary riser cage
x8 Mini SAS cable to x8 Mini SAS cable (x4)	P22897-001	HPE Smart Array P408i-a or P816i-a Gen10 Controller, ports 1 and 2	HPE 12GB SAS Expander Card, ports 1 and 2 in the primary riser cage
Mini SAS straight to Mini SAS straight cable	P22898-001	HPE Smart Array P408i-a or P816i-a Gen10 Controller, ports 1 and 2	HPE 12GB SAS Expander Card, ports 1 and 2 in the tertiary riser cage
Mini SAS straight to Mini SAS side exit cable	P20850-001	8 SFF SAS/SATA option – boxes 2 and 3	HPE 12GB SAS Expander Card, ports 5 through 8 in the primary riser cage
x4 Mini SAS cable	869827-001	4 LFF SAS/SATA drive backplane – boxes 1, 2, and 3	HPE Smart Array P816i-a Gen10 Controller, ports 1, 2, and 3
x4 Mini SAS cable	869827-001	4 LFF SAS/SATA drive backplane – boxes 1, 2, and 3	HPE 12GB SAS Expander Card, ports 3, 4, and 5 in the secondary or tertiary riser cages
x4 Mini SAS cable	P22899-001	4 LFF SAS/SATA drive backplane – boxes 1, 2, and 3	HPE Smart Array P816i-a Gen10 Controller, ports 1, 2, and 3
x4 Mini SAS cable	P22899-001	4 LFF SAS/SATA drive backplane – boxes 1, 2, and 3	HPE 12GB SAS Expander Card, ports 3, 4, and 5 in the primary riser cage
x4 Mini SAS cable to x4 Mini SAS cable	869823-001	2 LFF stacked backplane	HPE 12GB SAS Expander Card, primary riser cage

Table 5: Power Switch, Display, Serial, and USB port cable options

Option kit	Cable part number	From	To
Power switch, USB, and thermal sensor cable	<u>P14312-001</u>	SFF Front I/O module	Front power/USB 3.1 Gen1 connector
Power switch, USB, and thermal sensor cable	<u>P14312-001</u>	8 LFF Front I/O module	Front power/USB 3.1 Gen1 connector
Systems Insight Display, power switch board, USB, and thermal sensor cable	<u>P14313-001</u>	System Insight Display	Front power/USB 3.1 Gen1 connector
Power switch and thermal sensor cable	<u>P16076-001</u>	Bezel ear switch module	Front power/USB 3.1 Gen1 connector
Display port and USB cable	<u>P14314-001</u>	Universal Media Bay	Display port/USB connector

Table Continued

Option kit	Cable part number	From	To
Display port cable	869808-001	8 LFF Front I/O module	Display port/USB connector
Universal Media Bay external USB cable	P14315-001	Universal Media Bay, box 1	Internal dual USB port
Rear serial port cable	P14317-001	Rear serial interface	Serial port connector

Table 6: Straight, Direct Connect, and Stand up card NVMe Cable options (not shown)

Option kit	Cable part number	From	To
NVMe Direct Connect Cables	P14328-001	2 SFF Stacked U.3 backplane, box 1	Tertiary riser, x16 PCIe adapter
NVMe Direct Connect Cables	P14329-001	HPE DL38X Gen10 Plus AROC to NVMe Adapter, port 7A	Primary riser

Table 7: Splitter, Direct Connect Riser NVMe Cable options (not shown)

Option kit	Cable part number	From	To
NVMe Direct Connect Cables	P14334-001	2x4 SFF Premium U.3 Midtray, ports 1-4	Secondary riser, x16 or x32 PCIe adapter

Table 8: Fan out cable options – Slim SAS to x4 SAS

Option kit	Cable part number	From	To
Slim SAS x8 (1) to Mini SAS x4 (2)	P20849-001	4 LFF SAS/SATA backplane, box 3	4 LFF midtray backplane and NVMe port 1C on the system board
Slim SAS x8 (1) to Mini SAS x4 (2)	P20849-001	4 LFF SAS/SATA backplane, box 3	4 LFF midtray backplane and HPE Smart Array Gen10 Plus Tri-Mode AROC Controller
Slim SAS x8 (1) to Mini SAS x4 (2)	P20848-001	4 LFF SAS/SATA backplane, box 1-2	NVMe port 8A on the system board
Slim SAS x8 (1) to Mini SAS x4 (2)	P20848-001	4 LFF SAS/SATA backplane, box 1-2	Primary riser, x16 PCIe adapter

Table 9: Straight cable options – OCP Pass Through NVMe Cables (not shown)

Option kit	Cable part number	From	To
OCP Pass Through NVMe Cables (for processor 1)	P14318-001	NVMe port 8A on the system board	OCP pass through
OCP Pass Through NVMe Cables (for processor 2)	P16075-001	NVMe port 1C on the system board	Low profile Slim SAS OCP pass through

Table 10: Power cable options

Option kit	Cable part number	From	To
SFF power cable	<u>869825-001</u>	8 SFF Premium U.3 backplane and 8 SFF SAS /SATA, boxes 1, 2, and 3	Drive backplane power connectors (all 3)
LFF power cable	<u>P14341-001</u>	4 LFF low profile SAS/SATA drive backplane, box 1	Drive backplane power connector, box 1
LFF power cable	<u>P14342-001</u>	4 LFF low profile SAS/SATA drive backplane, box 2 or 3	Drive backplane power connector, box 2 or 3
LFF power cable	<u>P14343-001</u>	4 LFF low profile SAS/SATA drive backplane, box 2	2 SFF Side by Side backplane
Rear 2 SFF riser power cable	<u>P14345-001</u>	Riser board power connector, primary or secondary riser cage	Drive backplane power connector, 2 SFF drive option backplane, primary or secondary riser cage
Midtray, 2 SFF, and 2 LFF power cable	P14346-001	Drive backplane power connector	Midtray, 2 SFF riser backplane, and 2 LFF riser backplane in primary, secondary, and tertiary riser

Table 11: GPU power (not shown)

Option kit	Cable part number	From	To
HPE GPU 8px6p Y-Power Cable Kit	869805-001	GPU	Riser
HPE GPU 8p Keyed GPU Cable Kit	869820-001	GPU	Riser
Standard GPU power cable	P03851-001	GPU	Riser

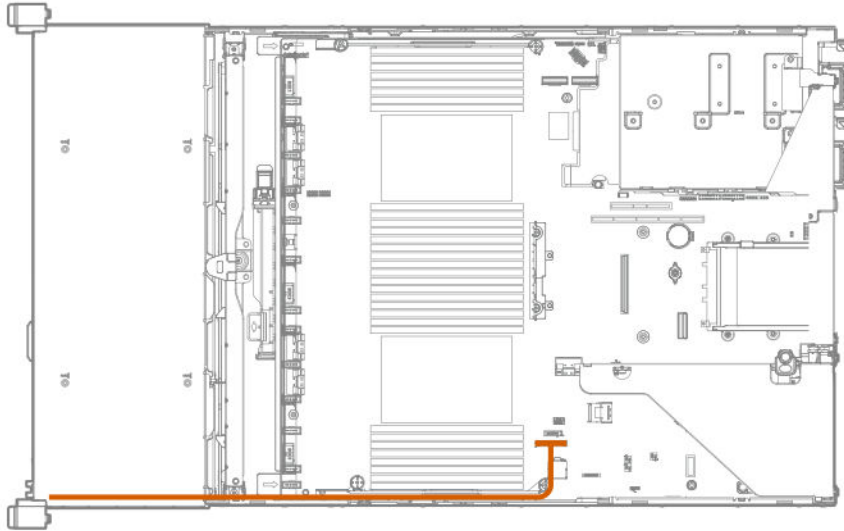
Table 12: HPE ProLiant DL385 Gen10 Server cable bundle options

