HPE ProLiant DL560 Gen8 Server - Product Information Reference

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Abstract

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Revision history

Part number	Publication date	Edition	Summary of changes

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Summary

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Product description
What's new

Product description



The HPE ProLiant DL560 Gen8 Server redefines Density-Optimized 4-socket rack server technology without compromising on performance, scalability, and expandability. Supporting the new High-Density and cost effective Intel Xeon E5-4600v2 processors, the DL560 Gen8 is ideal for virtualization, database, business processing, and general 4P Data-Intensive applications where optimization of data center space and price/performance is paramount.

What's new

- Support for the Intel Xeon E5-4600 v2 processor product family.
- Support for Dual Data Rate (DDR3)-1600 1.35 V memory.
- Support for DDR3-1866 1.5 V memory.

Standard Models

Subtopics

New RoHS compliant part numbers
Standard models

New RoHS compliant part numbers

To find the latest RoHS compliance information, please use the HPE PartSurfer at the web address of **click here to access the HPE Partsurfer**and click on one of the linked model numbers. When locating RoHS information in PartSurfer, you can use the option part number for the components, the sales order number for a system that the component is used in, or the spare part number for a specific part. You can find the sales order numbers and option part numbers in the product QuickSpecs.

Standard models

Model	Option Part #	Config Code	Processor	Processor Spare Part#	Memory	Hard Drive	Storage Controller
HPE ProLiant DL560 Gen8 E5-4603, 2.0-GHz, 4-core, 2P, 16GB-R server(Entry model)	686786-001 [1]	NA	(2) Intel Xeon E5-4603 (2.0 GHz/4-core/10MB/6.4GT-s QPI/95 W) processors	687968-001	16GB (2 x 8 GB) PC3L-10600R (DDR3-1333) Registered DIMMS	None ship standard	HPE Smart Array P420i/ZM (RAID 0/1/1+0)
HPE ProLiant DL560 Gen8 E5-4610, 2.4-GHz, 6-core, 2P, 32GB-R hot plug LFF 1200-W PS server(Base model)	686785-001 [1]	NA	(2) Intel Xeon E5-4610 (2.4 GHz/6-core/15MB/6.4GT-s QPI/95 W) processors	687966-001	32GB (4 x 8 GB) PC3L-10600R (DDR3-1333) Registered DIMMS	None ship standard	HPE Smart Array P420i/1GB FBWC (RAID 0/1/1+0/5/5+0)
HPE ProLiant DL560 Gen8 E5-4640, 2.4-GHz, 8-core, 4P, 64GB-R hot plug LFF, 1200-W PS server(Performance model)	686784-001 [1]	NA	(4) Intel Xeon E5-4640 (2.4 GHz/8-core/20MB/6.4GT-s QPI/95 W) processors	687964-001	64GB (8 x 8 GB) PC3-12800R (DDR3-1600) Registered DIMMS	None ship standard	HPE Smart Array P420i/2GB FBWC (RAID 0/1/1+0/5/5+0)

Model	Option Part #	Config Code	Processor	Processor Spare Part#	Memory	Hard Drive	Storage Controller
HPE ProLiant DL560 Gen8 E5-4603v2 2P 16GB-R Hot Plug SFF 1200-W RPS Server	732024-001 [1]	NA	(2) Intel Xeon E5-4603 v2 (2.2 GHz/4-core/10MB/6.4GT-s QPI/95 W) Processors	733837-001	16GB (2 x 8GB) PC3L-12800R (DDR3-1600) Registered DIMMS	None ship standard	HPE Smart Array P420i/ZM (RAID 0/1/1+0)
HPE ProLiant DL560 Gen8 E5-4610v2 2P 32GB-R Hot Plug SFF 1200-W RPS Server	732341-001 [1]	NA	(2) Intel Xeon E5-4610 v2 (2.3 GHz/8-core/16MB/7.2GT-s QPI/95 W) Processors	733835-001	32GB (4 x 8GB) PC3L-12800R (DDR3-1600) Registered DIMMS	None ship standard	HPE Smart Array P420i/1GB FBWC (RAID 0/1/1+0/5/5+0/6/6+0)
HPE ProLiant DL560 Gen8 E5-4640v2 4P 128GB-R Hot Plug SFF 1200-W RPS Server	732342-001 [1]	NA	(4) Intel Xeon E5-4640 v2 (2.2 GHz/10-core/20MB/8.0GT-s QPI/95 W) Processors	733833-001	128GB (16 x 8GB) PC3-14900R (DDR3-1866) Registered DIMMS	None ship standard	HPE Smart Array P420i/2GB FBWC (RAID 0/1/1+0/5/5+0/6/6+0)

NOTE

1: Direct link to the parts list will be added as soon as it becomes available.

Product features

Feature	Description
Processor (One or more of the following depending on model)	**E5-4600 v2 series processors** • **Twelve-Core processors** ◦ Intel Xeon E5-4657L v2 (2.4 GHz/12-core/30MB/115 W) processor

Feature	Description
	• **Ten-Core processors** ◦ Intel Xeon E5-4650 v2 (2.4 GHz/10-core/25MB/95 W) processor ◦ Intel Xeon E5-4640 v2 (2.2 GHz/10-core/20MB/95 W) processor • **Eight-Core processors** ◦ Intel Xeon E5-4627L v2 (3.3 GHz/8-core/16MB/130 W) processor ◦ Intel Xeon E5-4620 v2 (2.6 GHz/8-core/20MB/95 W) processor ◦ Intel Xeon E5-4610 v2 (2.3 GHz/8-core/16MB/95 W) processor • **Six-Core processors** ◦ Intel Xeon E5-4607 v2 (2.6 GHz/6-core/15MB/95 W) processor • **Four-Core processors** ◦ Intel Xeon E5-4603 v2 (2.2 GHz/4-core/10MB/95 W) processor **E5-4600 series processors** • **Eight-Core processors** ◦ Intel Xeon E5-4650 (2.7 GHz/8-core/20MB/130 W) processor ◦ Intel Xeon E5-4650L (2.6 GHz/8-core/20MB/115 W) processor ◦ Intel Xeon E5-4640 (2.4 GHz/8-core/20MB/95 W) processor ◦ Intel Xeon E5-4620 (2.2 GHz/8-core/16MB/95 W) processor • **Six-Core processors** ◦ Intel Xeon E5-4617 (2.9 GHz/6-core/15MB/130 W) processor ◦ Intel Xeon E5-4610 (2.4 GHz/6-core/15MB/95 W) processor ◦ Intel Xeon E5-4607 (2.2 GHz/6-core/12MB/95 W) processor • **Four-Core processors** ◦ Intel Xeon E5-4603 (2.0 GHz/4-core/10MB/95 W) processor
Cache memory (One of the following depending on model)	• 30MB (1 x 30MB) Level3 • 25MB (1 x 25MB) Level3 • 20MB (1 x 20MB) Level3 (For Eight-Core processors)

Feature	Description
	• 16MB (1 x 16MB) Level3 (For Eight-Core processors) • 15MB (1 x 15MB) Level3 (For Six-Core processors) • 12MB (1 x 12MB) Level3 (For Six-Core processors) • 10MB (1 x 10MB) Level3 (For Four-Core processors)
Chipset [1]	• Intel C600 series chipset • Intel E5-4600 and E5-4600v2 processor family
Upgradeability	• Upgradeable to 4 processors (32-cores) • Up to 48 Dual In-lin Memory Module (DIMM) slots available for higher memory capacity • FlexibleLOM connector for 1Gb or 10Gb, Quadruple Data Rate (QDR) and Fourteen Data Rate (FDR) InfiniBand networking options • Small Form Factor (5SFF) hard drive bays • Optional 3 slot riser (x16, x8, x8), or 2 slot (x16, x16) [2]
On System Management Processor	• HPE iLO (Firmware: HPE iLO 4) [3]
Memory protection	• Advanced ECC [4] • Online spare [5] • Lock-Step mode [6]
Memory [7] (One of the following depending on model)	• **Type** ◦ HPE SmartMemory ◦ DDR3 Load Reduced (LRDIMM), Registered DIMM (RDIMM) • **DIMM Slots available** ◦ 48 (12 DIMM slots per processor/4 channels per processor/3 DIMMs per channel) • **Standard** (Entry model) ◦ 16GB (1 x 4GB) PC3L-10600R (DDR3-1333) RDIMMs

Feature	Description
	• **Standard** (Base models) ◦ 32GB (4 x 4GB) PC3L-10600R (DDR3-1333) RDIMMs • **Standard** (High performance models) ◦ 64GB (4 x 8GB) PC3-12800R (DDR3-1600) RDIMMs • **Maximum capacity** (RDIMM) ◦ 1.5TB (48 x 32GB RDIMM @ 1600 MHz) • **Maximum capacity**(LRDIMM) ◦ 1.5TB (48x 32GB LRDIMM @ 1866 MHz)
Network controller (One of the following depending on model)	• **Entry models** ◦ HPE Ethernet 1Gb 4-port 331FLR Adapter • **Base models** ◦ HPE Ethernet 1Gb 4-port 331FLR Adapter • **High performance models** (One of the following depending on model) ◦ HPE Ethernet 1Gb 4-port 331FLR Adapter ◦ HPE Ethernet 10Gb 2-port 530FLR-SFP+ (Small Form Factor Pluggable Plus) Adapter
Expansion slots [8]	

	Expansion slots #	Technology	Buswidth [9]	Connector width [10]	Bus number [10]	Form factor	Notes
Primary riser (standard)							

Feature	Description						
	1	PCIe 3.0	X16	X16	7	Full length, full height slot	Proc 1
	2	PCIe 3.0	X8	X8	10	Half length, full height slot	Proc 1
	3	PCIe 2.0	X4	X8	13	Half length, full height slot	Chipset
PCIe riser (Optional 3-slot)	4	PCIe 3.0	X16	X16	16	Full length, full height slot	Proc 2
	5	PCIe 3.0	X8	X8	20	Half length, full height slot	Proc 2
	6	PCIe 3.0	X8	X8	23	Half length, full height slot	Proc 2
PCIe riser (Optional 2-slot)	4	PCIe 3.0	X16	X16	16	Full length, full height slot	Proc 2
	5	PCIe 3.0	X16	X16	20	Half length, full height slot	Proc 2
Storage controller(One of the following depending on model)	• **Entry models** ◦ HPE Smart Array P420i/ZM (RAID 0/1/1+0) • **Base models** ◦ HPE Smart Array P420i/1GB with Flash-Based Write Cache(FBWC) (RAID 0/1/1+0/5/5+0/6/6+0) • **Performance models** ◦ HPE Smart Array P420i/2GB with FBWC (RAID 0/1/1+0/5/5+0/6/6+0)						
Internal storage devices [11]	• **Diskette drive**: None						

