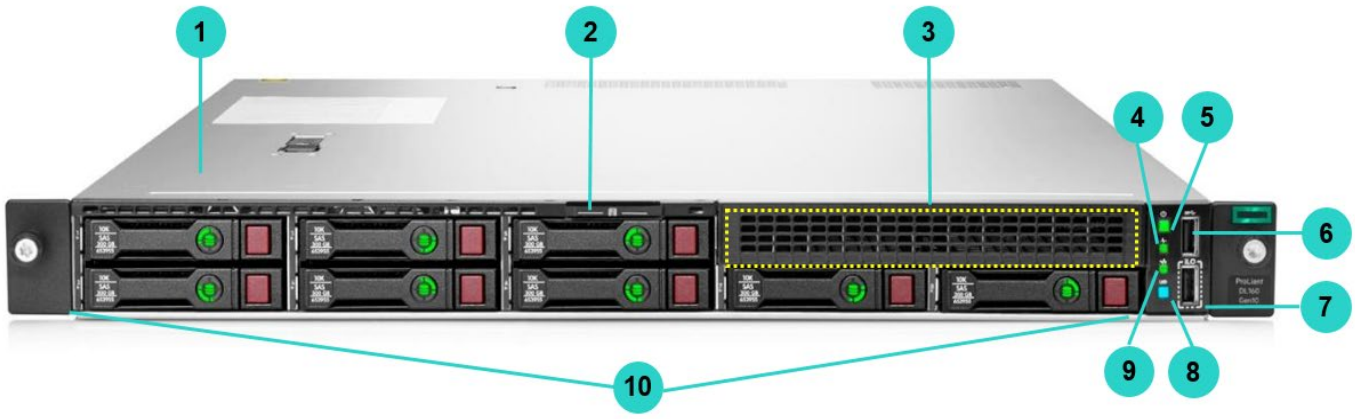
Overview

HPE ProLiant DL160 Gen10 Server

The secure 2P 1U HPE ProLiant DL160 Gen10 server delivers the right balance of performance, storage, reliability, manageability and efficiency in a dense and compact chassis, to meet the needs of growing businesses of a diverse set of customers – from SMB to Service Providers running wide range of workloads - at a compelling price point.



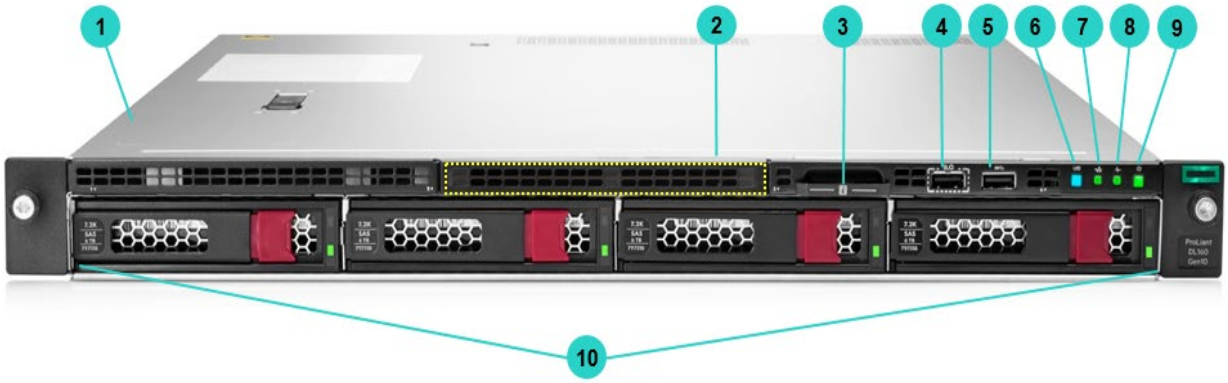
8 SFF chassis - Front View

1. Quick removal access panel
2. Serial no. label pull tab
3 Media Bay (blank shown)*
4. Health LED
5 Power On/Standby button and system power LED
6. USB 3.0 port
7. iLO Service Port
8. UID button/LED
9 NIC Status LED
10. Standard 8 SFF SAS/SATA drive bays

Notes:

- *Option a: +2SFF SAS/SATA (total max 10SFF)
- *Option b: DVD-RW or DVD-ROM

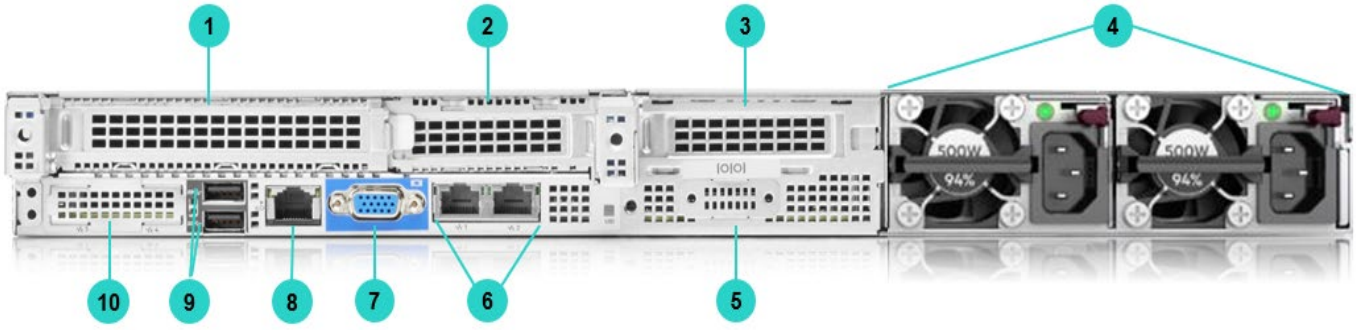
Overview



4 LFF chassis - Front View

1. Quick removal access panel
2. DVD-RW or DVD-ROM (blank shown)*
3. Serial no. label pull tab
4. iLO Service Port
5. USB 3.0 Port
6. UID button/LED
7. NIC status LED
8. Health LED
9. Power On/Standby button and system power LED
10. 4 LFF SAS/SATA drive bays