Option kit	Cable part number	From	To
8 NVMe Balanced Direct Solution (P19358-B21)			
NVMe Direct Connect Cable	P22345-001	8 SFF Premium U.3 backplane, Box 2, ports 1 and 2	NVMe ports 1A and 2A on the system board (processor 1)
NVMe Direct Connect Cable	P22346-001	8 SFF Premium U.3 backplane, Box 2, ports 3 and 4	NVMe ports 1B and 2B on the system board (processor 2)
8 NVMe Direct Single Processor Solution (P22750-B21)			

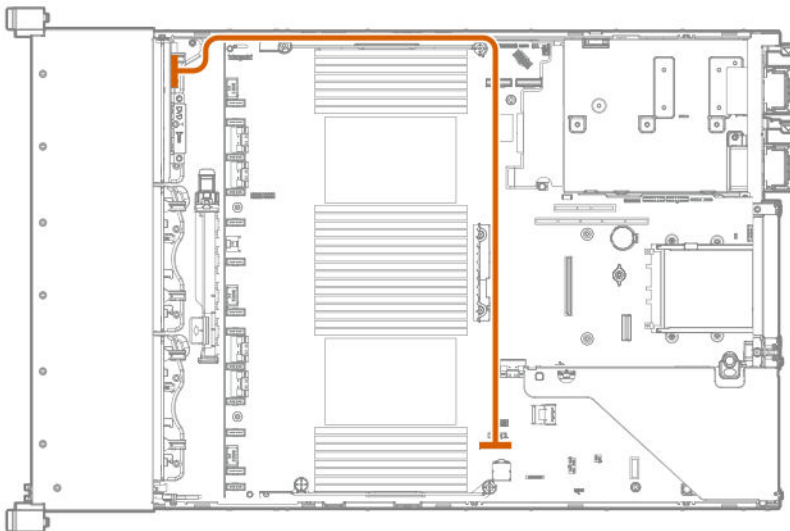
Table Continued

Option kit	Cable part number	From	To
NVMe Direct Connect Cable	P22345-001	8 SFF Premium U.3 backplane, Box 2, ports 1 and 2	NVMe ports 1A and 2A on the system board (processor 1)
NVMe Direct Connect Cable	P22348-001	8 SFF Premium U.3 backplane, Box 2, ports 3	HPE DL38X Gen10 Plus AROC to NVMe Adapter, port 7A
NVMe Direct Connect Cable	P22347-001	8 SFF Premium U.3 backplane, Box 2, ports 4	NVMe port 8A on the system board
16 NVMe Balanced Direct Solution (P22751-B21)			
NVMe Direct Connect Cable	P22345-001	8 SFF Premium U.3 backplane, Box 1, ports 1 and 2	NVMe ports 1B and 2B on the system board (processor 2)
NVMe Direct Connect Cable	P22349-001	8 SFF Premium U.3 backplane, Box 1, ports 3 and 4	NVMe ports 1C and 2C on the system board (processor 2)
NVMe Direct Connect Cable	P22345-001	8 SFF Premium U.3 backplane, Box 2, ports 1 and 2	NVMe ports 1A and 2A on the system board (processor 1)
NVMe Direct Connect Cable	P22347-001	8 SFF Premium U.3 backplane, Box 2, port 3	HPE DL38X Gen10 Plus AROC to NVMe Adapter, port 7A
NVMe Direct Connect Cable	P22348-001	8 SFF Premium U.3 backplane, Box 2, port 4	NVMe port 8A on the system board
24 NVMe Balanced Direct Solution (P19359-B21)			
NVMe Direct Connect Cable	P22904-001	8 SFF Premium U.3 backplane, Box 1, 2, or 3, port 2	Primary or secondary riser, x16 or x32 PCIe adapter
NVMe Direct Connect Cable	P22349-001	8 SFF Premium U.3 backplane, Box 1, ports 3 and 4	NVMe ports 1C and 2C on the system board (processor 2)
NVMe Direct Connect Cable	P22345-001	8 SFF Premium U.3 backplane, Box 2, ports 1 and 2	NVMe ports 1A and 2A on the system board (processor 1)
NVMe Direct Connect Cable	P22346-001	8 SFF Premium U.3 backplane, Box 2, ports 3 and 4	NVMe ports 1B and 2B on the system board (processor 2)
NVMe Direct Connect Cable	P22347-001	8 SFF Premium U.3 backplane, Box 1, port 1	HPE Smart Array P408i-a or P816i-a Gen10 Controller, port 7A
NVMe Direct Connect Cable	P22348-001	8 SFF Premium U.3 backplane, Box 1, port 2	NVMe port 8A on the system board
NVMe Direct Connect Cable	P22903-001	8 SFF Premium U.3 backplane, Box 3, port 3 and 4	Primary riser, x16 or x32 PCIe adapter

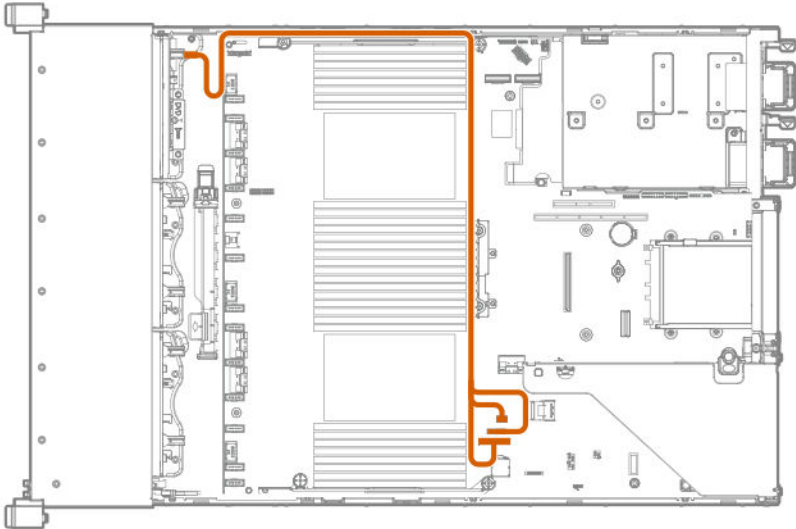
Cable routing: 8 LFF front I/O module to SATA Port