Feature	Description
	• **Optical drive**: None ship standard (Optional: USB DVD-RW available) • **Hard drives**: None ship standard • **Drive bays standard**: 5SFF drive bays total
Maximum internal storage	• **Hot-Plug SFF SAS**: 6.0TB (5 x 1.2TB) • **Hot-Plug SFF SAS SSD**: 4.0TB (5 x 800GB) • **Hot-Plug SFF SATA SSD**: 2.0TB (5 x 400GB)
Interfaces	• **Serial**: 1 • **Video**: 2 (1 front, 1 back) not active simultaneously • **FlexibleLOM network ports**: Some models come standard with 4 x 1GB ports while others come with 2 x 10GB ports. • **HPE iLO Remote Management network port**: 1Gb dedicated • **Secure Digital (SD) slot** [12]: 1 internal secure • **USB 2.0 Ports**: Up to 7 total: up to 2 front, 4 back, 1 internal
System fans	6 fans (N+1 redundancy standard)

Graphics	• Integrated Matrox G200 video standard
	  ◦ 1280 x 1024 (32 b/p)
	  ◦ 1920 x 1200 (16 b/p)
	• HPE iLO 4 On System Management Memory
	  ◦ 16MB Flash
	  ◦ 256MB DDR 3 with ECC (112MB after ECC and video)

Industry standard compliance	• ACPI 2.0b Compliant • PCIe 3.0 Compliant • PXE Support • WOL Support • Microsoft Logo certifications

Feature	Description
	• USB 2.0 Compliant

NOTE

1. **Click here for more information regarding Intel chipsets**.
2. To take advantage of the additional 3 PCI Slot upgrade, the second processor must be i nstalled.
3. **Click here for more information on HPE iLO**.
4. Advanced ECC uses Single Device Data Correction (SDDC) to detect and correct single and all Multi-Bit error that occurs within a single DRAM Chip. Both x4 and x8 SDDC are supported (x8 requires lockstep mode).
5. Memory online spare mode (Also known as rank spare mode) detects a rank that is deg rading and switches operation to the spare rank.
6. Memory lockstep mode is used to correct a single x8 Dynamic Random Access Memor y (DRAM) device failure on a DIMM. The DIMMs in each paired memory channel must h ave identical HPE part numbers.
7.
   - HPE Memory from previous generation servers are not qualified or warranted with this HPE ProLiant Server. HPE SmartMemory is required to realize the memory per formance improvements and enhanced functionality listed in this document for Ge n8.

     Click here for additional information on HPE SmartMemory.
   - LRDIMM, RDIMM are all distinct memory technologies and cannot be mixed within a server. The majority of ProLiant Gen8 servers support RDIMM, UDIMM and LRDI MM.
   - Depending on the memory configuration and processor model, the memory speed may run at 1600 MHz, 1333 MHz, or 1066 MHz.
8. When populating the second optional riser slot, the second processor must be installed. All slots support up to 150 W Peripheral Component Interconnect express (PCIe) cards, but an additional power cord option is required (P/N 669777-B21).
9. Indicates the number of physical electrical lanes running to the connector.
10. Default bus assignment (In decimal). Inserting cards with PCI bridges may alter the act ual bus assignment number.
11. All Pre-Configured models come populated with some hard drive blanks installed. Shou ld the end user need additional hard drive blanks, they can order more using either P/N 666987-B21: HPE SFF Gen8 hard drive blank kit.

Feature	Description
	12. The SD slot is not a Hot-Pluggable device. End users should not attempt to plug an SD Card into the SD Slot while the server is powered ON. **Disclimer: One or more of the links above will take you outside the Hewlett-Packard En terprise web site, HPE does not control and is not responsible for information outside o f the HPE web site.**

Physical specifications

Specifications	Description
Dimensions (H x W x D) (with bezel)	**SFF drives**: 8.73 x 44.55 x 74.93 cm (3.44 x 17.54 x 29.50 in)
Weight (approximate)	**Maximum**(all LSFF hard drives, power supply, and p rocessor installed) • 27.66 kg (61.00 lb)

Environmental specifications

Specifications	Description
System inlet t emperature	**Operating** [1] • 10° to 35°C (50° to 95°F) **Non-operating** [2] • -30° to 60°C (-22° to 140°F)
Relative humi dity (non-cond ensing)	**Operating** • 10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non -condensing. **Non-operating**

Specifications	Description
	• 5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, no n-condensing.
Altitude	**Operating** [3] • 3048 m (10,000 ft) **Non-operating** [4] • 9144 m (30,000 ft)
Acoustic noise [5]	
Idle	**L WAd** • 4.1 B (Entry model) • 4.1 B (Base model) • 4.1 B (Performance model) **L pAm** • 25 dBA (Entry model) • 25 dBA (Base model) • 25 dBA (Performance model)
Operating	**L WAd** • 4.3 B (Entry model) • 4.7 B (Base model) • 5.0 B (Performance model) **L pAm** • 27 dBA (Entry model) • 31 dBA (Base model) • 35 dBA (Performance model)
Emissions classification [6] (EMC)	**FCC rating** • Class A **Normative standards**

Specifications	Description
	• CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K 22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1

NOTE

1. Measurement at sea level with an altitude derating of 1.0°C per every 304.8 m (1.8°F per every 1000 ft) above sea level to a maximum of 3048 m (10,000 ft), no direct su stained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduc ed if operating with a fan fault or above 30°C (86°F).
2. Maximum rate of change is 20°C/hr (36°F/hr).
3. This value may be limited by the type and number of options installed. Maximum allo wable altitude change rate is 457 m/min (1500 ft/min).
4. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
5. Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is ope rating in a 23°C (73.4°F) ambient environment. Noise emissions were measured in acco rdance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 10 9). The listed sound levels apply to standard shipping configurations. Additional option s may result in increased sound levels. The listed sound levels apply to standard shippin g configurations. Additional options may result in increased sound levels.
6. Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the app ropriate compliance logos and statements.

Electrical specifications

Specifications	Description
Input requirements (per power supply)	**Rated line voltage** • 100 to 120 V ac

Specifications	Description
	• 200 to 240 V ac **Rated input current** (for 1200 W power supply) • 10 A (at 100 V ac) • 4.9 A (at 200 V ac) **Rated input frequency** • 50 to 60 Hz **Rated input power** (for 1200 W power supply) • 930 W (at 100 V ac) • 1348 W (at 200 V ac)
BTU rating	**Maximum** (For 1200 W power supply) • 3530 BTU/hr (at 100 V ac) • 4600 BTU/hr (at 200 V ac)
Power supply output (per power supply)	**Rated steady-state power** (for 1200 W power supply) • 800 W (at 100 V ac) • 900 W (at 120 V ac) • 1200 W (at 200 to 240 V ac) **Maximum peak power** (for 1200 W power supply) • 800 W (at 100 V ac) • 900 W (at 120 V ac) • 1200 W (at 200 to 240 V ac) **Maximum peak power** (for 750 W power supply) • 750 W (at 100 to 120 V ac) • 750 W (at 200 to 240 V ac) **Maximum peak power** (for 460 W power supply) • 460 W (at 100 to 120 V ac) • 460 W (at 200 to 240 V ac)

HPE iLO 4 on system management specifications

Specifications	Description
Architecture	PCI Express based health and remote management ASIC
Processor	Embedded ARM processor core operating at 400 M Hz
Upgradeability	Firmware upgradeable via Flash ROM
Video support	1920 x 1200 (16 b/p) DVR max resolution
Interfaces	• HPE iLO dedicated [1] network connection (10/100/1000 Mb/s) on rack, tower and SL systems • HPE iLO shared network connection (10/100/1000 Mb/s) on rack, tower and SL systems • HPE iLO network connection to blades (100 M b/s) to Onboard Administrator (with 10/100/1000 Mb/s uplink) on blade systems
Memory	• 16MB flash • 256MB DDR 3 with ECC (112MB after ECC and video)
Operating system support	For information on HPE's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for the server see HPE Server Operating Systems and Virtualization software web site. **Click here to access HPE Server Operating Systems and Virtualization software web site**.
Client system support	For information on Client System support, visit the HPE iLO feature comparison site. **Click here to access HPE iLO web site**.

Specifications	Description
Client browser support	• Microsoft Internet Explorer 9 [2] • Microsoft Internet Explorer 8 [2] • Microsoft Internet Explorer 7 • Firefox Extended Support Release (ESR) 10 (on supported Windows and Linux systems • Firefox 3.6 (on supported Windows and Linux systems)
Command line support	• Secure Shell and serial port access • Secure Socket Layer • Secure Shell version 2
Security	• Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser, C LP and XML scripting interface • AES encryption of video • RC4 encryption of video
Directory support services	Active Directory v1.0 (Windows 2003)
Driver support	HPE ProLiant iLO 4 management controller driver pa ckage
Management protocols supported	SNMP, IPMI 2.0 (system and LAN interface), DMTF Systems Management Architecture for Server Hard ware Command Line Protocol (SMASH CLP), HPE RI BCL XML

NOTE

1. Optional module on some servers.
2. For customers using protected mode, use the Java based version of Integrated Remote Console.

HPE Smart Array P420i controller specifications

Specifications	Description
Dimensions	Embedded
Disk drive and enclosure	6 Gb/s Serial Attached SCSI (SAS)
Interface - transfer rate	6 Gb/s Serial ATA (SATA)
SAS connectors	2 internal 4X connectors
Cache memory speed	512MB FBWC - DDR3-1333 MHz with 40-bit wide b us, 1GB or 2GB FBWC DDR3-1333 MHz with 72-bit wide bus
Server interface	x8 PCIe 3.0 provides 2 GB/s maximum bandwidth
SAS speed	(8) 6 Gb/s SAS links provide 4.8 GB/s maximum ban dwidth
Cache memory	• Zero memory RAID has no cache memory • 40-bit 512MB FBWC • 72-bit 1GB FBWC or 72-bit 2GB FBWC
Logical drives supported	• Zero memory, up to 2 logical volumes (5 SFF p hysical drives) • Up to 64 logical drives with cache
Host memory addressing	64-bit, supporting greater than 4GB server memory space
RAID support	• RAID 6, 6+0 (Advanced Data Guarding) and RA ID1 (Advanced Data Mirroring) & RAID 1+0 (Ad vanced Data Mirroring)[1] • RAID 5, 5+0 (Distributed Data Guarding)[2] • RAID 1+0 (Striping & Mirroring)

Specifications	Description
	• RAID 0 (Striping), RAID 1 (Mirroring)

NOTE

1. RAID 6, 6+0 can be enabled with one of the following combinations:
   - 512MB FBWC and Smart Array Advanced Pack License key option upgrades.
   - 1GB or 2GB FBWC and Smart Array Advanced Pack License key option upgrades.
2. A minimum of 512MB cache is required to enable RAID 5, 5+0 support.