Notes: *Optional

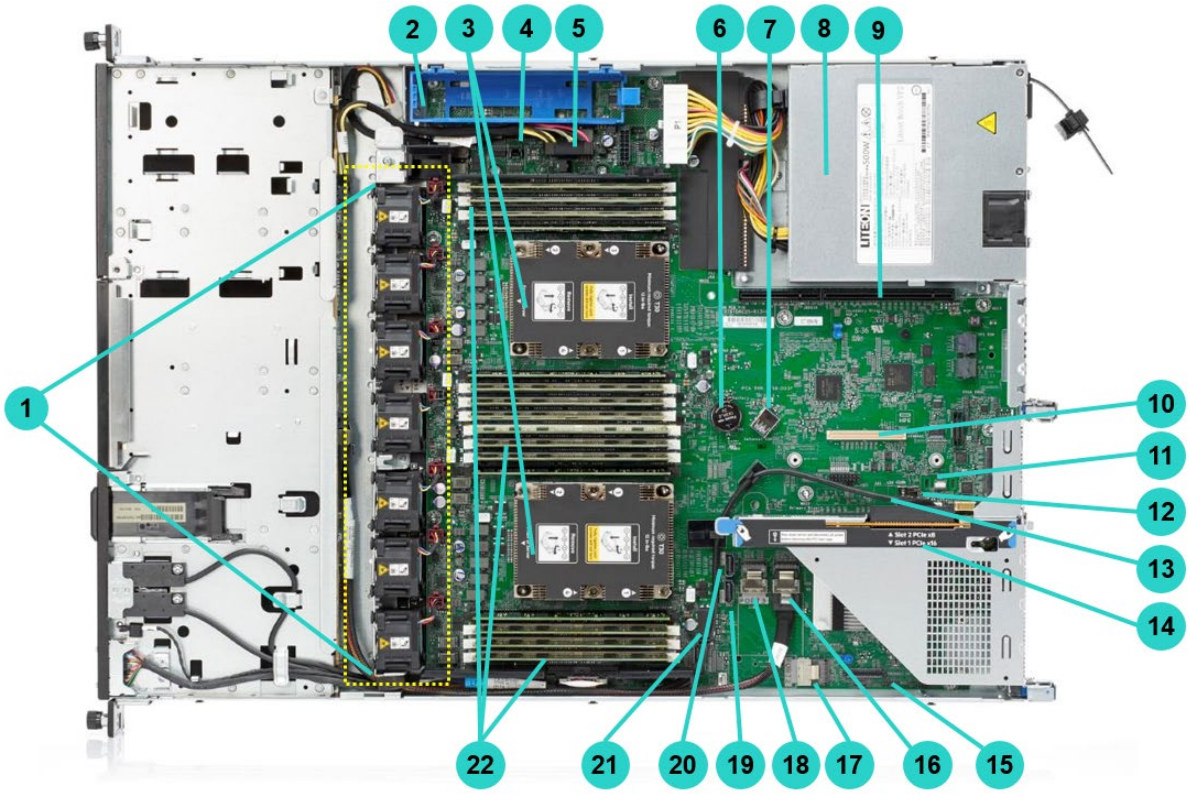


Rear View

1. Slot 1 PCIe 3.0
2. Slot 2 PCIe 3.0
3. Slot 3 PCIe 3.0 (Requires 2nd processor)*
4. Power Supply (Redundant hot-plug shown)
5. Serial Port *
6. Embedded 2x 1GbE Adapter
7. VGA Port
8. iLO Management Port
9. 2x USB 3.0 Ports
10. Media Module *

Notes: *Optional

Overview



8SFF chassis – with optional 2nd CPU - Internal View

1. Standard single rotor hot swap fans
   1 CPU – 3 standard fans
   2 CPUs – 6 standard fans (1 redundant fan shown) *
2. Smart Storage Battery (No battery shown) *
3. Up to 2 processors (shown with standard heat sinks)
4. Chassis Intrusion Detection connector *
5. Hard Drive backplane power connector
6. System Battery
7. Internal USB 3.0 connector
8. Power supply (non-redundant power supply shown)
9. Secondary (CPU2) PCIe 3.0 riser
10. Flexible Smart Array Controller Connector
11. TPM 2.0*
12. MicroSD card slot
13. iLO Service Port Connector
14. Standard: 1x16 and 1x8
    FlexibleLOM (1X8 FlexibleLOM, 1X8 Low Profile) *
15. Media Module Connector
16. Mini-SAS port 1
17. Mini-SAS port 2
18. Mini-SAS port 3
19. SATA port 4
20. SATA port 5
21. Front Power USB 3.0 connector
22. DDR4 DIMM slots
    (Fully populated 16 DIMMs shown)

Notes: *Optional

Overview

What's New

- 800GB, 1.6/3.2/6.4TB Mixed Use SAS SFF PM6 SSDs
- 960GB, 1.92/3.84/7.68TB Read Intensive SAS SFF PM6 SSDs
- 400/800GB, 1.6TB Write Intensive SAS SFF PM6 SSDs

Platform Information

Form Factor

- 1U rack

Chassis Types

- 8 SFF with optional support for additional 2 SFF SAS/SATA HDD/SSD
- 4 LFF

System Fans

- Single rotor hot plug fans will be included

For 4 LFF and 8 SFF chassis

- 1 CPU – Includes 3 standard fans, 4 fans with addition of redundant fan kit
- 2 CPUs – Includes 6 standard fans, 7 fans with addition of redundant fan kit

Notes: Optional redundant fan kit (866438-B21) includes 1 fan for redundancy

Standard Features

Processors – Up to 2 of the following depending on model.

Notes:

- The 2nd digit of the processor model number "x1xx" and "x2xx" is used to denote the processor generation (i.e. 1=1st generation and 2=2nd generation)
- Field upgrades from 1st generation processors (x1xx) to 2nd generation processors (x2xx) not supported.
- "U" processors (i.e. 6210U) only supported in single socket configurations
- This table covers the public Intel offering only.
- For more information regarding Intel Xeon processors, please see the following **http://www.intel.com/xeon**.

2nd Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Platinum 8256 Processor	3.8 GHz	4	16.50 MB	105W	3 @ 10.4 GT/s	2933 MT/s	1TB
Platinum 8253 Processor	2.2 GHz	16	22.00 MB	125W	3 @ 10.4 GT/s	2933 MT/s	1TB

Notes:

- 6-Channel DDR4 @ 2933 MT/s with 1TB memory capacity per socket
- 2 and 4 socket capable, 2S - 2UPI, 2S - 3UPI, 4S - 3UPI @ 10.4 GT/s.
- Support for: Vector Neural Network Instructions (VNNI) for inference acceleration, Intel Turbo Boost Technology, Intel Hyper-Threading Technology Intel AVX-512 (2x 512-bit FMA), advanced RAS
- 48 lanes PCIe 3.0

1st Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Platinum 8164 Processor	2.0 GHz	26	35.75 MB	150W	3 @ 10.4 GT/s	2666 MT/s	768GB

Notes:

- 6-Channel 1DPC DDR4 @ 2666 MT/s. with 768GB memory capacity per socket
- 2 and 4 socket capable, 2S - 2UPI, 2S-3UPI, 4S-2UPI, 4S - 3UPI, 8S - 3UPI @ 10.4 GT/s.
- Support for: Intel Turbo Boost Technology, Intel Hyper-Threading Technology Intel AVX-512 (2x 512-bit FMA), advanced RAS
- 48 lanes PCIe 3.0

2nd Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Gold 6252 Processor	2.1 GHz	24	35.75 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6248 Processor	2.5 GHz	20	27.5 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6244 Processor	3.6 GHz	8	24.75 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6242 Processor	2.8 GHz	16	22 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6240 Processor	2.6 GHz	18	24.75 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6238 Processor	2.1 GHz	22	30.25 MB	140W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6234 Processor	3.3 GHz	8	24.75 MB	130W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6230R Processor	2.1 GHz	26	35.75 MB	150W	2 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6230 Processor	2.1 GHz	20	27.5 MB	125W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6226R Processor	2.9 GHz	16	22 MB	150W	2 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6226 Processor	2.7 GHz	12	19.25 MB	125W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6210U Processor	2.5 GHz	20	27.50 MB	150W	N/A	2933 MT/s	1TB
Gold 6209U Processor	2.1 GHz	20	27.50 MB	125W	N/A	2933 MT/s	1TB
Gold 6208U Processor	2.9 GHz	16	22 MB	150W	N/A	2933 MT/s	1TB
Gold 5222 Processor	3.8 GHz	4	16.5 MB	105W	2 @ 10.4 GT/s	2933 MT/s	1TB
Gold 5220R Processor	2.2 GHz	24	35.75 MB	150W	2 @ 10.4 GT/s	2933 MT/s	1TB
Gold 5220 Processor	2.2 GHz	18	24.75 MB	125W	2 @ 10.4 GT/s	2666 MT/s	1TB

Standard Features

Gold 5218R Processor	2.1 GHz	20	27.50 MB	125W	2 @ 10.4 GT/s	2666 MT/s	1TB
Gold 5218 Processor	2.3 GHz	16	22 MB	125W	2 @ 10.4 GT/s	2666 MT/s	1TB
Gold 5217 Processor	3.0 GHz	8	11 MB	115W	2 @ 10.4 GT/s	2666 MT/s	1TB
Gold 5215 Processor	2.5 GHz	10	13.75 MB	85W	2 @ 10.4 GT/s	2666 MT/s	1TB