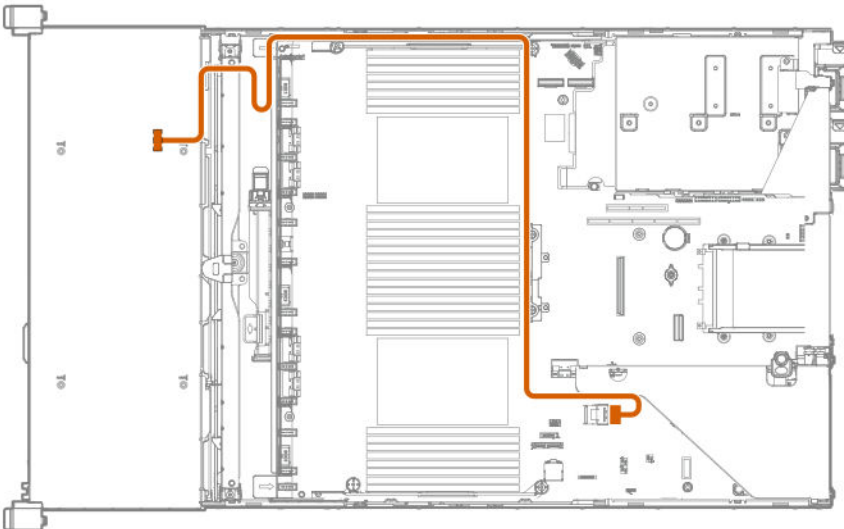
Cable routing: Universal Media Bay to SATA Port



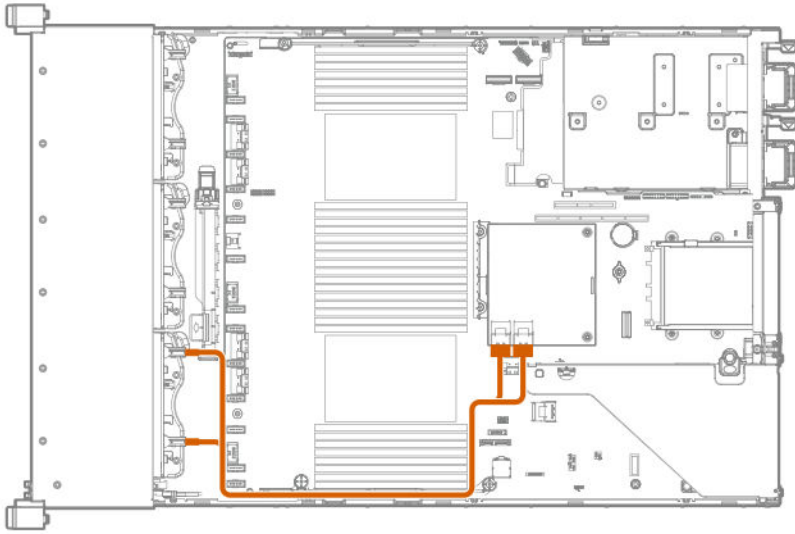
Cable routing: 2 SFF Slim SAS Universal Media Bay in box 1 to system board



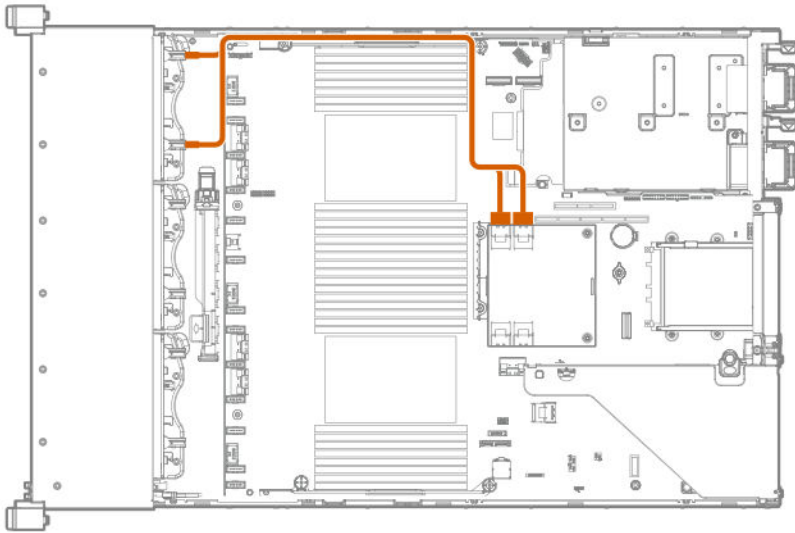
Cable routing: 2 SFF side by side SATA to system board



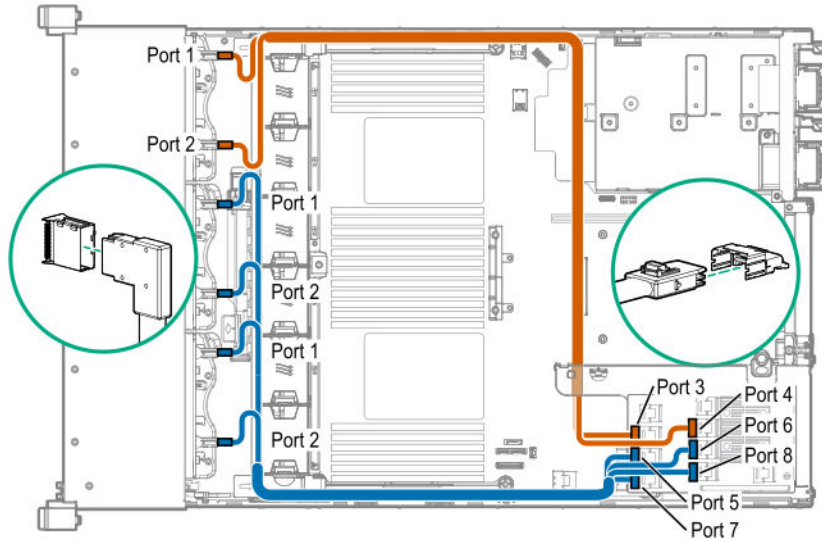
Cable routing: Front 8 SFF drive options (box 3 to HPE Smart Array E208i-a SR Gen10 Controller, ports 1-2)



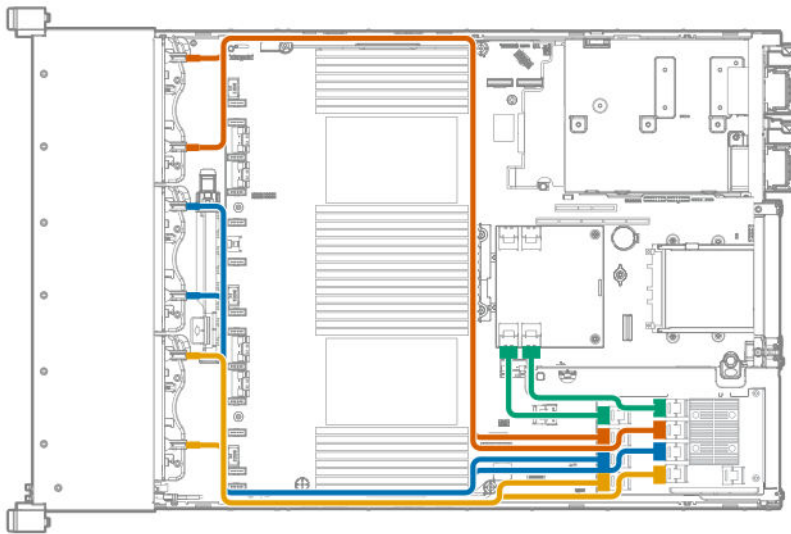
Cable routing: Front 8 SFF drive options (box 1 to HPE Smart Array P816i-a SR Controller, ports 3-4)