HPE Ethernet 1Gb 4-port 331FLR adapter specifications

Specifications	Description
HPE Flexible Network technology	HPE Flexible Network technology consists of replace able network solutions to meet the users requiremen t now or in the future.
Network interface	10Base-T/100Base-TX/1000Base-TX
Compatibility	• IEEE 802.3 10Base-T • IEEE 802.3ab 1000Base-T • IEEE 802.3u 100Base-TX • IEEE 802.3ad 1000Base-TX • IEEE 802.1p 100Base-TX • IEEE 802.1q 100Base-TX
Data transfer method	PCI Express, four lanes (x4)
Chipset	BCM5719
Network transfer rate	• 10Base-T (Half-Duplex) - 10 Mb/s • 10Base-T (Full-Duplex) - 20 Mb/s

Specifications	Description
	• 100Base-TX (Half-Duplex) - 100 Mb/s • 100Base-TX (Full-Duplex) - 200 Mb/s • 1000Base-TX (Half and Full-Duplex) - 2000 Mb/s
Connector	Two RJ-45
Cable support	• 10Base-T - Categories 3, 4 or 5 UTP; up to 100 m (328 ft) • 100Base-TX - Category 5 or higher UTP; up to 100 m (328 ft) • 1000BaseTX - Category 5 or higher UTP; up to 100 m (328 ft)

HPE Ethernet 10Gb 2-port 530FLR-SFP+ adapter specifications

Specifications	Description
Network interface	SFP+ for Direct Attach Cable copper or fibre
Compatibility	• IEEE 802.3 SFP+ (SX, SR & LR) • IEEE 802.3x • IEEE 802.3ad • IEEE 802.1q • IEEE 802.3x • IEEE 802.1au • IEEE 802.3ap
Data transfer method	PCI Express, eight lanes (x8)
Chipset	BCM57810S

Specifications	Description
Network transfer rate	• 10Base-T (Half-Duplex) - 10 Gb/s • 10Base-T (Full-Duplex) - 1 Gb/s
Connector	Two SFP+
Cable support	• 10Base-T - Categories 3, 4 or 5 UTP; up to 100 m (328 ft) • 100Base-TX - Category 5 or higher UTP; up to 1 00 m (328 ft) • 1000BaseTX - Category 5 or higher UTP; up to 100 m (328 ft)

Option Parts

Subtopics

New model specific parts lists
HPE Processors
HPE Memory
HPE Hard drives
Hard drive kits
HPE Networking
HPE InfiniBand
HPE I/O Expansion options
HPE Power supplies
HPE Graphic options
HPE Insight software
Converged infrastructure management software
High performance clusters
HPE I/O Accelerator options
HPE PCIe Workload Accelerator options
HPE Security
HPE Storage controllers
HPE Power cords
HPE Tape backup
HPE Disk backup
HPE Storage options

HPE Disk storage systems
HPE Uninterruptible power systems
HPE Power Distribution Units
HPE Rack options
HPE USB and SD options
HPE Care Pack services

New model specific parts lists

IMPORTANT: To obtain current part number information for a specific product model, use the Standard Models page for this product family.

- The product Standard Models page now links the model SKU numbers to the spare parts list for each model found on the HPE PartSurfer web site. (To report missing or incorrect parts information in PartSurfer, please use the "Contact us" and "Missing or incorrect data" links within the PartSurfer web site utility.)
- To look up RoHS-compliant information in PartSurfer, use the component's option part number or the sales order number for a system in which the component is used (available in the QuickSpecs or Standard Models page).

HPE Processors

Description	Option Part Number
E5-4600 series processors	
Eight-core processors [1]	
HPE DL560 Gen8 Intel Xeon E5-4650 (2.7 GHz/8-core/20MB/130 W) processor kit	686843-B21
HPE DL560 Gen8 Intel Xeon E5-4650L (2.6 GHz/8-core/20MB/115 W) processor kit	686832-B21
HPE DL560 Gen8 Intel Xeon E5-4640 (2.4 GHz/8-core/20MB/95 W) processor kit	686845-B21
HPE DL560 Gen8 Intel Xeon E5-4620 (2.2 GHz/8-core/16MB/95 W) processor kit	686847-B21

Description	Option Part Number
Six-core processors [1]	
HPE DL560 Gen8 Intel Xeon E5-4617 (2.9 GHz/6-core/15MB/130 W) processor kit	686834-B21
HPE DL560 Gen8 Intel Xeon E5-4610 (2.4 GHz/6-core/15MB/95 W) processor kit	686822-B21
HPE DL560 Gen8 Intel Xeon E5-4607 (2.2 GHz/6-core/12MB/95 W) processor kit	686824-B21
Four-core processors [1]	
HPE DL560 Gen8 Intel Xeon E5-4603 (2.0 GHz/4-core/10MB/95 W) processor kit	686826-B21
E5-4600 v2 series Processors	
Twelve-Core processors	
HPE DL560p Gen8 Intel Xeon E5-4657Lv2 (2.4 GHz/12-core/30MB/115 W) Processor Kit	734193-B21
Ten-Core processors	
HPE DL560p Gen8 Intel Xeon E5-4650v2 (2.4 GHz/10-core/25MB/95 W) Processor Kit	734180-B21
HPE DL560p Gen8 Intel Xeon E5-4640v2 (2.2 GHz/10-core/20MB/95 W) Processor Kit	734182-B21
Eight-Core processors	
HPE DL560p Gen8 Intel Xeon E5-4620v2 (2.6 GHz/8-core/20MB/95 W) Processor Kit	734185-B21
HPE DL560p Gen8 Intel Xeon E5-4610v2 (2.3 GHz/8-core/16MB/95 W) Processor Kit	734187-B21
HPE DL560p Gen8 Intel Xeon E5-4627v2 (3.3 GHz/8-core/16MB/130 W) Processor Kit	734195-B21
Six-Core processors	
HPE DL560p Gen8 Intel Xeon E5-4607v2 (2.6 GHz/6-core/15MB/95 W) Processor Kit	734189-B21

Description	Option Part Number
HPE DL560p Gen8 Intel Xeon E5-4603v2 (2.2 GHz/ 4-core/10MB/95 W) Processor Kit	734191-B21

NOTE

1. All processors within the server must be identical.

   The processor model as well as the memory configuration determines the maximum s peed memory can operate. Please see the "Memory" section later in this document.

HPE Memory

Description	Option Part Number
Registered DIMMs (RDIMMs) - E5-2xxx and E5-4xxx series Processors [1]	
HPE 4GB (1x4GB) Single Rank x4 PC3L-10600R (D DR3-1333) Registered CAS-9 low voltage memory ki t	647893-B21
HPE 4GB (1x4GB) Single Rank x4 PC3-12800R (DD R3-1600) Registered CAS-11 memory kit	647895-B21
HPE 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DD R3-1333) Registered CAS-9 low voltage memory kit	647897-B21
HPE 8GB (1x8GB) Single Rank x4 PC3-12800R (DD R3-1600) Registered CAS-11 memory kit	647899-B21
HPE 8GB (1x8GB) Dual Rank x4 PC3-12800R (DDR 3-1600) Registered CAS-11 memory kit	690802-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 low voltage memory kit	647901-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3-12800R (D DR3-1600) Registered CAS-11 memory kit	672631-B21

Description	Option Part Number
Load Reduced DIMMs (LRDIMM) - E5-2xxx and E5-4xxx series Processors [1,2]	
HPE 32GB (1x32GB) Quad Rank x4 PC3L-10600L (DDR3-1333) Load Reduced CAS-9 low voltage mem ory kit	647903-B21
Registered DIMMs (RDIMMs) - E5-4600 v2 series Processors	
HPE 4GB (1x4GB) Single Rank x4 PC3L-12800R (D DR3-1600) Registered CAS-11 Low Voltage Memory Kit	713981-B21
HPE 4GB (1x4GB) Single Rank x4 PC3-14900R (DD R3-1866) Registered CAS-13 Memory Kit	708637-B21
HPE 8GB (1x8GB) Single Rank x4 PC3L-12800R (D DR3-1600) Registered CAS-11 Low Voltage Memory Kit	731765-B21
HPE 8GB (1x8GB) Single Rank x4 PC3-14900R (DD R3-1866) Registered CAS-13 Memory Kit	731761-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memo ry Kit	713985-B21
HPE 16GB (1x16GB) Dual Rank x4 PC3-14900R (D DR3-1866) Registered CAS-13 Memory Kit	708641-B21
Load Reduced DIMMs (LRDIMM) - E5-4600 v2 series Processors	
HPE 32GB (1x32GB) Quad Rank x4 PC3-14900L (D DR3-1866) Load Reduced CAS-13 Memory Kit	708643-B21

NOTE

1. HPE memory from previous generation servers are not qualified or warranted with this HPE ProLiant Server. HPE SmartMemory is required to realize the memory performanc e improvements and enhanced functionality listed in this document for Gen8. **Click he re for additional information on HPE SmartMemory**.

   LRDIMM and RDIMM are all distinct memory technologies and cannot be mixed within a server. The majority of ProLiant Gen8 servers support RDIMM, UDIMM and LRDIMM.

2. All DDR3 memory option kits consist of one DIMM per kit.

   Kits described as LP include Low Power DIMMs.

Description	Option Part Number
PC3L is a low voltage memory.	