Notes:

- 6-Channel DDR4 @ 2933 MT/s (Gold 6200 & 5222 skus only), 2666 MT/s on all Gold 5200 skus (except 5222 @ 2933 MT/s) with 1TB memory capacity per socket
- 2 and 4 socket capable, 2S - 2UPI, 2S - 3UPI, 4S-2UPI, 4S - 3UPI @ 10.4 GT/s.
- Support for: Vector Neural Network Instructions (VNNI) for inference acceleration, Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512 (1x 512-bit FMA) (Gold 6200 and SKU 5222 - supports 2x 512 bit FMA), advanced RAS
- 48 lanes PCIe 3.0

1st Generation Intel® Xeon® Scalable Processor Family

Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	UPI	DDR4	Memory per socket
Gold 6152 Processor	2.1 GHz	22	30.25 MB	140W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6148 Processor	2.4 GHz	20	27.50 MB	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6144 Processor	3.5 GHz	8	24.75 MB	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6142 Processor	2.6 GHz	16	22.00 MB	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6140 Processor	2.3 GHz	18	24.75 MB	140W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6138 Processor	2.0 GHz	20	27.50 MB	125W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6136 Processor	3.0 GHz	12	24.75 MB	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6134 Processor	3.2 GHz	8	24.75 MB	130W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6132 Processor	2.6 GHz	14	19.25 MB	140W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6130 Processor	2.1 GHz	16	22.00 MB	125W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6128 Processor	3.4 GHz	6	19.25 MB	115W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6126 Processor	2.6 GHz	12	19.25 MB	125W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 5122 Processor	3.6 GHz	4	16.50 MB	105W	2 @ 10.4 GT/s	2666 MT/s	768GB
Gold 5120 Processor	2.2 GHz	14	19.25 MB	105W	2 @ 10.4 GT/s	2400 MT/s	768GB
Gold 5118 Processor	2.3 GHz	12	16.50 MB	105W	2 @ 10.4 GT/s	2400 MT/s	768GB
Gold 5115 Processor	2.4 GHz	10	13.75 MB	85W	2 @ 10.4 GT/s	2400 MT/s	768GB

Notes:

- 6-Channel 1DPC DDR4 @ 2666 MT/s (Gold 6100 skus), 2400 MT/s on all Gold 5100 skus (SKU 5122 - supports 2666 MT/s), with 768GB memory capacity per socket
- 2 and 4 socket capable, 2S - 2UPI, 2S-3UPI, 4S - 3UPI @ 10.4 GT/s.
- Support for: Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512 (1x 512-bit FMA) (Gold 6100 and SKU 5122 - supports 2x 512 bit FMA), advanced RAS
- 48 lanes PCIe 3.0

2nd Generation Intel® Xeon® Scalable Processor Family

Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	UPI	DDR4	Memory per socket
Silver 4216 Processor	2.1 GHz	16	22 MB	100W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4215R Processor	3.2 GHz	8	11 MB	130W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4215 Processor	2.5 GHz	8	11 MB	85W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4214R Processor	2.4 GHz	12	16.5 MB	100W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4214 Processor	2.2 GHz	12	16.5 MB	85W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4210R Processor	2.4 GHz	10	13.75 MB	100W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4210 Processor	2.2 GHz	10	13.75 MB	85W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4208 Processor	2.1 GHz	8	11 MB	85W	2 @ 9.6 GT/s	2400 MT/s	1TB

Standard Features

Notes:

- 6-Channel DDR4 @ 2400 MT/s with 1TB memory capacity per socket
- 2 socket supports 2UPI @ 9.6 GT/s.
- Support for: Intel® Vector Neural Network Instructions (VNNI) for inference acceleration, Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512 (1x 512-bit FMA), standard RAS
- 48 lanes PCIe 3.0

1st Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Silver 4116 Processor	2.1 GHz	12	16.50 MB	85W	2 @ 9.6 GT/s	2400 MT/s	768GB
Silver 4114 Processor	2.2 GHz	10	13.75 MB	85W	2 @ 9.6 GT/s	2400 MT/s	768GB
Silver 4112 Processor	2.6 GHz	4	8.25 MB	85W	2 @ 9.6 GT/s	2400 MT/s	768GB
Silver 4110 Processor	2.1 GHz	8	11.00 MB	85W	2 @ 9.6 GT/s	2400 MT/s	768GB
Silver 4108 Processor	1.8 GHz	8	11.00 MB	85W	2 @ 9.6 GT/s	2400 MT/s	768GB

Notes:

- 6-Channel DDR4 @ 2400 MT/s providing with 768GB memory capcity per socket
- 2 Socket supports 2UPI @ 9.6 GT/s
- Support for: Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512(1x 512-bit FMA), standard RAS
- 48 lanes PCIe 3.0

2nd Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Bronze 3206R	1.9 GHz	8	11 MB	85W	2 @ 9.6 GT/s	2133 MT/s	1 TB
Bronze 3204 Processor	1.9 GHz	6	8.25 MB	85W	2 @ 9.6 GT/s	2133 MT/s	1 TB

Notes:

- 6-Channel DDR4 @ 2133 MT/s with 1TB memory capacity per socket
- 2 Socket supports 2UPI @ 9.6 GT/s
- Support for: Intel® Vector Neural Network Instructions (VNNI) for inference acceleration., Intel AVX-512 (1x 512-bit FMA), standard RAS
- 48 lanes PCIe 3.0

1st Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Bronze 3106 Processor	1.7 GHz	8	11.00 MB	85W	2 @ 9.6 GT/s	2133 MT/s	768GB
Bronze 3104 Processor	1.7 GHz	6	8.25 MB	85W	2 @ 9.6 GT/s	2133 MT/s	768GB

Notes:

- 6-Channel DDR4 @ 2133 MT/s with 768GB memory capacity per socket
- 2 Socket supports 2UPI @ 9.6 GT/s
- Support for: Intel AVX-512(1x 512-bit FMA), standard RAS
- 48 lanes PCIe 3.0

Standard Features

Chipset

Intel C622 Chipset

Notes: For more information regarding Intel® chipsets, please see the following URL:
https://www.intel.com/content/www/us/en/products/chipsets/server-chipsets.html

On System Management Chipset

HPE iLO 5 ASIC

Notes: Read and learn more in the **iLO QuickSpecs**.

Memory

Type	HPE DDR4 SmartMemory Registered (RDIMM), Load Reduced (LRDIMM)	
DIMM Slots Available	16	8 DIMM slots per processor, 6 channels per processor, 2 channels @ 2 DIMMs per channel, 4 channels @ 1 DIMM per channel
Maximum capacity (LRDIMM)	1.0 TB	16 x 64 GB LRDIMM @ 2933 MT/s
Maximum capacity (RDIMM)	1.0 TB	16 x 64 GB RDIMM @ 2933 MT/s

Notes:

- Mixing of RDIMM and LRDIMM memory is not supported.
- For General Server Memory Population Rules and Guidelines for Gen10 see details here:
  http://www.hpe.com/docs/memory-population-rules

Memory Protection

Advanced ECC

Advanced ECC uses single device data correction to detect and correct single and all multibit error that occurs within a single DRAM chip.

Online Spare

Memory online spare mode detects a rank that is degrading and switches operation to the spare rank.

Notes: For more information see our **Memory RAS feature technical whitepaper**

Expansion Slots

Primary Riser					
Expansion Slots #	**Technology**	**Bus Width**	**Connector Width**	**Processor**	**Slot Form Factor**
1	PCIe 3.0	x16	x16	CPU1	Full-height, half-length slot
2	PCIe 3.0	x8	x8	CPU1	Low Profile

FlexibleLOM Riser					
Slots #	**Technology**	**Bus Width**	**Connector Width**	**Processor**	**Slot Form Factor**
1	PCIe 3.0	X8	X8	CPU1	Flexible LOM
2	PCIe 3.0	X8	X8	CPU1	Low Profile

Notes:

- Bus Width Indicates the number of physical electrical lanes running to the connector.
- This riser is mandatory for installing FlexibleLOMs.
- FlexibleLOM riser will replace standard CPU1 X16/X8 riser.