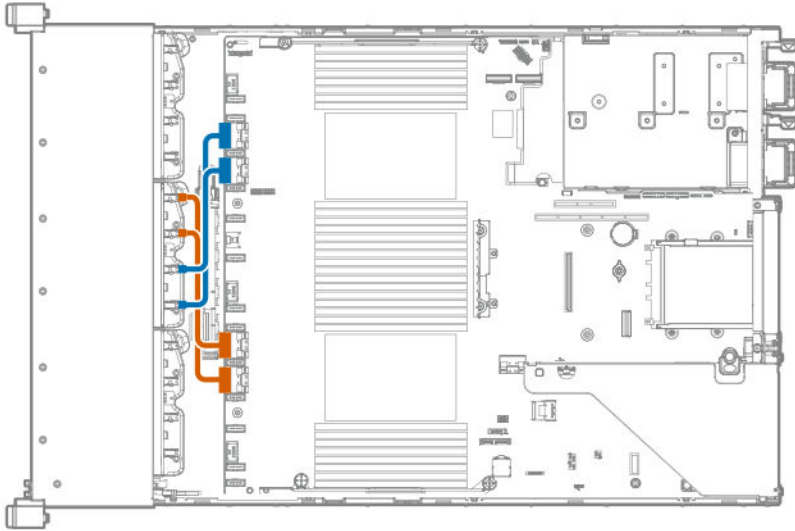
Cable routing: 24 SFF SAS drive options (box 1, box 2, and box 3 to SAS expander)



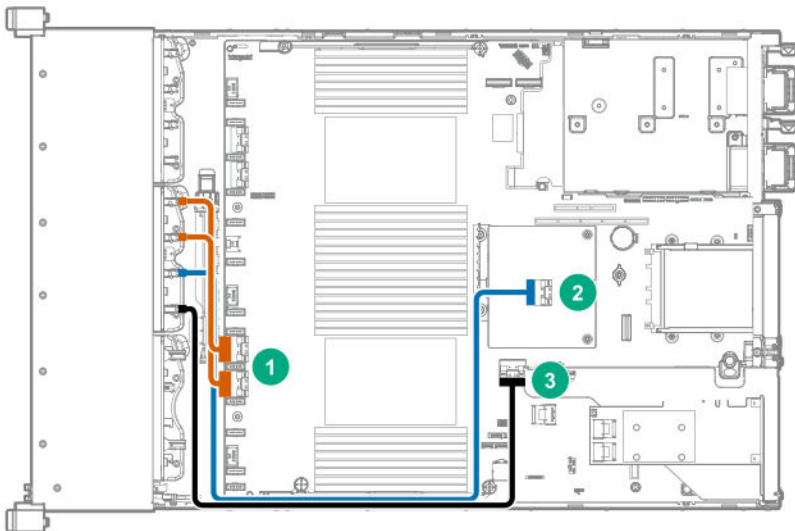
Cable routing: 24 SFF drive options (box 1, box 2, and box 3 to SAS expander card and HPE Smart Array P816i-a SR Gen10 Controller, ports 1-2)



Cable routing: 8 NVMe Balanced Direct Solution



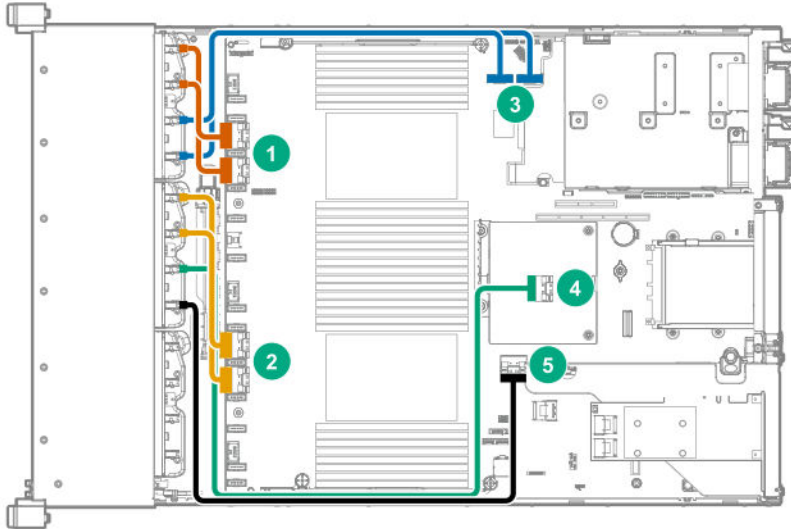
Cable routing: 8 NVMe Direct Single Processor Solution



Item	Connections
1	NVMe ports 1A and 2A on the system board
2	HPE DL38X Gen10 Plus AROC to NVMe Adapter, port 7A
3	NVMe port 8A on the system board