HPE Hard drives

Description	Option Part Number
SAS Hot Plug with SmartDrive SFF (2.5-inch) Enterprise drives [1,2]	
HPE 1.2TB 6G SAS 10K rpm SFF (2.5-inch) SC Dual Port Enterprise 3 yr warranty hard drive	718162-B21
HPE 900GB 6G SAS 10K rpm SFF 2.5-inch SC enterprise 3 yr warranty hard drive	652589-B21
HPE 600GB 6G SAS 10K rpm SFF 2.5-inch SC enterprise 3 yr warranty hard drive	652583-B21
HPE 450GB 6G SAS 10K rpm SFF 2.5-inch SC enterprise 3 yr warranty hard drive	652572-B21
HPE 300GB 6G SAS 10K rpm SFF 2.5-inch SC enterprise 3 yr warranty hard drive	652564-B21
HPE 300GB 6G SAS 15K rpm SFF 2.5-inch SC enterprise 3 yr warranty hard drive	652611-B21
HPE 146GB 6G SAS 15K rpm SFF 2.5-inch SC enterprise 3 yr warranty hard drive	652605-B21
SAS hot plug SmartDrive SFF 2.5-inch Midline drives [1,2]	
HPE 1TB 6G SAS 7.2K rpm SFF 2.5-inch SC midline 1 yr warranty hard drive	652749-B21
HPE 500GB 6G SAS 7.2K rpm SFF 2.5-inch SC midline 1 yr warranty hard drive	652745-B21
6G SATA Value Endurance Hot Plug SFF (2.5-inch) Enterprise Boot Solid State Drives	

Description	Option Part Number
HPE 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3 yr Wty Solid State Drive	717965-B21
HPE 80GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3 yr Wty Solid State Drive	734360-B21
6G SAS SLC hot plug SFF 2.5-inch enterprise performance Solid State drives [3]	
HPE 400GB 6G SAS SLC SFF 2.5-inch SC enterprise performance 3 yr warranty Solid State drive	653082-B21
HPE 200GB 6G SAS SLC SFF 2.5-inch SC enterprise performance 3 yr warranty Solid State drive	653078-B21
6G SATA Value Endurance Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives	
HPE 800GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3 yr Wty Solid State Drive	717973-B21
HPE 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3 yr Wty Solid State Drive	717971-B21
HPE 600GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3 yr Wty Solid State Drive	739898-B21
HPE 300GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3 yr Wty Solid State Drive	739888-B21
HPE 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3 yr Wty Solid State Drive	717969-B21
6G SATA ME Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives	
HPE 800GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3 yr Wty Solid State Drive	691868-B21
HPE 400GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3 yr Wty Solid State Drive	691866-B21
HPE 200GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3 yr Wty Solid State Drive	691864-B21

Description	Option Part Number
HPE 100GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3 yr Wty Solid State Drive	691862-B21
6G SAS ME Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives	
HPE 800GB 6G SAS Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3 yr Wty Solid State Drive	690829-B21
HPE 400GB 6G SAS Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3 yr Wty Solid State Drive	690827-B21
HPE 200GB 6G SAS Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3 yr Wty Solid State Drive	690825-B21
12G SAS ME Hot Plug (SFF (2.5-inch) Enterprise Mainstream Solid State Drives	
HPE 200GB 12G SAS Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3 yr Wty Solid State Drive	741138-B21
HPE 400GB 12G SAS Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3 yr Wty Solid State Drive	741142-B21
HPE 800GB 12G SAS Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3 yr Wty Solid State Drive	741146-B21
12G SAS HE Hot Plug SFF (2.5-inch) Enterprise Performance Solid State Drives	
HPE 200GB 12G SAS High Endurance SFF 2.5-in SC Enterprise Performance 3 yr Wty Solid State Drive	741151-B21
HPE 400GB 12G SAS High Endurance SFF 2.5-in SC Enterprise Performance 3 yr Wty Solid State Drive	741155-B21
HPE 800GB 12G SAS High Endurance SFF 2.5-in SC Enterprise Performance 3 yr Wty Solid State Drive	741159-B21

NOTE

1. The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system

Description	Option Part Number

bandwidth will be negotiated down to an acceptable level for all components. Hard dri ves have either a one year or three year warranty; refer to the specific hard drive Quick Specs for details.

2. **Click here to see the worldwide QuickSpecs for technical specifications and additio nal information on HPE SAS hard drives**.
3. **Click here to see the worldwide QuickSpecs for technical specifications and additio nal information on HPE Solid State Drive**.

Hard drive kits

Description	Option Part Number
HPE SFF Gen8 hard drive blank kit	666987-B21

NOTE

- All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.

  The part numbers for single HDD blanks are provided should the end user require repla cement HDD blanks for their server.

HPE Networking

Description	Option Part Number
Gigabit Ethernet adapters [1]	
HPE NC112T PCI Express Gigabit server adapter	503746-B21

Description	Option Part Number
HPE NC365T 4-port Ethernet server adapter	593722-B21
HPE Ethernet 1Gb 4-port 331T adapter	647594-B21
HPE Ethernet 1Gb 2-port 361T adapter	652497-B21
HPE Ethernet 1Gb 2-port 332T adapter	615732-B21
10 Gigabit Ethernet adapters [1,2]	
HPE NC523SFP 10Gb 2-port server adapter	593717-B21
HPE Ethernet 10Gb 2-port 530SFP adapter	652503-B21
HPE Ethernet 10Gb 2-port 530T Adapter	656596-B21
HPE NC552SFP 10Gb 2-port Ethernet server adapte r	614203-B21
HPE Ethernet 10Gb 2-port 561T Adapter	716591-B21
HPE Ethernet 10Gb 2-port 570SFP+ Adapter	718904-B21
HPE Ethernet 10Gb 2-port 560SFP+ Adapter	665249-B21
FlexibleLOM adapters [1]	
HPE Ethernet 1Gb 4-port 331FLR adapter	629135-B21
HPE Ethernet 1Gb 4-port 366FLR Adapter	665240-B21
HPE Ethernet 10Gb 2-port 530FLR-SFP+ adapter	647581-B21
HPE FlexFabric 10Gb 2-port 526FLR-SFP+ Adapter	629138-B21
HPE FlexFabric 10Gb 2-port 533FLR-T Adapter	700759-B21
HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	700751-B21
HPE FlexFabric 10Gb 2-port 554FLR-SFP+ adapter	629142-B21
HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	665243-B21
HPE Ethernet 10Gb 2-port 561FLR-T Adapter	700699-B21
HPE Ethernet 10Gb 2-port 570FLR-SFP+ Adapter	717491-B21

Description	Option Part Number

NOTE

1. **Click here for technical specifications and additional information on HPE ProLiant networking**.
2. A minimum of two Gigabytes (2GB) of server memory is required per each adapter. Dire ct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fibe r-optic environments must be purchased separately.

HPE InfiniBand

Description	Option Part Number
HPE InfiniBand FDR/EN 10/40Gb Dual Port 544QSF P adapter [1]	649281-B21
HPE InfiniBand FDR/EN 10/40Gb Dual Port 544FL R-QSFP adapter [2]	649282-B21
HPE InfiniBand QDR/EN 10Gb Dual Port 544FLR-QS FP adapter [2]	649283-B21
HPE InfiniBand 4X QDR ConnectX-2 PCIe G2 Dual Port HCA	592520-B21
HPE InfiniBand FDR 2-port 545QSFP Adapter	702211-B21

NOTE

1. For the above two InfiniBand adapters, only 1 FlexibleLOM can be added to the server. These two options are for upgrade or change from original configuration.

   FLR Indicates HPE FlexibleLOM adapter series.

2. For more information, see HPE InfiniBand options for HPE ProLiant and Integrity serve rsQuickSpecs. **Click here to access the HPE InfiniBand options for HPE ProLiant and Integrity serversQuickSpecs**.

HPE I/O Expansion options

Description	Option Part Number
HPE DL380p/385p/DL560 Gen8 3 slot PCI-E Riser kit	653206-B21
HPE DL380p/DL560 Gen8 2 slot 2x16 PCI-E Riser kit	653208-B21

HPE Power supplies

NOTE

Prior to making a power supply selection it is highly recommended that the HPE Power Advisor is run to determine the right size power supply for user's server configuration. **Click here to access HPE Power Advisor website**.

Description	Option Part Number
HPE common slot platinum plus power supply kits [1]	
HPE 1200 W common slot platinum plus hot plug power supply kit [2]	656364-B21

NOTE

1. The above power supplies offer 94% efficiency with support for Intelligent Power Discovery.
2. Option kits contain optional power supply, an IEC power cable and PDU IEC cables.

HPE Graphic options

Description	Option Part Number
HPE 150 W PCI-E power cable kit	669777-B21

HPE Insight software

Part Description	Option Part Number
HPE Insight Control including 1yr 24x7 Technical Support and Updates Single Server License	C6N27A
HPE Insight Control including 1yr 24x7 Technical Support and Updates Electronic License	C6N28ABE
HPE Insight Control Server Provisioning Media Kit	BD883A
HPE Insight Management Media Kit	C6N31A
HPE iLO Advanced including 1yr 24x7 Technical Support and Updates E-LTU	E6U59ABE
HPE iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU	E6U64ABE
HPE iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License	512485-B21
HPE iLO Advanced 1 Server License with 3yr 24x7 Tech Support and Updates	BD505A

Converged infrastructure management software

Description	Option Part Number
HPE OneView incl 3yr 24x7 Support Phys 1 Server Lic	E5Y34A
HPE OneView incl 3yr 24x7 Support Flex Qty E-LTU	E5Y35AAE
HPE OneView Media Kit Phys No Lic	E5Y37A
HPE OneView w/o iLO Adv incl 3yr 24x7 Support Phys 1 Svr Lic	E5Y38A
HPE OneView w/o iLO Adv inc 3yr 24x7 Support Flex Qty E-LTU	E5Y39AAE

High performance clusters

Description	Option Part Number
HPE Cluster Management utility	
HPE Insight Cluster Management utility 1 yr 24x7 flexible license [1]	QL803B
HPE Insight Cluster Management utility 3 yr 24x7 flexible license [1]	BD476A
HPE Insight Cluster Management utility media [2]	BD477A

NOTE

1. These part numbers can be used to purchase one certificate for multiple licenses and support with a single activation key. Each license is for one node (server). End user will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key. End user also will receive a support agreement.
2. **Click here to see the QuickSpecs for additional license kits**.

HPE I/O Accelerator options

Description	Option Part Number
Second generation accelerators	
HPE 365GB multi level cell G2 PCIe ioDrive2 for Pro Liant servers	673642-B21
HPE 785GB multi level cell G2 PCIe ioDrive2 for Pro Liant servers	673644-B21
HPE 1205GB multi level cell G2 PCIe ioDrive2 for ProLiant servers	673646-B21
HPE 2410GB multi level cell G2 PCIe ioDrive2 Duo for ProLiant servers	673648-B21
HPE 3TB G2 FH/HL PCIe ioDrive2 IO Accelerator for ProLiant Servers	721458-B21

NOTE

Click here to see the worldwide QuickSpecs for technical specifications and additional information.

HPE PCIe Workload Accelerator options

Description	Option Part Number
Value Endurance (HE) PCIe Workload Accelerators	
HP 1.3TB HH/HL Value Endurance (VE) PCIe Workload Accelerator	763834-B21
HP 1.6TB HH/HL Value Endurance (VE) PCIe Workload Accelerator	763836-B21

Description	Option Part Number
HP 3.2TB HH/HL Value Endurance (VE) PCIe Workload Accelerator	763838-B21
HP 6.4TB FH/HL Value Endurance (VE) PCIe Workload Accelerator	763840-B21
Light Endurance (LE) PCIe Workload Accelerators	
HPE 1.0TB HH/HL Light Endurance (LE) PCIe Workload Accelerator	775666-B21
HPE 1.3TB HH/HL Light Endurance (LE) PCIe Workload Accelerator	775668-B21
HPE 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator	775670-B21
HPE 5.2TB FH/HL Light Endurance (LE) PCIe Workload Accelerator	775672-B21
Read Intensive (RI) PCIe Workload Accelerators	
HPE 1.3TB Read Intensive-2 HH/HL PCIe Workload Accelerator	831733-B21
HPE 1.6TB Read Intensive-2 HH/HL PCIe Workload Accelerator	831735-B21
HPE 3.2TB Read Intensive-2 HH/HL PCIe Workload Accelerator	831737-B21
HPE 6.4TB Read Intensive-2 FH/HL PCIe Workload Accelerator	831739-B21

HPE Security

Description	Option Part Number
HPE Trusted Platform Module option [1]	488069-B21
HPE 2U security bezel kit	666988-B21

NOTE

1. The Trusted Platform Module (TPM) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows BitLocker Drive Encryption (BitLocker) is a data protection feature available in Windows Server 2008. BitLocker leverages the enha

Description	Option Part Number
nced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM w orks with BitLocker to help protect user data and to ensure that a server running Windo ws Server 2008 has not been tampered with while the system was offline. **Click here fo r more information about TPM**. ProLiant OS pre-installed units will come with the partition required for TPM deployme nt. The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.	