Standard Features

CPU2 Riser					
Slots #	**Technology**	**Bus Width**	**Connector Width**	**Processor**	**Slot Form Factor**
1	PCIe 3.0	X16	X16	CPU2	Low Profile

Notes:

- Bus Width Indicates the number of physical electrical lanes running to the connector.
- When populating the second optional riser slot, the second processor must be installed.
- Cannot be installed if type-a modular smart array controller is installed.
- Max 3-PCIe slots are available on the DL160 Gen10.

Software RAID

HPE Smart Array S100i SR Gen10 SW RAID

Notes:

- HPE Smart Array S100i SR Gen10 SW RAID will operate in UEFI mode only. For legacy support an additional controller will be needed.
- HPE Smart Array S100i SR Gen10 SW RAID is off by default and must be enabled.
- HPE Smart Array S100i SR Gen10 SW RAID only supports Windows and does not support Linux. For Linux users, HPE offers a solution that uses in-distro open-source software to create a two-disk RAID 1 boot volume. For more information visit: **https://downloads.linux.hpe.com/SDR/project/lsrrb/**

Essential RAID Controller

- HPE Smart Array E208i-a SR G10 LH Controller
- HPE Smart Array E208i-p SR Gen10 Controller
- HPE Smart Array E208e-p SR Gen10 Controller

Performance RAID Controller

- HPE Smart Array P408i-a SR G10 LH Controller
- HPE Smart Array P408i-p SR Gen10 Controller
- HPE Smart Array P408e-p SR Gen10 Controller

Notes:

- Performance RAID Controllers require the HPE Smart Storage Battery (P01366-B21) which is sold separately.
- For additional details, please see **https://www.hpe.com/psnow/doc/a00047736enw**

Internal Storage Devices

- **Optical Drive**
  Optional: DVD-ROM or DVD-RW
- **Hard Drives**
  None ship standard

Maximum Internal Storage

Drive	Capacity	Configuration
Hot Plug SFF SAS HDD	24 TB	8+2 X 2.4 TB
Hot Plug LFF SAS HDD	48 TB	4 X 12 TB
Hot Plug SFF SATA HDD	20 TB	8+2 X 2 TB
Hot Plug LFF SATA HDD	48 TB	4 X 12 TB
Hot Plug SFF SAS SSD	76.8 TB	8+2 X 7.68 TB
Hot Plug LFF SAS SSD	6.4 TB	4 X 1.6 TB
Hot Plug SFF SATA SSD	76.8 TB	8+2 X 7.68 TB
Hot Plug LFF SATA SSD	30.72 TB	4 X 7.68 TB

Standard Features

Power Supply

- HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
  Notes: Available in 94% efficiency.
- HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
  Notes:
  - Available in 94% and 96% efficiency.
  - Also available in -48VDC power input.

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HPE ProLiant Gen10 Performance Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to "right-size" a power supply for specific server configurations. This flexibility helps to reduce power waste, lower overall energy costs, and avoid "trapped" power capacity in the data center.

All pre-configured servers ship with a standard 6-foot IEC C-13/C-14 jumper cord (A0K02A). This jumper cord is also included with each standard AC power supply option kit. If a different power cord is required, please check the **ProLiant Power Cables** web page.

For information on power specifications and technical content visit **HPE Server power supplies**.

Interfaces

Video	1 rear – VGA Port (standard), 1 Serial Port (optional)
Network Ports	2 x 1 GbE ports embedded on board with optional Media Module, FlexibleLOM or stand up card
HPE iLO Remote Management Network Port	1 Gb Dedicated
Front iLO Service Port	1 standard
Micro SD Slot	1 Micro SD **Notes:** The Micro SD slot is not a hot-pluggable device. Customers should not attempt to plug an SD card into the SD slot while the server is powered.
USB 3.0	Up to 4 total: 1 front, 2 rear, 1 internal

Operating Systems and Virtualization Software Support for ProLiant Servers

2nd Generation Intel® Xeon® Scalable Processor Family

- **Windows Server 2016***, 2019
- **VMware ESXi 6.5 U3***, 6.7 U3, 7.0
- **Red Hat Enterprise Linux (RHEL)** 7.6 with Kbase*, 8.0
- **SUSE Linux Enterprise Server (SLES)** 12 SP4*

1st Generation Intel® Xeon® Scalable Processor Family

- Windows Server 2012R2*, 2016, 2019
- **VMware ESXi 6.0 U3*, 6.5 U3**, 6.7 U3, 7.0
- **Red Hat Enterprise Linux (RHEL)** 6.9*, 7.3, 7.6 (with Kbase), 8.0
- **SUSE Linux Enterprise Server (SLES)** 12 SP2*, 12 SP3-SP4
- CentOS- Limited HPE support. Please review

Notes:

- *Minimum required OS
- For more information on Hewlett Packard Enterprise Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server.**http://www.hpe.com/info/ossupport**

Standard Features

Industry Standard Compliance

- ACPI 6.1 Compliant
- PCIe 3.0 Compliant
- WOL Support
- Microsoft® Logo certifications
- PXE Support
- USB 3.0 Compliant (internal)
- SMBIOS 3.1
- UEFI 2.6
- Redfish API
- IPMI 2.0
- Secure Digital 2.0
- Advanced Encryption Standard (AES)
- Triple Data Encrytion Standard (3DES)
- SNMP v3
- TLS 1.2
- DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP)
- Active Directory v1.0
- ASHRAE A3/A4
  Notes: For additional technical thermal details regarding ambient temperatures, humidity and features support please visit: **http://www.hpe.com/servers/ashrae**.
- UEFI (Unified Extensible Firmware Interface Forum)
  Notes: UEFI is the default for the HPE ProLiant DL160 Gen10. Legacy mode can be selected in the field.

European Union (EU) eco-design regulations for server and storage products, known as Lot 9, go into effect on March 1st, 2020. Among other requirements, for servers this directive establishes power thresholds for idle state, as well as efficiency and performance in active state which vary among configurations. HPE ProLiant Gen10 servers are compliant with Lot9 requirements. For more information regarding HPE Lot 9 conformance, please visit:
https://www.hpe.com/us/en/about/environment/msds-specs-more.html

Graphics

Integrated Video Standard

- Video modes up to 1920 x 1200@60Hz (32 bpp)
- 16MB Video Memory

HPE iLO 5 on system management memory

- 32 MB Flash
- 4 Gbit DDR 3 with ECC protection

HPE Server UEFI/Legacy ROM

Unified Extensible Firmware Interface (UEFI) is an industry standard that provides better manageability and more secured configuration than the legacy ROM while interacting with your server at boot time. HPE ProLiant Gen10 servers have a UEFI Class 2 implementation and support both UEFI Mode (default) and Legacy BIOS Mode.

Notes: The UEFI System Utilities tool is analogous to the HPE ROM-Based Setup Utility (RBSU) of legacy BIOS. For more information, please visit **http://www.hpe.com/servers/uefi**.

Standard Features

UEFI enables numerous new capabilities specific to HPE ProLiant servers such as:

- Secure Boot and Secure Start enable for enhanced security
- Operating system specific functionality
- Support for > 2.2 TB (using GPT) boot drives
- USB 3.0 Stack
- Embedded UEFI Shell
- Mass Configuration Deployment Tool using iLO RESTful API that is Redfish API Conformant
- PXE boot support for IPv6 networks
- Workload Profiles for simple performance optimization

UEFI Boot Mode only:

- NVMe Boot Support
- iSCSI Software Initiator Support.
- HTTP/HTTPs Boot support as a PXE alternative.
- Boot support for option cards that only support a UEFI option ROM

Notes: For UEFI Boot Mode, boot environment and OS image installations should be configured properly to support UEFI.