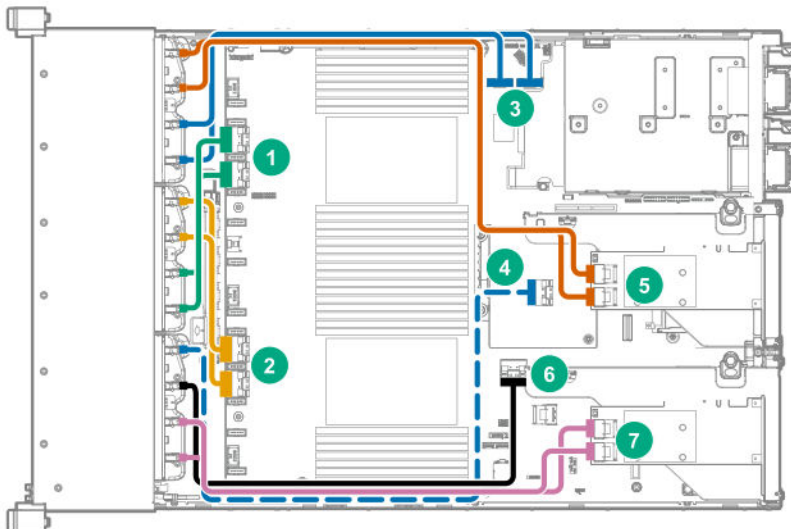


Cable routing: 16 NVMe Balanced Direct Solution



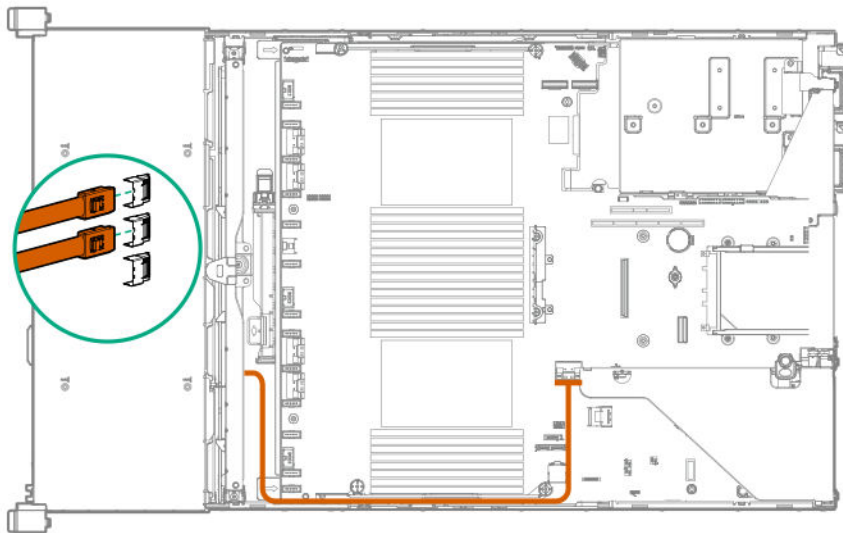
Item	Connections
1	NVMe ports 1B and 2B
2	NVMe ports 1A and 2A
3	NVMe ports 1C and 2C
4	HPE DL38X Gen10 Plus AROC to NVMe Adapter, port 7A
5	NVMe port 8A

Cable routing: 24 NVMe Balanced Direct Solution

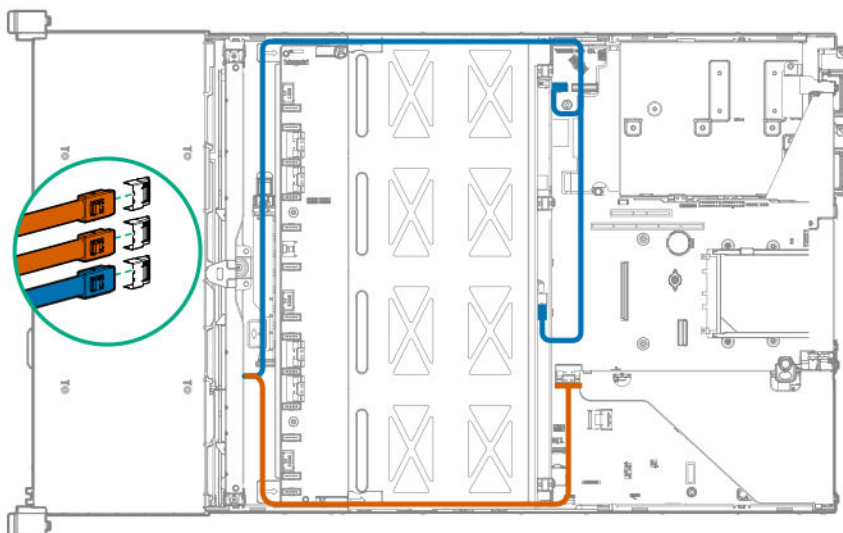


Item	Connections
1	NVMe ports 1B/2B
2	NVMe ports 1A/2A
3	NVMe ports 1C/2C
4	HPE Smart Array Flexible Smart Array Controller port 7A
5	HPE Smart Array controller ports (secondary riser)
6	NVMe port 8A
7	HPE Smart Array controller ports (primary riser)

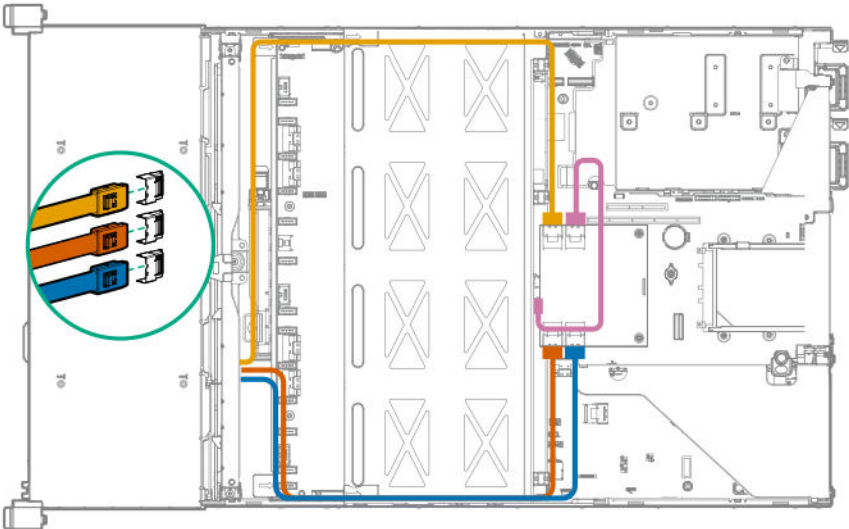
Cable routing: Front 8 LFF to system board



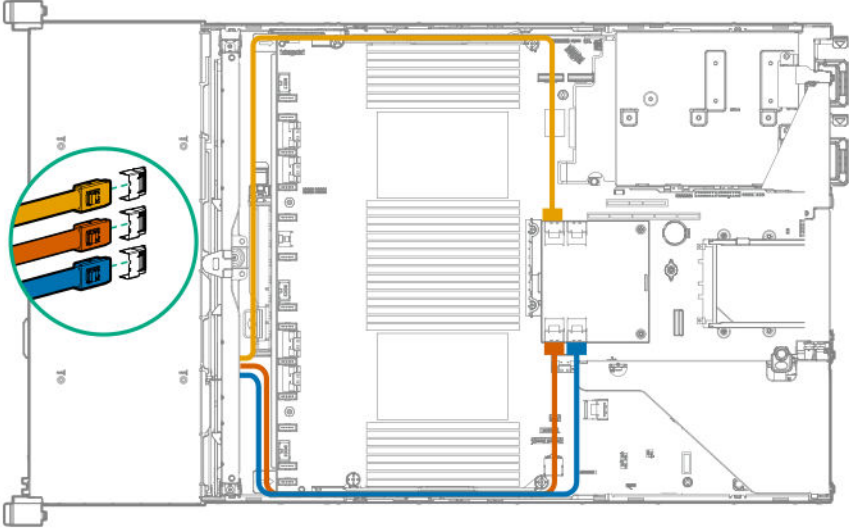
Cable routing: 12 LFF drive options (midtray to system board)