HPE Storage controllers

Description	Option Part Number
SAS controllers	
Smart Array P222 controller [1]	
HPE Smart Array P222/512 FBWC 6Gb 1-port inter nal/1-port external SAS controller	631667-B21
Smart Array P420 controller [2]	
HPE Smart Array P420/1GB FBWC 6Gb 2-ports inte rnal SAS controller	631670-B21
HPE Smart Array P420/2GB FBWC 6Gb 2-ports inte rnal SAS controller	631671-B21
Smart Array P421 controller	
HPE Smart Array P421/1GB FBWC 6Gb 2-ports exte rnal SAS controller	631673-B21
HPE Smart Array P421/2GB FBWC 6Gb 2-ports exte rnal SAS controller	631674-B21
Smart Array P822 controller	

Description	Option Part Number
HPE Smart Array P822/2GB FBWC 2-ports internal/ 4-ports external SAS controller	615418-B21
Smart Array P430 controller	
HPE Smart Array P430/2GB FBWC 6Gb 1-port Int SAS Controller	698529-B21
HPE Smart Array P430/4GB FBWC 6Gb 1-port Int SAS Controller	698530-B21
Smart Array P431 controller	
HPE Smart Array P431/2GB FBWC 6Gb 2-ports Ext SAS Controller	698531-B21
HPE Smart Array P431/4GB FBWC 6Gb 2-ports Ext SAS Controller	698532-B21
Smart Array P830 controller	
HPE Smart Array P830/4GB FBWC 6Gb 2-ports Int SAS Controller	698533-B21
Optional upgrades	
HPE 1GB P-series Smart Array Flash Backed Write C ache	631679-B21
HPE 2GB P-series Smart Array Flash Backed Write C ache	631681-B21
HPE 512MB P-series Smart Array Flash Backed Wri te Cache	661069-B21
HPE SmartCache No Media 24x7 Technical Support 1 Svr License	D7S26A
HPE SmartCache No Media 24x7 Technical Support Flexible License	D7S27A
HPE SmartCache No Media 24x7 Technical Support Electronic License	D7S27AAE
HPE Secure Encryption No Media Flexible License per Drive	D8S84A

Description	Option Part Number
HPE Secure Encryption No Media E-LTU per Drive	D8S85AAE
HPE cable options	
HPE DL560 mini SAS straight to straight cable asse mbly	696195-B21
HPE DL38Xp Gen8 25 Small Form Factor (SFF) P43 0/830 Cable Kit	729274-B21
Host bus adapter	
HPE H220 host bus adapter [3]	650933-B21
HPE H221 host bus adapter [4]	650931-B21
HPE H222 host bus adapter [5]	650926-B21
HPE H221 PCIe 3.0 SAS Host Bus Adapter	729552-B21
SCSI HBA	
HPE SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter	412911-B21

NOTE

1. P222 requires (1) HPE mini SAS straight to straight 37-inch cable assembly (P/N 662897-B21).

   Click here to see the HPE Smart Array P222 controller QuickSpecs for technical specifications and additional information.

2. P420 requires (2) HPE mini SAS straight to straight 37-inch cable assembly (P/N 662897-B21).

   Click here to see the Smart Array P421 controller QuickSpecs for technical specifications and additional information.

   Click here to see the Smart Array P822 controller QuickSpecs for technical specifications and additional information.

   Click here to see the Smart Array Advanced Pack QuickSpecs for technical specifications and additional information.

3. **Click here to see the H220 QuickSpecs for technical specifications and additional information**.

Description	Option Part Number

4. **Click here to see the H221 QuickSpecs for technical specifications and additional information**.
5. **Click here to see the H222 QuickSpecs for technical specifications and additional information**.

HPE Power cords

Description	Option Part Number
HPE C13 - SEV 1011 Switzerland 250-V 10-A 1.83 -m (6-ft) power cord	AF565A
HPE C13 - DK-2.5A Denmark 250-V 10-A 1.83-m (6 -ft) power cord	AF566A
HPE C13 - CEE-VII European Union 250-V 10-A 1.8 3-m (6-ft) power cord	AF568A
HPE C13 - BS-1363A United Kingdom/Hong Kong/S ingapore 250-V 10-A 1.83-m (6-ft) power cord	AF570A
HPE C13 - CEI-23-50 Italy/Chile 250-V 10-A 1.83-m (6-ft) power cord	AF571A
HPE C13 - SABS-164 South Africa 250-V 10-A 2.5 -m (8.2-ft) power cord	AF567A
HPE C13 - Nema 6-15P 250-V 15-A Japan 3.6-m (1 1.8-ft) power cord	A0N33A
HPE C13 - Nema 5-15P United States/Canada 110 -V 10-A 1.83-m (6-ft) power cord	AF556A

NOTE

HPE ProLiant servers ships with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs).

HPE Tape backup

Description	Option Part Number
HPE StoreEver LTO-3 Ultrium 920 SCSI External Tape Drive	EH842B
HPE StoreEver LTO-5 Ultrium 3280 SAS External Tape Drive	EH900B
HPE StoreEver LTO-4 Ultrium 1760 SAS External Tape Drive	EH920B
HPE StoreEver LTO-4 Ultrium 1760 SCSI External Tape Drive	EH922B
HPE StoreEver LTO-5 Ultrium 3000 SAS External Tape Drive	EH958B
HPE StoreEver LTO-6 Ultrium 6250 Tape Drive in 1U Rack-mount Kit	C0L99A
HPE StoreEver LTO-6 Ultrium 6650 SAS Internal Tape Drive	EH963A
HPE StoreEver LTO-6 Ultrium 6650 SAS External Tape Drive	EH964A
HPE StoreEver LTO-6 Ultrium 6250 Internal Tape Drive	EH969A
HPE StoreEver LTO-6 Ultrium 6250 External Tape Drive	EH970A
HPE StoreEver 1/8 G2 LTO-6 Ultrium 6250 FC Tape Autoloader	C0H19A
HPE Tape storage systems	
HPE StoreEver MSL6480 Scalable Base Module	QU625A

HPE Disk backup

Description	Option Part Number
HPE RDX320 USB3.0 External Disk Backup System	B7B63A
HPE RDX500 USB3.0 Internal Disk Backup System	B7B64A
HPE RDX500 USB3.0 External Disk Backup System	B7B66A
HPE RDX1000 USB3.0 Internal Disk Backup System	B7B67A
HPE RDX1000 USB3.0 External Disk Backup System	B7B69A
HPE RDX 2TB USB3.0 External Disk Backup System	E7X53A
HPE RDX+ External Docking System	C8S07B

HPE Storage options

Description	Option Part Number
Storage fibre channel HBA	
Brocade fibre channel HBAs	
HPE 81B 8Gb 1-port PCIe fibre channel host bus adapter	AP769B
HPE 82B 8Gb 2-port PCIe fibre channel host bus adapter	AP770B
Emulex fibre channel HBAs	
HPE 81E 8Gb 1-port PCIe fibre channel host bus adapter	AJ762B
HPE 82E 8Gb 2-port PCIe fibre channel host bus adapter	AJ763B
HPE SN1000E 16Gb 1-port PCIe Fibre Channel Host Bus Adapter	QR558A

Description	Option Part Number
HPE SN1000E 16Gb 2-port PCIe Fibre Channel Host Bus Adapter	QR559A
HPE StoreFabric SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter	C8R38A
HPE StoreFabric SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter	C8R39A
QLogic fibre channel HBAs	
HPE 81Q 8Gb 1-port PCIe fibre channel host bus adapter	AK344A
HPE 82Q 8Gb 2-port PCIe fibre channel host bus adapter	AJ764A
HPE StoreFabric SN1000Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter	QW971A
HPE StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter	QW972A
Converged network adapter	
HPE CN1100E dual port converged network adapter	BK835A
HPE CN1000Q dual port converged network adapter	BS668A
HPE StoreFabric CN1100R Dual Port Converged Network Adapter	QW990A

NOTE

Click here to access HPE Smart Array Controllers and Smart Host Bus Adapters website.

HPE Disk storage systems

Description	Option Part Number
Disk enclosures	
HPE D2600 w/12 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 48TB Bundle	E7W32A

HPE Uninterruptible power systems

Description	OptionsOption Part Number
HPE rack-mountable UPS	
R5000 Uninterruptible Power System (UPS) [1]	
HPE R5-kVA 3U IEC309-32A high voltage internatio nal uninterruptible power system	AF461A
HPE R5-kVA 3U L630 high voltage North America/J apan uninterruptible power system	AF460A
R7000 Uninterruptible Power System (UPS) [2]	
HPE R7-kVA 4U 50-A high voltage North America/Ja pan uninterruptible power system	AF462A
HPE R7-kVA 4U IEC-32A high voltage international uninterruptible power system	AF463A
HPE R/T3000 G2 Uninterruptible Power System (UPS)	
HPE R/T3000 G2 2U L530 Low Voltage NA/JP Unin terruptible Power System	AF466A
HPE R/T3000 G2 2U L620 High Voltage NA/JP Unin terruptible Power System	AF467A
R5000 Uninterruptible Power System (UPS)	
HPE R1.5kVA G3 1U INTL Uninterruptible Power System	AF471A

Description	OptionsOption Part Number
HPE R1.5kVA G3 1U JP/TW Uninterruptible Power System	AF470A
HPE R1.5kVA G3 1U NA Uninterruptible Power System	AF469A
HPE R/T3000 G2 2U Detachable Cord High Voltage INTL Uninterruptible Power System	AF468A

NOTE

1. **Click here to see the R5000 uninterruptible power system QuickSpecs for additional information**.
2. **Click here to see the R7000 uninterruptible power system QuickSpecs for additional information**.

Click here for additional information on HPE uninterruptible power systems.

Click here for additional information on sizing user's server.

See HPE HPE Power Cords and Cables page for list of cable descriptions, requirements and specifications for UPS and PDU units. **Click here to access the HPE Power Cords and Cables page**.