Embedded Management

HPE Integrated Lights-Out (HPE iLO)

Monitor your servers for ongoing management, service alerting, reporting and remote management with HPE iLO.
Learn more at **http://www.hpe.com/info/ilo**.

UEFI

Configure and boot your servers securely with industry standard Unified Extensible Firmware Interface (UEFI).
Learn more at **http://www.hpe.com/servers/uefi**.

Intelligent Provisioning

Hassle free server and OS provisioning for 1 or more servers with Intelligent Provisioning.
Learn more at **http://www.hpe.com/servers/intelligentprovisioning**.

iLO RESTful API

iLO RESTful API is Redfish API conformance and offers simplified server management automation such as configuration and maintenance tasks based on modern industry standards. Learn more at **http://www.hpe.com/info/restfulapi**.

Server Utilities

Active Health System

The HPE Active Health System (AHS) is an essential component of the iLO management portfolio that provides continuous, proactive health monitoring of HPE servers. Learn more at **http://www.hpe.com/servers/ahs**.

Active Health System Viewer

Use the Active Health System Viewer, a web-based portal, to easily read AHS logs and speed problem resolution with HPE self-repair recommendations, to learn more visit: **http://www.hpe.com/servers/ahsv**.

Service Pack for ProLiant (SPP)

The Service Pack for ProLiant (SPP) is a comprehensive collection of server firmware, drivers, and system software tested as a single solution stack, which is delivered as a single ISO image. Learn more at **http://www.hpe.com/servers/spp**

Standard Features

iLO Amplifier Pack
Designed for large enterprise and service provider environments with hundreds of HPE servers, the iLO Amplifier Pack is a free, downloadable open virtual application (OVA) that delivers the power to discover, inventory and update Gen8, Gen9 and Gen10 HPE servers at unmatched speed and scale. Use with an iLO Advanced License to unlock full capabilities.
Learn more at **http://www.hpe.com/servers/iLOamplifierpack**.

HPE iLO Mobile Application
Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: **http://www.hpe.com/info/ilo/mobileapp**.

RESTful Interface Tool
RESTful Interface tool (iLOREST) is a single scripting tool to provision using iLO RESTful API to discover and deploy servers at scale. Learn more at **http://www.hpe.com/info/resttool**.

Scripting Tools
Provision one to many servers using your own scripts to discover and deploy with Scripting Tool (STK) for Windows and Linux or Scripting Tools for Windows PowerShell. Learn more at or **http://www.hpe.com/servers/powershell**.

HPE OneView Standard
HPE OneView Standard can be used for inventory, health monitoring, alerting, and reporting without additional fees. It can monitor multiple HPE server generations. The user interface is similar to the HPE OneView Advanced version, but the software-defined functionality is not available. Learn more at **http://www.hpe.com/info/oneview**

HPE Systems Insight Manager (HPE SIM)
Ideal for environments already using HPE SIM, it allows you to monitor the health of your HPE ProLiant Servers and HPE Integrity Servers. Also provides you with basic support for non-HPE servers. HPE SIM also integrates with Smart Update Manager to provide quick and seamless firmware updates. Learn more at **http://www.hpe.com/info/hpesim**.

Security
- UEFI Secure Boot and Secure Start support
- Immutable Silicon Root of Trust
- FIPS 140-2 validation
- Common Criteria certification
- Configurable for PCI DSS compliance
- Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser
- Support for Commercial National Security Algorithms (CNSA)
- iLO Security Modes
- Granular control over iLO interfaces
- Tamper-free updates – components digitally signed and verified
- Secure Recovery – recover critical firmware to known good state on detection of compromised firmware
- Ability to rollback firmware
- Secure erase of NAND/User data
- TPM (Trusted Platform Module) 2.0 option
- Bezel Locking Kit
- Chassis Intrusion detection option

Standard Features

Warranty

This product is covered by a global limited warranty and supported by Hewlett Packard Enterprise Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Pointnext operational services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

Notes: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: **http://h17007.www1.hpe.com/us/en/enterprise/servers/warranty/**.

Optional Features

Server Management

HPE iLO Advanced

HPE iLO Advanced licenses offer smart remote functionality without compromise, for all HPE ProLiant servers. The license includes the full integrated remote console, virtual keyboard, video, and mouse (KVM), multi-user collaboration, console record and replay, and GUI-based and scripted virtual media and virtual folders. You can also activate the enhanced security and power management functionality.

HPE GreenLake for Compute Ops Management

HPE is intelligently transforming compute management with a completely new as-a-service experience that delivers greater security, simplicity, and efficiency through HPE GreenLake that securely streamlines operations from edge-to-cloud, and automates key lifecycle tasks (onboard, update, manage and monitor HPE servers), bringing the agility and greater efficiencies to wherever compute devices reside via a unified single browser-based interface.

Compute Ops Management is built on a unique cloud-native architecture that abstracts, manages and controls HPE servers regardless of physical location. The management application resides in the HPE GreenLake cloud platform (access via **console.greenlake.hpe.com)** and leverages the HPE GreenLake architecture, security, and unified operations. Standard and Enhanced tier subscription options are available.

For a complete list of SKUs and more information, visit the HPE GreenLake for Compute Ops Management QuickSpecs: **https://www.hpe.com/psnow/doc/a50004263enw**
Supported Servers – Complete list can be found here: **https://www.hpe.com/info/com-supported-servers**

HPE OneView Advanced

HPE OneView brings a new level of automation to infrastructure management by taking a template driven approach to provisioning, updating, and integrating compute, storage, and networking infrastructure. It provides full-featured licenses which can be purchased for managing Gen8, Gen9 and Gen10 servers. To learn more visit **http://www.hpe.com/info/oneview**

HPE InfoSight for Servers

HPE InfoSight for Servers combines the cloud-based machine learning of InfoSight with the health and performance monitoring of Active Health System (AHS) and iLO to optimize performance and predict and prevent problems. The end result is an intelligent environment that modernizes IT operations and enhances the support experience by predicting and preventing the infrastructure issues that lead to application disruptions, wasted IT staff time and missed business opportunities.
Learn more at **https://www.hpe.com/servers/infosight**

HPE Insight Cluster Management Utility (CMU)

HPE Insight Cluster Management Utility is a HyperScale management framework that includes software for the centralized provisioning, management and monitoring of nodes and infrastructure. Learn more at **http://www.hpe.com/info/cmu**.

Optional Features

Rack and Power Infrastructure

The story may end with servers, but it starts with the foundation that makes compute go – and business grow. We've reinvented our entire portfolio of rack and power products to make IT infrastructure more secure, more practical, and more efficient. In other words, we've created a stronger, smarter, and simpler infrastructure to help you get the most out of your IT equipment. As an industry leader, Hewlett Packard Enterprise is uniquely positioned to address the key concerns of power, cooling, cable management and system access.
HPE G2 Advanced and Enterprise Racks are perfect for the server room or today's modern data center with enhanced airflow and thermal management, flexible cable management, and a 10 year Warranty to support higher density computing.

HPE G2 PDUs offer reliable power in flexible form factors that operate at temperatures up to 60°, include color-coded outlets and load segments and a low-profile design for optimal access to the rack and support for dense rack environments.

HPE Uninterruptible Power Systems are cost-effective power protection for any type workload. Some UPSs include options for remote management and extended runtime modules so you're critical dense data center is covered in power outages.

HPE KVM Solutions include a console and switches designed to work with your server and IT equipment reliably. We've got a cost-effective KVM switch for your first rack and multiple connection IP switches with remote management and security capabilities to keep your data center rack up and running.