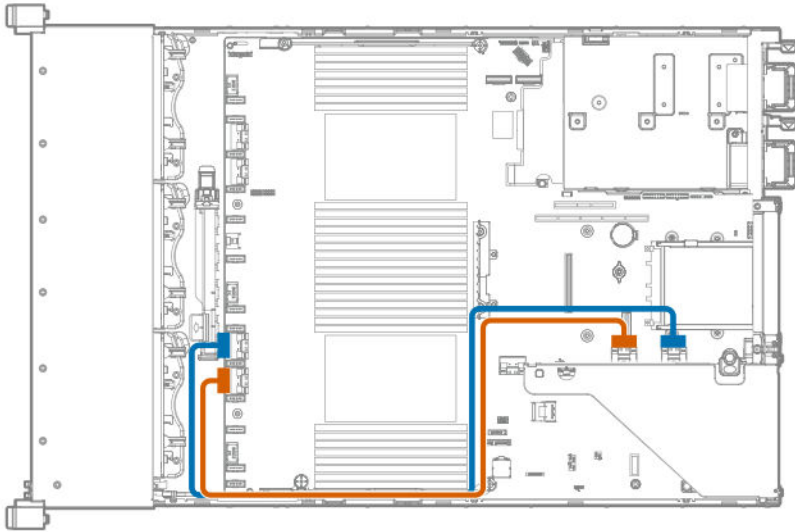
Cable routing: Front 12 LFF drive options (midtray to HPE Smart Array P816i-a SR Gen10 Controller, ports 1-4)



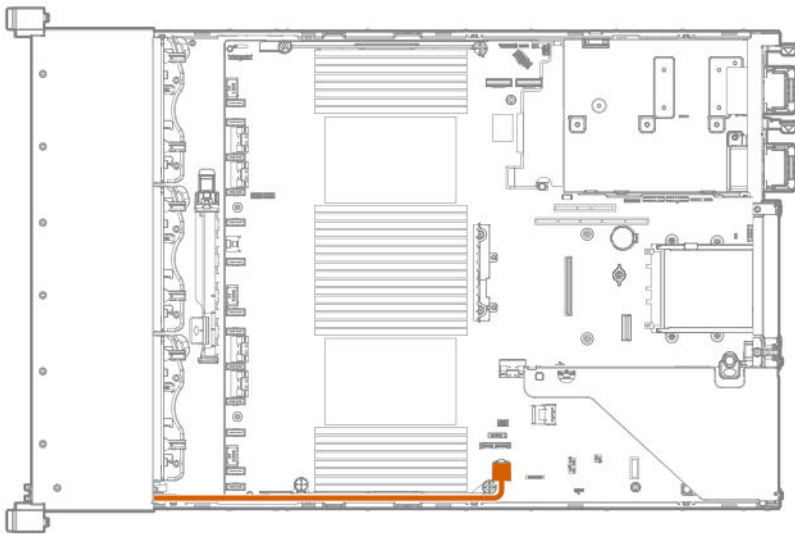
Cable routing: LFF backplane to HPE Smart Array P816i-a SR Gen10 Controller



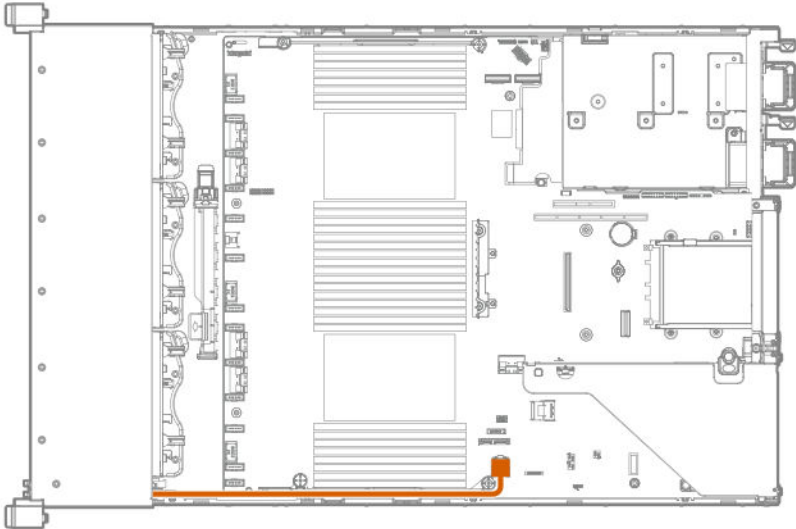
Cable routing: System board processor 1 (ports 1A and 2A) to slotted expansion board ports 1-2 in the primary riser



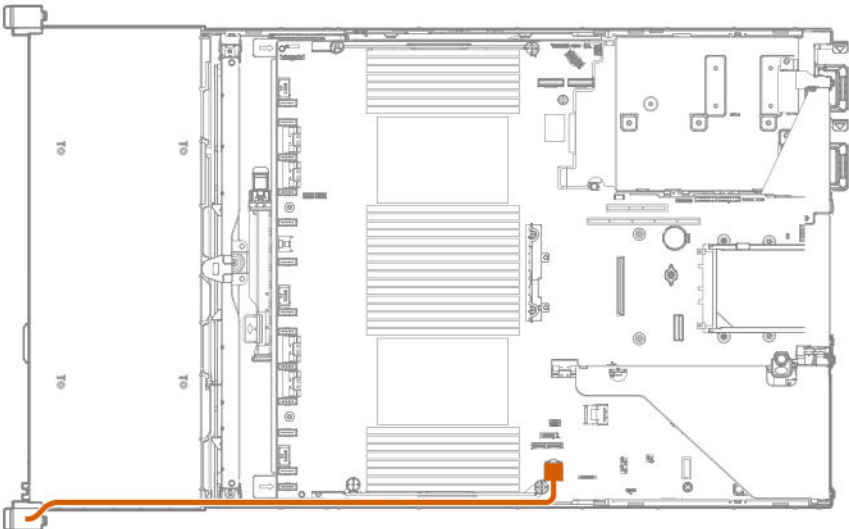
Cable routing: SFF Front I/O module to Front power/USB 3.1 Gen1 connector



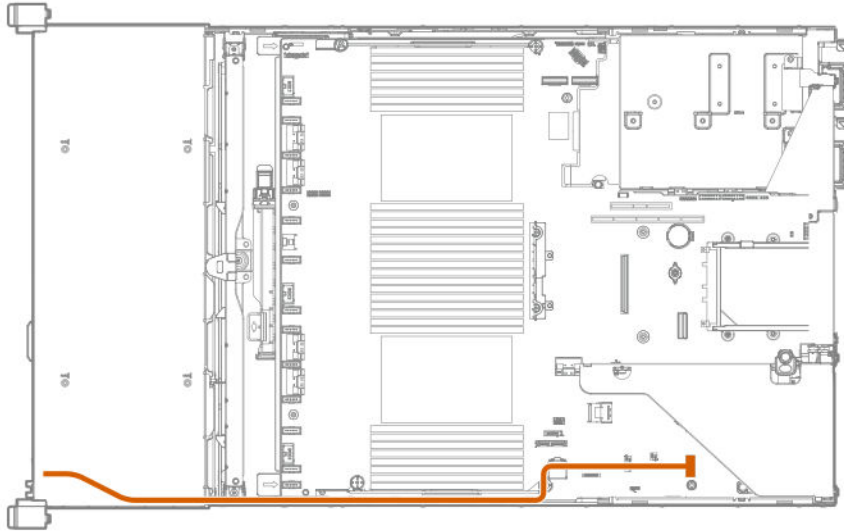
Cable routing: Systems Insight Display to front power/USB 3.1 Gen1 connector