HPE Power Distribution Units

Description	Option Part Number
Monitored PDUs	
HPE monitored power distribution unit: Full rack version	
HPE 8.6-kVA 24-A single input three phase North America/Japan monitored power distribution unit	AF504A
HPE 8.3-kVA 40-A single input single phase North America/Japan monitored power distribution unit	AF506A

Description	Option Part Number
HPE 11-kVA 16-A single input three phase internati onal monitored power distribution unit	AF508A
HPE 7.3-kVA 32-A single input single phase internat ional monitored power distribution unit	AF510A
HPE monitored power distribution unit: Half rack version [1]	
HPE 4.9-kVA 24-A single input single phase North A merica/Japan monitored power distribution unit	AF914A
HPE 7.3-kVA 32-A single input single phase internat ional monitored power distribution unit	AF915A
Modular PDUs 1U/0U [2]	
HPE 3.6-kVA 16-A high voltage international modul ar power distribution unit	252663-B24
HPE 4.9-kVA 24-A high voltage North America/Japa n modular power distribution unit	252663-D72
HPE 8.3-kVA 40-A high voltage North America/Japa n modular power distribution unit	252663-D73
HPE 7.3-kVA 32-A high voltage international modul ar power distribution unit	252663-B31

NOTE

1. **Click here to see the HPE monitored power distribution units' QuickSpecs for additional information**.
2. 1U/0U mounting brackets shipped with the unit (optimized for 10000 G2 and 9000 series racks).

   Click here for additional information on HPE power distribution units including accessories.

   See HPE HPE Power Cords and Cables page for list of cable descriptions, requirements and specifications for UPS and PDU units. **Click here to access the HPE Power Cords and Cables page**.

   This PDU has a detachable input power cord and allows for adaptability to country specific power requirements.

Description	Option Part Number



Click here to see HPE Jumper Cables and Cords website.

HPE Rack options

Description	Option Part Number
HPE USB keyboard and mouse [1]	
HPE USB BFR with PVC free United Kingdom keyboard/mouse kit	631344-B21
HPE USB BFR with PVC free France keyboard/mouse kit	631346-B21
HPE USB BFR with PVC free Spain keyboard/mouse kit	631348-B21
HPE USB BFR with PVC free Germany keyboard/mouse kit	631358-B21
HPE USB BFR with PVC free Japan keyboard/mouse kit	631360-B21
HPE USB BFR with PVC free Italy keyboard/mouse kit	631362-B21
HPE USB BFR with PVC free People's Republic of China keyboard/mouse kit	631364-B21
HPE USB BFR with PVC free United Arab Emirates keyboard/mouse kit	638212-B21
HPE USB BFR with PVC free Russian Federation keyboard/mouse kit	638214-B21
HPE USB BFR with PVC free AP-Intl keyboard/mouse kit	672097-373
HPE USB BFR with PVC free international keyboard/mouse kit	672097-B33

Description	Option Part Number
HPE USB BFR with PVC free Portugal keyboard/mouse kit	672097-133
HPE USB BFR with PVC free Turkey keyboard/mouse kit	672097-143
HPE USB BFR with PVC free Czech Republic keyboard/mouse kit	672097-223
HPE USB BFR with PVC free Finland keyboard/mouse kit	672097-353
HPE USB BFR with PVC free Sweden keyboard/mouse kit	672097-103
HPE USB BFR with PVC free Switzerland keyboard/mouse kit	672097-113
HPE USB BFR with PVC free Korea keyboard/mouse kit	672097-KD3
HPE USB BFR with PVC free India keyboard/mouse kit	672097-D63
HPE USB BFR-PVC United States keyboard/mouse kit	631341-B21
HPE server console switches [2]	
HPE server console 0x2x8 port analog switch	AF616A
HPE server console 0x2x16 port analog switch	AF617A
HPE server console switch G2 with virtual media & CAC [3]	
HPE 0x2x16 KVM server console switch G2 with virtual media CAC software	AF618A
HPE 0x2x32 KVM server console switch G2 with virtual media CAC software	AF619A
HPE IP console switch G2 with virtual media & CAC [4]	
HPE 1x1Ex8 KVM IP console switch G2 with virtual media CAC software	AF620A

Description	Option Part Number
HPE 2x1Ex16 KVM IP console switch G2 with virtual media CAC software	AF621A
HPE 4x1Ex32 KVM IP console switch G2 with virtual media CAC software	AF622A

NOTE

1. **Click here to see the HPE USB keyboard and mouse website**.
2. **Click here to see the HPE server console switches QuickSpecs for technical specifications and additional information**.
3. **Click here to see the HPE server console switch G2 with virtual media & CAC Quick Specs for technical specifications and additional information**.
4. **Click here to see the HPE IP console switch G2 with virtual media & CAC QuickSpecs for technical specifications and additional information**.

HPE USB and SD options

Description	Option Part Number
HPE 8GB USB Enterprise Mainstream Flash Media Drive Key Kit	737953-B21
USB Standard Keyboard DT528A ABA	DT528A#ABA
HPE 2GB USB flash media drive key Kit [1]	608447-B21
HPE 8GB microSD Enterprise Mainstream Flash Media Kit	726116-B21
HPE 32GB micro SD mainstream flash media kit	700139-B21

NOTE

1. HPE qualified blank USB key for use with HPE ProLiant servers that support the VMware virtualization environment and other HPE value-add software like SmartStart. HPE recommends this industry standard USB flash device for use with VMware ESXi. USB device must

Description	Option Part Number
be installed in the internal slot of the ProLiant server for use with VMware ESXi. Refer to HP E VMware Getting Started Guide for installation instructions.	

HPE Care Pack services

Description	Option Part Number
HPE 3 yr 4 hour 24x7 ProLiant DL560 proactive care service	U6H10E
HPE 3 yr 4 hour 24x7 ProLiant DL560 with Insight Control proactive care service	U6H90E
HPE 3 yr 4 hour 24x7 with defective media retention ProLiant DL560 proactive care service	U6H11E
HPE 3 yr 4 hour 24x7 with defective media retention DL560 with Insight Control proactive care service	U6H91E
HPE 3 yr 6 hour call to repair 24x7 ProLiant DL560 collaborative support	U6H14E
HPE 3 yr 6 hour call to repair 24x7 ProLiant DL560 hardware support	U6H12E
HPE 3 yr 6 hour call to repair 24x7 ProLiant DL560 proactive care service	U6H16E
HPE 3 yr 6 hour call to repair 24x7 ProLiant DL560 with Insight Control proactive care service	U6H92E
HPE 3 yr 6 hour call to repair 24x7 with defective media retention ProLiant DL560 collaborative support	U6H15E
HPE 3 yr 6 hour call to repair 24x7 with defective media retention ProLiant DL560 hardware support	U6H13E
HPE 3 yr 6 hour call to repair 24x7 with defective media retention DL560 with Insight Control proactive care service	U6H93E

Description	Option Part Number
HPE 3 yr 6 hour call to repair 24x7 with defective media retention ProLiant DL560 proactive care service	U6H17E
HPE 3 yr next business day ProLiant DL560 collaborative support	U6G42E
HPE 3 yr next business day ProLiant DL560 proactive care service	U6H02E
HPE 3 yr next business day ProLiant DL560 with Insight Control proactive care service	U6H88E
HPE 3 yr next business day with defective media retention ProLiant DL560 collaborative support	U6H01E
HPE 3 yr next business day with defective media retention ProLiant DL560 hardware support	U6G41E
HPE 3 yr next business day with defective media retention ProLiant DL560 proactive care service	U6H03E
HPE 3 yr next business day with defective media retention DL560 with Insight control proactive care service	U6H89E
HPE 3 yr support plus 24 Insight Control ProLiant DL560 service	U6H94E
HPE 3 yr support plus 24 SuSE ProLiant DL38x(p) service	U6312E
HPE install ProLiant DL560 service	U6H58E
HPE installation non standard hours ProLiant DL560 service	U6H59E
HPE startup ProLiant DL560 service	U6H60E
HPE installation and startup for Insight Control server deployment - previously rapid deployment pack	U5683E
HPE startup non standard hours Proliant DL560 service	U6H61E

NOTE

Description	Option Part Number

For more information, see Support Services Central website. **Click here to access Support Services Central**.

Spare Parts

Subtopics

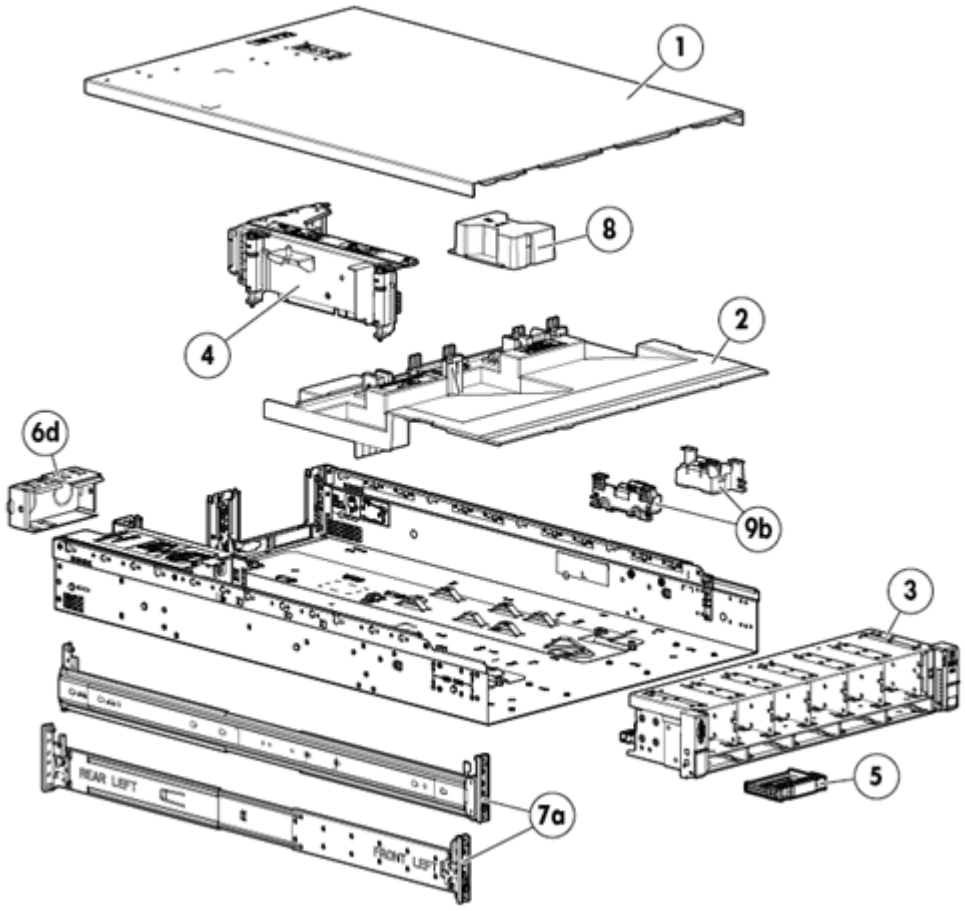
New model specific parts lists
Mechanical components
System components

New model specific parts lists

IMPORTANT: To obtain current part number information for a specific product model, use the Standard Models page for this product family.