Learn more about HPE Racks, KVM, PDUs and UPSs at **HPE Rack and Power Infrastructure**.

One Config Simple (SCE)

SCE is a guided self-service tool to help sales and non-technical people provide customers with initial configurations in 3 to 5 minutes. You may then send the configuration on for configuration help, or use in your existing ordering processes. If you require "custom" rack configuration or configuration for products not available in SCE, please contact Hewlett Packard Enterprise Customer Business Center or an Authorized Partner for assistance.
https://h22174.www2.hpe.com/SimplifiedConfig/Welcome#

Service and Support

HPE Pointnext - Service and Support

Get the most from your HPE Products. Get the expertise you need at every step of your IT journey with **HPE Pointnext Services**. We help you lower your risks and overall costs using automation and methodologies that have been tested and refined by HPE experts through thousands of deployments globally. HPE Pointnext **Advisory Services**, focus on your business outcomes and goals, partnering with you to design your transformation and build a roadmap tuned to your unique challenges. Our **Professional** and **Operational Services** can be leveraged to speed up time-to-production, boost performance and accelerate your business. HPE Pointnext specializes in flawless and on-time implementation, on-budget execution, and creative configurations that get the most out of software and hardware alike.

Consume IT on your terms

HPE GreenLake brings the cloud experience directly to your apps and data wherever they are—the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake accelerates digital transformation in a distributed, edge-to-cloud world.

- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

Managed services to run your IT operations

HPE GreenLake Management Services provides services that monitor, operate, and optimize your infrastructure and applications, delivered consistently and globally to give you unified control and let you focus on innovation.

Recommended Services

HPE Pointnext Tech Care.

HPE Pointnext Tech Care is the new operational service experience for HPE products. Tech Care goes beyond traditional support by providing access to product specific experts, an AI driven digital experience, and general technical guidance to not only reduce risk but constantly search for ways to do things better. HPE Pointnext Tech Care has been reimagined from the ground up to support a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Pointnext Tech Care is available in three response levels. Basic, which provides 9x5 business hour availability and a 2 hour response time. Essential which provides a 15 minute response time 24x7 for most enterprise level customers, and Critical which includes a 6 hour repair commitment where available and outage management response for severity 1 incidents.
https://www.hpe.com/services/techcare

HPE Pointnext Complete Care

HPE Pointnext Complete Care is a modular, edge-to-cloud IT environment service that provides a holistic approach to optimizing your entire IT environment and achieving agreed upon IT outcomes and business goals through a personalized and customer-centric experience. All delivered by an assigned team of HPE Pointnext Services experts. HPE Pointnext Complete Care provides:

- A complete coverage approach -- edge to cloud
- An assigned HPE team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI driven customer experience

https://www.hpe.com/services/completecare

Service and Support

Other related Services

HPE Server Hardware Installation

Provides for the basic hardware installation of HPE branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.
https://h20195.www2.hpe.com/v2/Getdocument.aspx?docname=5981-9356enw

HPE Installation and Startup Service

Provides for the installation of your HPE hardware according to product specifications including options. The HPE service delivery technician will connect the product to a LAN as appropriate and enable remote support to allow for automatic case creation for hardware failures. Installation and start up services also includes the installation of one supported operating system type (Windows® or Linux).

DC for Hyperscale

Complete Care for Hyperscale is available for Service Providers and HPC customers who use a scale out approach to computing with a high volume homogenous infrastructure and resilient architecture can take advantage of this environment support tailored to their operating model.

HPE Factory Express for Servers and storage

HPE Factory Express offers configuration, customization, integration and deployment services for HPE servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HPE products supported through Factory Express include a wide array of servers and storage: HPE Integrity, HPE ProLiant, HPE Apollo, HPE ProLiant Server Blades, HPE BladeSystem, HPE 9000 servers as well as the MSAxxxx3PAR suite, XP, rackable tape libraries and configurable network switches.

HPE Service Credits

HPE Service Credits offers flexible services and technical skills to meet your changing IT demands. With a menu of service that is tailored to suit your needs, you get additional resources and specialist skills to help you maintain peak performance of your IT. Offered as annual credits, you can plan your budgets while proactively responding to your dynamic business.

HPE Education Services

Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book on a class today and learn how to get the most from your technology investment. **http://www.hpe.com/ww/learn**

Service and Support

HPE Support Center

The HPE Support Center is a personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with HPE experts, access support resources or collaborate with peers.
Learn more **http://www.hpe.com/support/hpesc**.

The HPE Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.
HPE Insight Remote Support and HPE Support Center are available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.
Notes: *HPE Support Center Mobile App is subject to local availability.

For more information: **http://www.hpe.com/services**.
Notes: HPE ProLiant DL385 Gen10 Plus Server is covered under the HPE Service Contract applied to the HPE ProLiant Server. No separate HPE support services need to be purchased.

Warranty and Support Services will extend to include HPE options configured with your server or storage device. The price of support service is not impacted by configuration details. HPE sourced options that are compatible with your product will be covered under your server support at the same level of coverage allowing you to upgrade freely. Installation for HPE options is available as needed. To keep support costs low for everyone, some high value options will require additional support. Additional support is only required on select high value workload accelerators, fibre switches, InfiniBand and UPS batteries over 12KVA. See the specific high value options that require additional support **here**.

Parts and Materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

Pre-Configured Models

- Pre- Configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
- Hewlett Packard Enterprise does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.
- If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.

European Union (EU) eco-design regulations for server and storage products, known as Lot 9, go into effect on March 1st, 2020. Among other requirements, for servers this directive establishes power thresholds for idle state, as well as efficiency and performance in active state which vary among configurations. HPE ProLiant Gen10 servers are compliant with Lot9 requirements. For more information regarding HPE Lot 9 conformance, please visit:
https://www.hpe.com/us/en/about/environment/msds-specs-more.html

Powered by 2nd Generation Intel Xeon Processors				
SKU Number- WW	P35514-B21	P35515-B21	P35516-B21	P35518-B21
SKU Number- Japan	P35514-291	P35515-291	P35516-291	P35518-291
Model Name	HPE ProLiant DL160 Gen10 3206R 1.9GHz 8-core 1P 16GB-R S100i 4LFF 500W PS Server	HPE ProLiant DL160 Gen10 4210R 2.4GHz 10-core 1P 16GB-R S100i 4LFF 500W PS Server	HPE ProLiant DL160 Gen10 4210R 2.4GHz 10-core 1P 16GB-R S100i 8SFF 500W PS Server	HPE ProLiant DL160 Gen10 4214R 2.4GHz 12-core 1P 16GB-R S100i 8SFF 500W PS Server
Chassis	4LFF	4LFF	8SFF	8SFF
Processor	3206R (1.9GHz/8-core/85W)	4210R (2.4GHz/10-core/100W)	4210R (2.4GHz/10-core/100W)	4214R (2.4GHz/12-core/100W)
Number of Processors	One processor With standard heatsink	One processor With standard heatsink	One processor With standard heatsink	One processor With standard heatsink
Memory	16 GB RDIMM 1R 2933 MT/s (1x 16 GB) **Notes:** Runs at 2133 MT/s due to processor limitation	16 GB RDIMM 1R 2933 MT/s (1x 16 GB) **Notes:** Runs at 2400 MT/s due to processor limitation.	16 GB RDIMM 1R 2933 MT/s (1x 16 GB) **Notes:** Runs at 2400 MT/s due to processor limitation.	16 GB RDIMM 1R 2933 MT/s (1x 16 GB) **Notes:** Runs at 2400 MT/s due to processor limitation.
Network Controller	Embedded 2-port 1GbE	Embedded 2-port 1GbE	Embedded 2-port 1GbE	Embedded 2-port 1GbE
Storage Controller	Embedded 14-port S100i **Notes:** SATA only.	Embedded 14-port S100i **Notes:** SATA only.	Embedded 14-port S100i **Notes:** SATA only.	Embedded 14-port S100i **Notes:** SATA only.
Hard Drive	None included	None included	None included	None included
Optical Drive	None included	None included	None included	None included
PCIe Slots	2 PCIe: 1 x16 FH / 1 x8 LP	2 PCIe: 1 x16 FH / 1 x8 LP	2 PCIe: 1 x16 FH / 1 x8 LP	2 PCIe: 1 x16 FH / 1 x8 LP
Power Supply	1x 500W Hot Plug; RPS ready	1x 500W Hot Plug; RPS ready	1x 500W Hot Plug; RPS ready	1x 500W Hot Plug; RPS ready
Fans	3 - Standard	3 - Standard	3 - Standard	3 - Standard
Management	HPE iLO 5	HPE iLO 5	HPE iLO 5	HPE iLO 5
Rail Kit	1U Easy Install	1U Easy Install	1U Easy Install	1U Easy Install
Energy Star	Energy Star 2.1			
Form Factor	1U Rack			
Warranty	3-year parts, 3-year labor, 3-year onsite support with next business day response.			