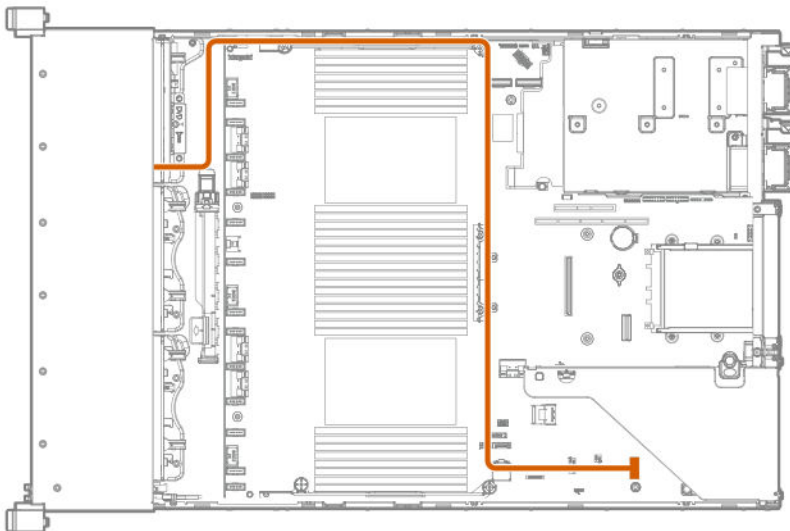
Cable routing: 12 LFF power switch and thermal sensor to system board



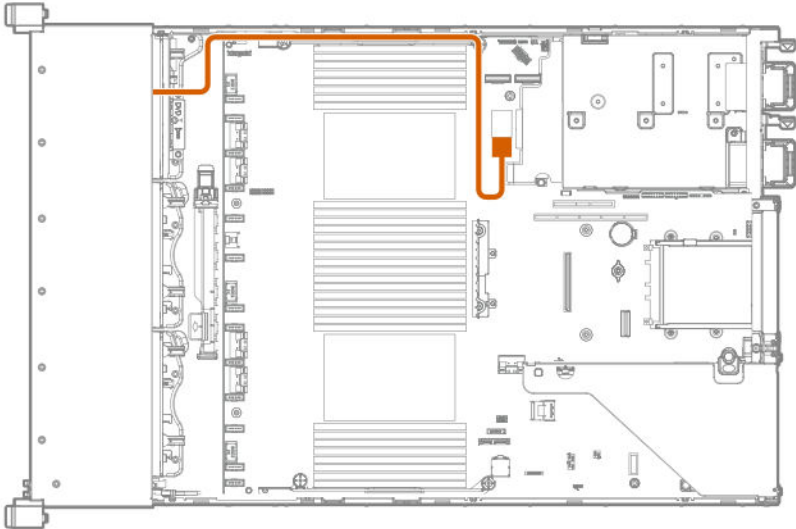
Cable routing: 8 LFF front I/O module display port to system board



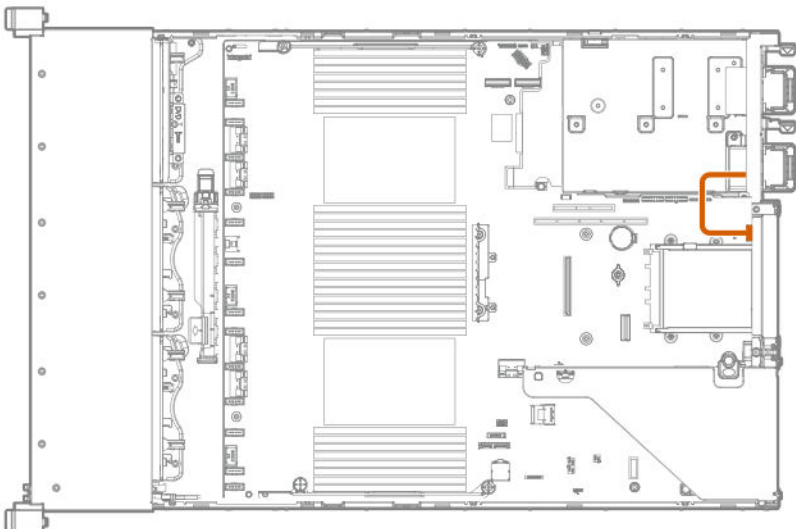
Cable routing: Display port to system board



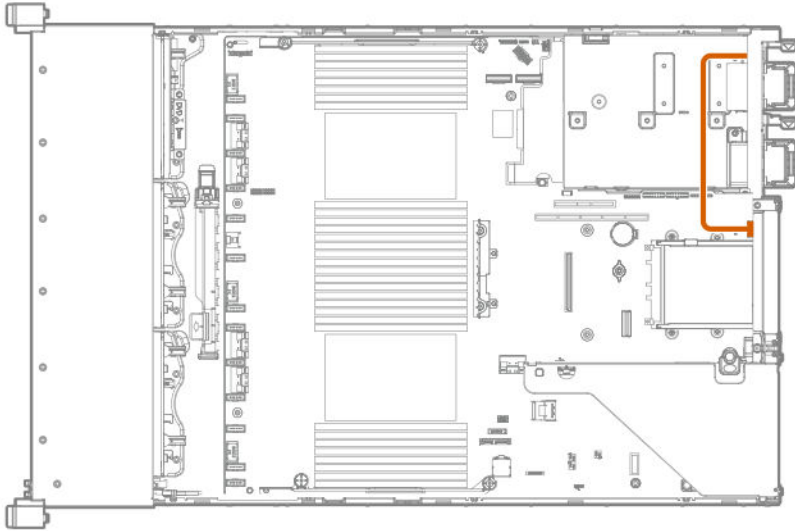
Cable routing: Universal Media bay external USB to dual USB port on system board



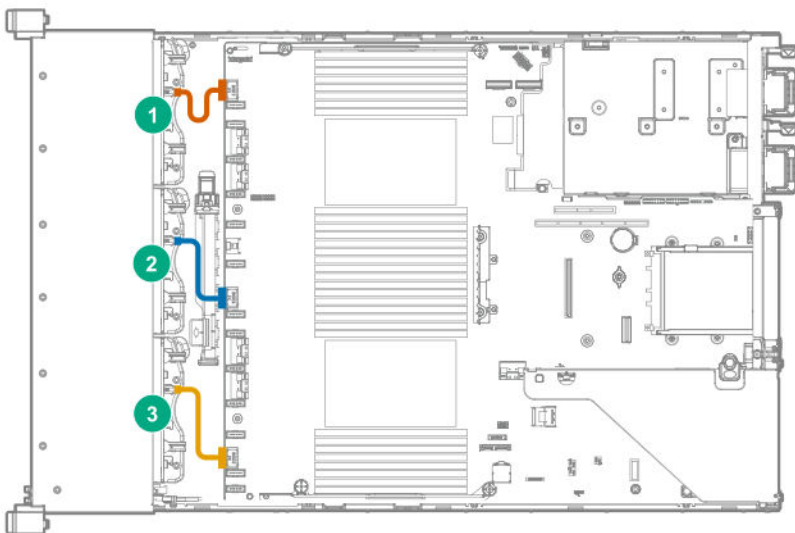
Cable routing: Rear serial port interface