- The product Standard Models page now links the model SKU numbers to the spare parts list for each model found on the **click here to access the HPE Partsurfer**. (To report missing or incorrect parts information in PartSurfer, please use the "Contact us" and "Missing or incorrect data" links within the PartSurfer website utility).
- To look up RoHS-compliant information in PartSurfer, use the component's option part number or the sales order number for a system in which the component is used (available in the QuickSpecs or Standard Models page).

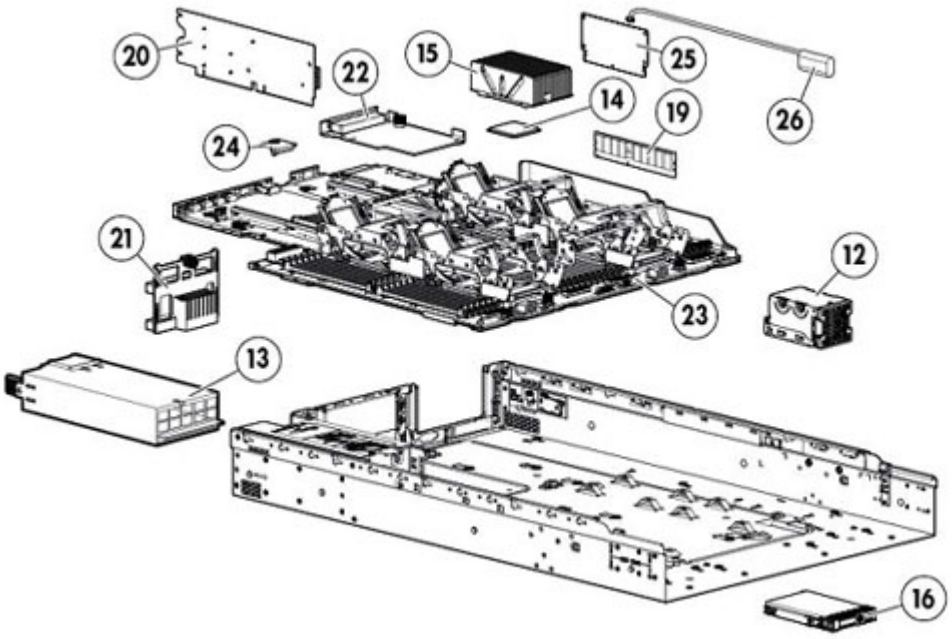
Mechanical components



Item	Description	Spare Part Number	Customer Self Repair
1	Access panel	696239-001	Mandatory
2	Air baffle	696238-001	Mandatory
3	Front cage assembly - Includes the 6-bay fan cage with six fan modules, 5-bay small form factor (SFF) hard drive cage with backplane board, VGA cable with connector, and power / USB connector assembly with cable	696240-001	Optional
4	PCI riser cage - L-shaped metal structure	662526-001	Optional
5	Hard drive blank - SFF	667276-001	Optional

Item	Description	Spare Part Number	Customer Self Repair
6	**Hardware blank kit, includes**		
	a) FlexibleLOM blank	662519-001	Mandatory
	b) PCIe riser cage blank		
	c) Expansion slot blank		
	d) Power supply blank		
	e) Optical device blank		
	f) Fan blank		
7	**Rack mounting hardware**		
	a) Ball bearing rail kit, LF F	692480-001	Mandatory
	b) Cable management ar m	675606-001	Mandator
	c) Friction rail kit	662536-001	Mandatory
8	Heatsink blank	662522-001	Mandatory
9	**Plastics kit**		
	a) Capacitor pack cable routing guide	696243-001	Mandatory
	b) Capacitor pack holder		
	c) Capacitor pack cable routing trough		
10	Processor cage assembly	662537-001	Optional
11	2U rack bezel	662529-001	Mandatory

System components



Item	Description	Spare Part Number	Customer Self Repair
12	Hot-plug fan module assembly	696241-001	Mandatory [1]
13	1200 W AC Common Slot (CS) 'Platinum Plus' hot-plug power supply - Installs in computer chassis as primary or redundant supply (94% efficiency) - Requires 100-240 V ac at 50/60 Hz	660185-001	Mandatory [1]
14	**Processors**		
14a	Intel Xeon E5-4650 Eight-Core 64-bit processor - 2.7 GHz (Sandy Bridge-EP, 20MB Level-3 cache, Intel QuickPath Interconnect (QPI) speed 8.0 GT/s, 130 W Thermal Design Power (TDP), FCLGA 2011 socket)	687963-001	Optional [2]
14b	Intel Xeon E5-4640 Eight-Core 64-bit processor - 2.4 GHz (Sandy Bridge-E	687964-001	Optional [2]

Item	Description	Spare Part Number	Customer Self Repair
	P, 20MB Level-3 cache, Intel QuickPath Interconnect (QPI) speed 8.0 GT/s, 95 W Thermal Design Power (TDP), FCLGA 2011 socket) [3]		
14c	Intel Xeon E5-4620 Eight-Core 64-bit processor - 2.2 GHz (Sandy Bridge-EP, 16MB Level-3 cache, Intel QuickPath Interconnect (QPI) speed 7.2 GT/s, 95 W Thermal Design Power (TDP), FCLGA 2011 socket) [3]	687965-001	Optional [2]
14d	Intel Xeon E5-4610 Six-Core 64-bit processor - 2.4 GHz (Sandy Bridge-EP, 15MB Level-3 cache, Intel QuickPath Interconnect (QPI) speed 7.2 GT/s, 95 W Thermal Design Power (TDP), FCLGA 2011 socket) [3]	687966-001	Optional [2]
14e	Intel Xeon E5-4607 Six-Core 64-bit processor - 2.2 GHz (Sandy Bridge-EP, 12MB Level-3 cache, Intel QuickPath Interconnect (QPI) speed 6.4 GT/s, 95 W Thermal Design Power (TDP), FCLGA 2011 socket) [3]	687967-001	Optional [2]
14f	Intel Xeon E5-4603 Quad-Core 64-bit processor - 2.0 GHz (Sandy Bridge-EP, 10MB Level-3 cache, Intel QuickPath Interconnect (QPI) speed 6.4 GT/s, 95 W Thermal Design Power (TDP), FCLGA 2011 socket) [3]	687968-001	Optional [2]
14g	Intel Xeon E5-4650L Eight-Core 64-bit low power	687969-001	Optional [2]

Item	Description	Spare Part Number	Customer Self Repair
	processor - 2.6 GHz (Sandy Bridge-EP, 20MB Level-3 cache, Intel QuickPath Interconnect (QPI) speed 8.0 GT/s, 115 W thermal design power (TDP), socket FCLGA 2011) [3]		
14h	Intel Xeon E5-4617 Six-Core 64-bit processor - 2.9 GHz (Sandy Bridge-EP, 15MB Level-3 cache, Intel QuickPath Interconnect (QPI) speed 7.2 GT/s, 130 W Thermal Design Power (TDP), FCLGA 2011 socket) [3]	687970-001	Optional [2]
14i	Intel Xeon E5-4657L v2 - 2.40-GHz , 30MB smart cache - Includes jacket processor	733831-001	Optional [2]
14j	Intel Xeon Processor E5-4650 v2 - 2.40GHz, 25MB smart cache, FCLGA2011 Socket, with jacket	733832-001	Optional [2]
14k	Intel Xeon E5-4640 v2 - 2.2 GHz, 20MB smart cache, FCLGA2011 socket, hyper-threading technology with jacket	733833-001	Optional [2]
14l	Intel Xeon Processor E5-4620 v2 - 2.60 GHz, 20MB smart cache,FCLGA 2011 Socket, with jacket	733834-001	Optional [2]
14m	Intel Xeon Processor E5-4610 - 15M Cache, 2.40 GHz, 7.20 GT/s Intel QPI with jacket	733835-001	Optional [2]
14n	Intel Xeon processor E5-4607 v2 - 15M Cache, 2.60 GHz with jacket	733836-001	Optional [2]

Item	Description	Spare Part Number	Customer Self Repair
14o	Intel Xeon processor E5-4603 v2 - 10M Cache, 2.20 GHz with jacket	733837-001	
14p	Intel Xeon processor E5-4627 v2 - 16M Cache, 3.30 GHz with jacket	733838-001	
15	Heatsink, standard efficiency	662522-001	Optional [2]
16	**Hot-plug SAS drives**		
16a	300GB hot-plug dual-port SAS hard disk drive - 10,000 RPM, 6 Gb/s transfer rate, 2.5-inch small form factor (SFF), Enterprise, SmartDrive Carrier (SC) - Not for use in MSA products	653955-001	Mandatory [1]
16b	450GB hot-plug dual-port SAS hard disk drive - 10,000 RPM, 6 Gb/s transfer rate, 2.5-inch small form factor (SFF), Enterprise, SmartDrive Carrier (SC) - Not for use in MSA products [3]	653956-001	Mandatory [1]
16c	600GB hot-plug dual-port SAS hard disk drive - 10,000 RPM, 6 Gb/s transfer rate, 2.5-inch small form factor (SFF), Enterprise, SmartDrive Carrier (SC) - Not for use in MSA products [3]	653957-001	Mandatory [1]
16d	900GB hot-plug dual-port SAS hard disk drive - 10,000 RPM, 6 Gb/s transfer rate, 2.5-inch small form factor (SFF), Enterprise, SmartDrive Carrier (SC) - Not for use in MSA products [3]	653971-001	Mandatory [1]

Item	Description	Spare Part Number	Customer Self Repair
16e	146GB hot-plug dual-port SAS hard disk drive - 15,000 RPM, 6 Gb/s transfer rate, 2.5-inch small form factor (SFF), Enterprise, SmartDrive Carrier (SC) - Not for use in MSA products [3]	653950-001	Mandatory [1]
16f	300GB hot-plug dual-port SAS hard disk drive - 15,000 RPM, 6 Gb/s transfer rate, 2.5-inch small form factor (SFF), Enterprise, SmartDrive Carrier (SC) - Not for use in MSA products [3]	653960-001	Mandatory [1]
16g	500GB hot-plug dual-port SAS hard disk drive - 7,200 RPM, 6 Gb/s transfer rate, 2.5-inch small form factor (SFF), Midline, SmartDrive Carrier (SC) - Not for use in MSA products [3]	653953-001	Mandatory [1]
16h	1TB hot-plug dual-port SAS hard disk drive - 7,200 RPM, 6 Gb/s transfer rate, 2.5-inch small form factor (SFF), Midline, SmartDrive Carrier (SC) - Not for use in MSA products [3]	653954-001	Mandatory [1]
17	**Hot-plug solid state SAS drives** [3]		
17a	200GB hot-plug Solid State Drive (SSD) - SAS interface, 6 Gb/s transfer rate, 2.5-inch small form factor (SFF), Single-Level Cell (SLC), SmartDrive Carrier (SC)	653961-001	Mandatory [1]
17b	400GB hot-plug Solid State Drive (SSD) - SAS interface, 6 Gb/s transfer rate, 2.5-inch small form factor (SFF), Single-Level	653962-001	Mandatory [1]