Pre-Configured Models

Country Code Key

- B21 = Worldwide except Japan & PRC
- 291 = Japan
- 421 = EMEA

Powered by 2nd Generation Intel Xeon Processors				
SKU Number- WW	P19559-B21	P19561-B21	P19560-B21	P19560-421
SKU Number- Japan	P19559-291	P19561-291	P19560-291	
Model Name	HPE ProLiant DL160 Gen10 3204 1.9GHz 6-core 1P 16GB-R 4LFF 500W PS Server	HPE ProLiant DL160 Gen10 4208 2.1GHz 8-core 1P 16GB-R 4LFF 500W PS Server	HPE ProLiant DL160 Gen10 4208 2.1GHz 8-core 1P 16GB-R 8SFF 500W PS Server	HPE ProLiant DL160 Gen10 4208 2.1GHz 8-core 1P 16GB-R 8SFF 800W PS Server
Chassis	4LFF	4LFF	8SFF	8SFF
Processor	3204 (1.9GHz/6-core/85W)	4208 (2.1GHz/8-core/85W)	4208 (2.1GHz/8-core/85W)	4208 (2.1GHz/8-core/85W)
Number of Processors	One processor With standard heatsink	One processor With standard heatsink	One processor With standard heatsink	One processor With standard heatsink
Memory	16 GB RDIMM 1R 2933 MT/s (1x 16 GB) **Notes:** Runs at 2133 MT/s due to processor limitation	16 GB RDIMM 1R 2933 MT/s (1x 16 GB) **Notes:** Runs at 2400 MT/s due to processor limitation.	16 GB RDIMM 1R 2933 MT/s (1x 16 GB) **Notes:** Runs at 2400 MT/s due to processor limitation.	16 GB RDIMM 1R 2933 MT/s (1x 16 GB) **Notes:** Runs at 2666 MT/s due to processor limitation.
Network Controller	Embedded 2-port 1GbE	Embedded 2-port 1GbE	Embedded 2-port 1GbE	Embedded 2-port 1GbE
Storage Controller	Embedded 14-port S100i **Notes:** SATA only.	Embedded 14-port S100i **Notes:** SATA only.	Embedded 14-port S100i **Notes:** SATA only.	Embedded 14-port S100i **Notes:** SATA only.
Hard Drive	None included	None included	None included	None included
Optical Drive	None included	None included	None included	None included
PCIe Slots	2 PCIe: 1 x16 FH / 1 x8 LP	2 PCIe: 1 x16 FH / 1 x8 LP	2 PCIe: 1 x16 FH / 1 x8 LP	2 PCIe: 1 x16 FH / 1 x8 LP
Power Supply	1x 500W Hot Plug; RPS ready	1x 500W Hot Plug; RPS ready	1x 500W Hot Plug; RPS ready	1x 800W Hot Plug; RPS ready
Fans	3 - Standard	3 - Standard	3 - Standard	3 - Standard
Management	HPE iLO 5	HPE iLO 5	HPE iLO 5	HPE iLO 5
Rail Kit	1U Easy Install	1U Easy Install	1U Easy Install	1U Easy Install
Energy Star	Energy Star 2.1			
Form Factor	1U Rack			
Warranty	3-year parts, 3-year labor, 3-year onsite support with next business day response.			

Pre-Configured Models

Powered by 2nd Generation Intel Xeon Processors	
SKU Number- WW	P35517-B21
SKU Number- Japan	P35517-291
Model Name	HPE ProLiant DL160 Gen10 5218 2.3GHz 16-core 1P 16GB-R S100i 8SFF 500W PS Server
Chassis	8SFF
Processor	5218 (2.3GHz/16-core/125W)
Number of Processors	One processor With standard heatsink
Memory	16 GB RDIMM 1R 2933 MT/s (1x 16 GB) **Notes:** Runs at 2666 MT/s due to processor limitation.
Network Controller	Embedded 2-port 1GbE
Storage Controller	Embedded 14-port S100i **Notes:** SATA only.
Hard Drive	None included
Optical Drive	None included
PCIe Slots	2 PCIe: 1 x16 FH / 1 x8 LP
Power Supply	1x 500W Hot Plug; RPS ready
Fans	3 - Standard
Management	HPE iLO 5
Rail Kit	1U Easy Install
Energy Star	Energy Star 2.1
Form Factor	1U Rack
Warranty	3-year parts, 3-year labor, 3-year onsite support with next business day response.

Notes: UEFI is the standard default for all Pre-configured models.

Configuration Information

This section lists some of the steps required to configure a Factory Integrated Model.
To ensure valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an HPE approved configurator.
Contact your local sales representative for information on configurable product offerings and requirements.

- Factory Integrated Models must start with a CTO Server.
- FIO indicates that this option is only available as a factory installable option.
- All Factory Integrated Models will be populated with sufficient hard drive blanks based on number of drives ordered with server.
- Some options may not be integrated at the factory. Contact your local sales representative for additional information

European Union (EU) eco-design regulations for server and storage products, known as Lot 9, go into effect on March 1st, 2020. Among other requirements, for servers this directive establishes power thresholds for idle state, as well as efficiency and performance in active state which vary among configurations. HPE ProLiant Gen10 servers are compliant with Lot9 requirements. For more information regarding HPE Lot 9 conformance, please visit:
https://www.hpe.com/us/en/about/environment/msds-specs-more.html

Step 1: Base Configuration (choose one of the following configurable models)

CTO Server	HPE ProLiant DL160 Gen10 4 LFF CTO Server	HPE ProLiant DL160 Gen10 8 SFF CTO Server
SKU Number	878972-B21	878973-B21
Processor	Not included as standard	
DIMM Slots	16-DIMM slots	
Storage Controller	Embedded SW RAID with 14 SATA ports, choice of HPE modular Smart Array and PCIe plug-in controller	
PCIe	None standard. Risers need to be added	
Drive Cage - included	4 LFF SAS/SATA	8 SFF SAS/SATA
Network Controller	Embedded 2x1GbE with optional, Media Module, HPE FlexibleLOM on riser and optional Standup card	
Fans	1 CPU- 3 Standard Fans 2 CPU- 6 Standard Fans	
Management	HPE iLO with Intelligent Provisioning (standard), iLO Advanced and OneView (optional)	
USB	Front: 1 USB 3.0 + iLO service port Rear: 2 USB 3.0 Internal: 1 USB 3.0	

Step 2: Choose Required Options

Please select one –L21 processor required below.
For second processor, please select the same processor model with –B21 from Core Options – HPE Processors section.
For example: first processor, select 878947-L21 then for second processor, select 878947-B21.