Cable routing: Rear serial port interface (tertiary riser)



Cable routing: SFF backplane power cabling to the system board



Item	Drive box
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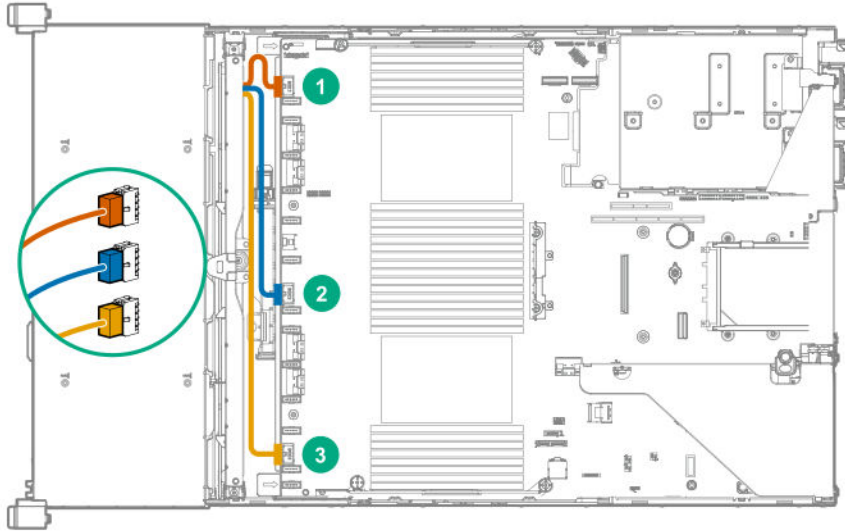
1	Box 1
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2	Box 2
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3	Box 3
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Cable routing: LFF backplane power cabling to the system board



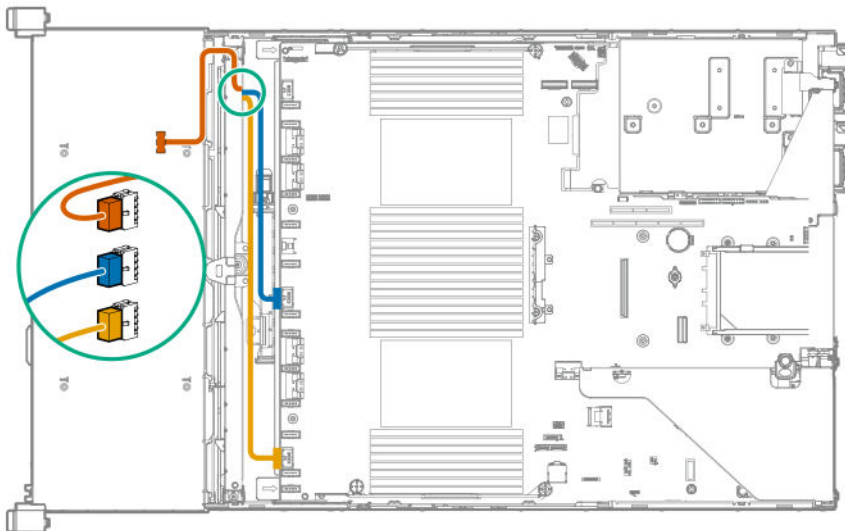
Item Drive box

1 Box 1

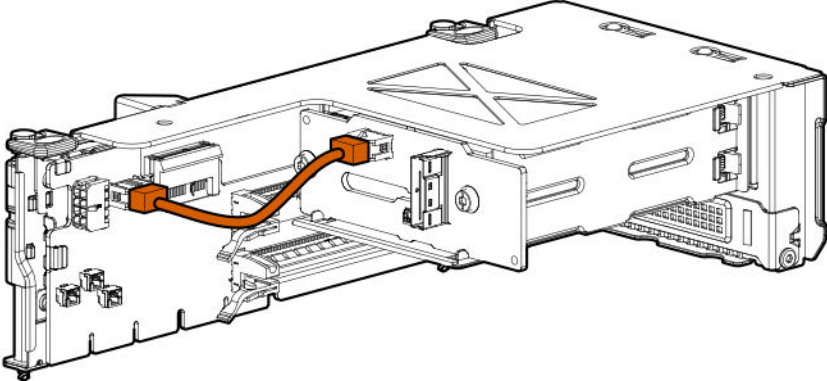
2 Box 2

3 Box 3

Cable routing: 4 LFF backplane and 2 SFF side by side LFF power cable connections to the system board



Cable routing: Rear 2 SFF riser power cable



Specifications

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](#).

Mechanical specifications

Specification	Value
Height	87.50 mm (3.44 in)
Depth, SFF	711.20 mm (28.00 in)
Depth, LFF	749.30 mm (29.50 in)
Width	445.40 mm (17.54 in)
Weight, SFF minimum	15.10 kg (33.28 lb)
Weight, SFF maximum	19.70 kg (43.43 lb)

Table Continued



Specification	Value
Weight, LFF minimum	17.30 kg (38.14 lb)
Weight, LFF maximum	24.70 kg (54.45 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 500W Flex Slot Platinum Hot-plug Low Halogen Power Supply**
- **HPE 800W Flex Slot Platinum Hot-plug Low Halogen Power Supply**
- **HPE 800W Flex Slot Titanium Hot-plug Low Halogen Power Supply**
- **HPE 800W Flex Slot Universal Hot-plug Low Halogen Power Supply**
- **HPE 800W Flex Slot -48VDC Hot-plug Low Halogen Power Supply**
- **HPE 1600W Flex Slot Platinum Hot-plug Low Halogen Power Supply**

For detailed power supply specifications, see the QuickSpecs on the [Hewlett Packard Enterprise website](#).

HPE 500W 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

Table Continued



Specification	Value
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 800W 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	—

Table Continued



Specification	Value
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 800W 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	4.35 A at 200 VAC 3.62 A at 240 VAC
	3.62 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 800W 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 3.1 A at 277 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 800W Flex Slot -48VDC 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

Table Continued



Specification	Value
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 1600W 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
	7.2 A at 240 VAC
Maximum rated input power	1734 W at 200 VAC
	1725 W at 240 VAC
BTUs per hour	5918 at 200 VAC
	5884 at 240 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



Websites

General websites

Hewlett Packard Enterprise Information Library

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

Single Point of Connectivity Knowledge (SPOCK) Storage compatibility matrix

<https://www.hpe.com/storage/spock>

Storage white papers and analyst reports

<https://www.hpe.com/storage/whitepapers>

For additional websites, see **Support and other resources**.

Product websites

HPE ProLiant DL385 Gen10 Plus Server product page

<http://www.hpe.com/servers/dl385-gen10>

HPE ProLiant DL385 Gen10 Plus Server user documents

<http://www.hpe.com/info/dl385gen10-docs>



Support and other resources

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 will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

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

Remote support and Proactive Care information

HPE Get Connected

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

HPE Proactive Care services

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

HPE Datacenter Care services

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

HPE Proactive Care service: Supported products list

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

HPE Proactive Care advanced service: Supported products list

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

Proactive Care customer information

Proactive Care central

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

Proactive Care service activation

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

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>

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