Item	Description	Spare Part Number	Customer Self Repair
	Cell (SLC), SmartDrive Carrier (SC)		
17c	400GB hot-plug Solid State Drive (SSD) - SAS interface, 6Gb/s transfer rate, 2.5-inch small form factor (SFF), Multi-Level Cell (MLC), SmartDrive Carrier (SC)	653963-001	Mandatory [1]
17d	800GB hot-plug Solid State Drive (SSD) - SAS interface, 6 Gb/s transfer rate, 2.5-inch small form factor (SFF), Multi-Level Cell (MLC), SmartDrive Carrier (SC)	653964-001	Mandatory [1]
17e	200GB hot-plug Solid State Drive (SSD) - SAS interface, 6 Gb/s transfer rate, 2.5-inch small form factor (SFF), Multi-Level Cell (MLC), Enterprise Mainstream, SmartDrive Carrier (SC)	658580-001	Mandatory [1]
18	**Hot-plug solid state SATA drives** [3]		
18a	100GB hot-plug Solid State Drive (SSD) - SATA interface, 3Gb/s transfer rate, 2.5-inch small form factor (SFF), Multi-Level Cell (MLC), SmartDrive Carrier (SC)	653965-001	Mandatory [1]
18b	200GB hot-plug Solid State Drive (SSD) - SATA interface, 3Gb/s transfer rate, 2.5-inch small form factor (SFF), Multi-Level Cell (MLC), SmartDrive Carrier (SC)	653966-001	Mandatory [1]
18c	400GB hot-plug Solid State Drive (SSD) - SATA interface, 3Gb/s transfer	653967-001	Mandatory [1]

Item	Description	Spare Part Number	Customer Self Repair
	rate, 2.5-inch small form factor (SFF), Multi-Level Cell (MLC), SmartDrive C arrier (SC)		
19	**Memory (DIMMs)**		
19a	4GB, 1600 MHz, PC3-12 800R-11, DDR3, Single-R ank x4, 1.50 V, registered dual in-line memory mod ule (DIMM) [3]	664689-001	Mandatory [1]
19b	4GB, 1333 MHz, PC3L-1 0600R-9, DDR3, single-ra nk x4, 1.35 V, registered dual in-line memory mod ule (RDIMM) [3]	664688-001	Mandatory [1]
19c	8GB, 1600 MHz, PC3-12 800R-11, DDR3, single-ra nk x4, 1.50 V, registered dual in-line memory mod ule (DIMM) [3]	664691-001	Mandatory [1]
19d	8GB, 1600 MHz, PC3-12 800R-11, DDR3, dual-ran k x4, 1.50 V, registered d ual in-line memory modul e (DIMM)	698807-001	Mandatory [1]
19e	8GB, 1333 MHz, PC3L-1 0600R-9, DDR3, dual-ran k x4, 1.35 V, registered d ual in-line memory modul e (RDIMM) [3]	664690-001	Mandatory [1]
19f	16GB, 1600 MHz, PC3-1 2800R-11, DDR3, dual-ra nk x4, 1.50 V, registered dual in-line memory mod ule (DIMM) [3]	684031-001	Mandatory [1]
19g	16GB, 1333 MHz, PC3L-10600R-9, DDR3, dual-ra nk x4, 1.35 V, registered dual in-line memory mod ule (RDIMM) [3]	664692-001	Mandatory [1]

Item	Description	Spare Part Number	Customer Self Repair
19h	32GB, 1333 MHz, PC3L-10600L-9, DDR3, Quad-Rank x4, 1.35 V, Load Reduced Dual In-Line Memory Module (LRDIMM) [3]	664693-001	Mandatory [1]
19i	4GB, 1866 MHz, PC3-14900R-13, DDR3, dual-rank x4, 1.50 V, registered dual in-line memory module (RDIMM)	715272-001	Mandatory [1]
19j	4GB, 1600 MHz, PC3L-12800R-11, DDR3, single-rank x4, 1.35 V, registered dual in-line memory module (RDIMM)	715282-001	Mandatory [1]
19k	8GB, 1866 MHz, PC3-14900R-13, DDR3, quad-rank x4, 1.50 V, registered dual in-line memory module (DIMM)	735303-001	Mandatory [1]
19l	8GB, 1866 MHz, PC3-14900R-13, DDR3, dual-rank x4, 1.50 V, registered dual in-line memory module (RDIMM)	715273-001	Mandatory [1]
19m	8GB, 1600 MHz, PC3L-12800R-11, DDR3, dual-rank x4, 1.35 V, registered dual in-line memory module (RDIMM)	715283-001	Mandatory [1]
19n	16GB, 1866 MHz, PC3-14900R-13, DDR3, dual-rank x4, 1.50 V, registered dual in-line memory module (RDIMM)	715274-001	Mandatory [1]
19o	16GB dual in-line memory module (DIMM), PC3L-12800R-11, 1Gx4	715284-001	Mandatory [1]
19p	32GB, 1866 MHz, PC3-14900L-13, DDR3, quad-rank x4, 1.50 V, load red	715275-001	Mandatory [1]

Item	Description	Spare Part Number	Customer Self Repair
	uced dual in-line memory module (LRDIMM)		
20	**PCIe riser board**		
20a	3-slot PCIe riser board (standard) - Includes one x16 slot, and two x8 slots	662524-001	Optional [2]
20b	2-slot PCIe riser board (optional) - Has two x16 slots [3]	662525-001	Optional [2]
21	Power supply backplane board assembly	662528-001	Mandatory [1]
22	**FlexibleLOM**		
22a	FlexibleLOM Ethernet 1Gb 4-port 331FLR adapter - Has four 10/100/1000 BASE-T RJ45 ports - Requires one x4 (Gen 2) PCI Express slot (mechanically compatible with x8 and x16 PCI Express slots)	789897-001	Mandatory [1]
22b	HPE 10GbE 2-port, 530FLR Adapter FIO Kit [3]	649869-001	Mandatory [1]
22c	HPE Ff 10Gb 2-port, 554ELR-SFP+ Adapter FIOKit [3]	634026-001	Mandatory [1]
22d	HP InfiniBand FDR/EN 10/40Gb 2-port,544FLR-QSFP Adapter [3]	656090-001	Mandatory [1]
22e	HPE InfiniBand QDR/EN 10Gb 2-port,544FLR-QSFP Adapter [3]	656091-001	Mandatory [1]
23	System board assembly (Do NOT use with v2 processors)	696237-001	Optional [2]
	System board assembly DL560 Gen8 IVB	746784-001	

Item	Description	Spare Part Number	Customer Self Repair
24	HPE Trusted Platform Module	505836-001	No [4]
	Controller option		
25	**FBWC cache module**		
25a	512MB flash backed write cache (FBWC) memory module, 40-bit wide - Does not include the controller board or capacitor module - For use with the P222 Smart Array controller	633540-001	Optional [2]
25b	1GB flash backed write cache (FBWC) memory module, 72-bit wide - Does not include the controller board or capacitor module - For use with the P420 and P421 Smart Array controllers [3]	633542-001	Optional [2]
25c	2GB flash backed write cache (FBWC) memory module, 72-bit wide - Does not include the controller board or capacitor module - For use with the P420, P421, P430, P431, and 822 Smart Array controllers [3]	633543-001	Optional [2]
26	24-inch FBWC capacitor pack with cable	660092-001	Optional [2]
	36-inch FBWC capacitor pack with cable	660093-001	
27	Systems Insight Display subassembly, with cables [3]	664927-001	Optional [2]
28	**Cable kit** [3]		
28a	Mini-SAS hard drive backplane to storage card	696242-001	Mandatory [1]

Item	Description	Spare Part Number	Customer Self Repair
28b	Primary power cable 2x4		
28c	Secondary power cable 2 x4		
28d	Sideband fan cable		
29	Mini-SAS storage cable [3]	699144-001	Mandatory [1]
30	System battery, 3.3 V, lith ium [3]	319603-001	Mandatory [1]

NOTE

1. **Mandatory** - Parts for which customer self repair is mandatory. If you request HPE to repl ace these parts, you will be charged for the travel and labor costs of this service.

2. **Optional** - Parts for which customer self repair is optional. These parts are also designed for customer self repair. If, however, you require that HPE replace them for you, there may o r may not be additional charges, depending on the type of warranty service designated for your product.

3. Not shown.

4. **No** - Some HPE parts are not designed for customer self repair. In order to satisfy the cu stomer warranty, HP requires thatan authorized service provider replace the part. These par ts are identified as "No" in the Illustrated Parts Catalog.

All processors in this HPE ProLiant server must have the same cache size, speed, number of cores, and rated maximumpower consumption.

OS Compatibility

Feature	Description
HPE Insight software	• HPE Insight Control • HPE Insight Control Server Deployment • HPE Insight Control for Linux •

Feature	Description
High performance clusters	HPE Cluster Management Utility
Operating Systems (OS) and virtualization software support for ProLiant servers [1]	• Microsoft Windows Server • Red Hat Enterprise Linux (RHEL) • SUSE Linux Enterprise Server (SLES) • Oracle Solaris • VMware • Citrix XenServer



NOTE

1. Check the below support matrix for more information on HPE's Certified and supported ProLiant Servers for OS and virtualization software and latest listing of software drivers available for the server:

   Click here to access the Support Matrix.

Useful Links

Description	Links
Alerts	**Click here to view " Advisories, Alerts and Bulletins and Notices of HPE ProLiant DL560 Gen8 Server ".**
Drivers and Software	**Click here to view "Drivers and software of HPE ProLiant DL560 Gen8 Server".**
Knowledge article	**Click here to view" Knowledge articles, Troubleshooting, FAQ, How to , Information document of HPE ProLiant DL560 Gen8 Server".**
Manuals	**Click here to view "Manuals, Guides,Release notes, Troubleshooting articles and other related document of HPE ProLiant DL560 Gen8 Server".**

Description	Links
Videos	**Click here to access " Videos of Remove/Replace , Setup/Installation, Troubleshooting, Management/Operations of HPE ProLiant DL560 Gen8 Server" .**