Notes:

- Mixing of 2 different processor models is not supported.
- For first processor, -L21 will include 3 fans, For second processor, -B21 will add 3 additional fans
- When 2nd Generation Intel Xeon Scalable Processor is slected, then only DDR4-2933 Memory Kit can be selected; When 1st Generation Intel Xeon Scalable Processor is selected, then only DDR4-2666 Memory Kit can be selected

Step 2a: Choose Processor

Processor Option Kits (Required Processor)

2nd Generation Intel Xeon-Gold

Intel Xeon-Gold 6248 (2.5GHz/20-core/150W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11138-L21
Intel Xeon-Gold 6244 (3.6GHz/8-core/150W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11137-L21
Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11136-L21
Intel Xeon-Gold 6240 (2.6GHz/18-core/150W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11135-L21
Intel Xeon-Gold 6234 (3.3GHz/8-core/130W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11144-L21

Configuration Information

Intel Xeon-Gold 6226 (2.7GHz/12-core/125W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11143-L21
Intel Xeon-Gold 6210U (2.5GHz/20-core/150W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11141-L21
Notes: Only supported in single socket configurations	
Intel Xeon-Gold 6208U (2.9GHz/16-core/150W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P21190-L21
Notes: Only supported in single socket configurations	
Intel Xeon-Gold 5222 (3.8GHz/4-core/105W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11142-L21
Intel Xeon-Gold 5220 (2.2GHz/18-core/125W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11133-L21
Intel Xeon-Gold 5218 (2.3GHz/16-core/125W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11132-L21
Intel Xeon-Gold 5215 (2.5GHz/10-core/85W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11130-L21
2nd Generation Intel Xeon- Silver	
Intel Xeon-Silver 4216 (2.1GHz/16-core/100W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11129-L21
Intel Xeon-Silver 4214R (2.4GHz/12-core/100W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P21192-L21
Intel Xeon-Silver 4214 (2.2GHz/12-core/85W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11127-L21
Intel Xeon-Silver 4210R (2.4GHz/10-core/100W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P21191-L21
Intel Xeon-Silver 4210 (2.2GHz/10-core/85W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11126-L21
Intel Xeon-Silver 4208 (2.1GHz/8-core/85W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11125-L21
2nd Generation Intel Xeon- Bronze	
Intel Xeon-Bronze 3206R (1.9GHz/8-core/85W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P21189-L21
Intel Xeon-Bronze 3204 (1.9GHz/6-core/85W) FIO Processor Kit for HPE ProLiant DL160 Gen10	P11124-L21

Step 2b: Choose Memory Options

Please select one or more memory from below.
For new Gen10 memory population rule whitepaper and optimal memory performance guidelines, please go to: **https://www.hpe.com/docs/memory-population-rules**
For Gen10 memory speed table, please go to: **https://www.hpe.com/docs/memory-speed-table**
For memory Reliability, Accessibility, Serviceability (RAS) features whitepaper like Gen10 Fast Fault Tolerance and legacy mirrored memory feature etc. please go to: **http://www.hpe.com/docs/memory-ras-feature**.

Notes:

- Maximum memory capacity and speed per processor is dependent on processor model selection or limitation.
- DDR4-2933 Memory Kits are only supported with 2nd Generation Intel Xeon Scalable Series Processors and DDR4-2666 Memory Kits are only supported with 1st Generation Intel Xeon Scalable Series Processors.

Registered DIMMs (RDIMMs) for 2nd Generation Intel Xeon Scalable Series	
HPE 64GB (1x64GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00930-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00924-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00922-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00920-B21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00918-B21
Registered DIMMs (RDIMMs) for 1st Generation Intel Xeon Scalable Series	
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815098-B21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815097-B21

Step 2c: Choose Power Supplies

Please select one or two power supplies from below.

Notes:

- Mixing of 2 different power supplies is NOT supported.
- HPE DL160/180 Gen10 Redundant Power Supply Enablement Kit (866442-B21) required with selection of power supply.

Configuration Information

HPE Flex Slot Power Supplies

HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21
HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit	865438-B21
HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21
HPE 800W Flex Slot Universal Hot Plug Low Halogen Power Supply Kit	865428-B21
HPE DL160/180 Gen10 Redundant Power Supply Enablement Kit	866442-B21

Notes: This enablement kit is required with the selection of a Flex Slot power supply

Step 3: Choose Additional (FIO) Factory Integratable Options

Each of the following may be selected if desired at time of factory integration

HPE Legacy FIO Mode Setting	758959-B22
HPE FIO Enable Smart Array SW RAID	784308-B21
HPE Gen10 TPM 1.2 FIO Setting	872108-B21

HPE Unique Options

HPE DL160 Gen10 FIO Quick Release Ear Kit 872987-B21

Notes:

- This option kit is required for adding Bezel.
- This option kit can only be added at the time of factory configuration.
- The Quick Release Ear Kit is not available as a field upgradable option.

HPE 1U Gen10 4LFF Embedded SATA Controller FIO Cable Kit 866444-B21

Notes: This option is used to connect the 4LFF chassis to Smart Array S100i controller

HPE DL160 Gen10 8SFF Embedded SATA Controller FIO Cable Kit 866446-B21

Notes: This option is used to connect the 8SFF chassis to Smart Array S100i controller

HPE 1U Gen10 2SFF SAS/SATA FIO Enablement Kit without Cables 881179-B21

Notes:

- This option kit will enable the additional 2SFF drive in an 8SFF Chassis
- This is a Factory integratable option only
- This kit does not contain any cables. You would need to choose either the SATA (881181-B21) or the SAS (881183-B21) Cable kit along with this

HPE DL160 Gen10 2SFF Embedded SATA Controller FIO Cable Kit 881181-B21

Notes: This option kit is required to connect the 2SFF FIO Enablement Kit (881179-B21) to the Smart Array S100i Controller

HPE DL160 Gen10 2SFF Smart Array SAS FIO Cable Kit 881183-B21

Notes: This option kit is required to connect the 2SFF FIO Enablement Kit (881179-B21) to Flexible Smart Array Controllers or the PCIe Smart Array Controllers

HPE Server Security Optimized Service for HPE ProLiant (R9S59A) is an optional security upgrade intended for agencies and regulated industries with enhanced security and compliance needs. Applying this option to a DL3XX Gen10/Gen10 Plus CTO server ensures it is hardened by turning on advanced safeguards in place against cyber-exploits throughout the server lifecycle. An iLO Advanced License required for High Security Mode and compatible intrusion detection device option kits are prerequisites for the full optimization service.

Step 4: Choose Additional Options for Factory Integration from Core and Additional Option sections below

Core Options

Some options may not be integrated at the factory. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of a Hewlett Packard Enterprise approved configurator. Contact your local sales representative for additional information.

HPE OneView for ProLiant DL Server including 3yr 24x7 Support FIO Bundle Physical 1-server LTU	E5Y43A
HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A

Risers

Notes: This server ships with no riser installed by default. If you want to use any PCIe cards, one of the below risers must be selected.

HPE DL160 Gen10 CPU1 x16/x8 PCIe Riser Kit	866432-B21
HPE DL160 Gen10 FlexibleLOM/NVMe Riser Kit	875748-B21

Notes:

- Supported on CPU1
- This riser is required to use FlexibleLOM adapters

HPE DL160 Gen10 CPU2 x16 PCIe Riser Kit	866436-B21

Notes: Requires second processor to be installed

Cable Kits

HPE DL360 Gen9 Rear Serial Port and Enablement Kit	764646-B21

Cooling Options

HPE DL160 Gen10 Redundant Fan Kit	866438-B21

Notes: This kit contains one additional fan.

Media Bay Options

HPE DL160 Gen10 2SFF SAS/SATA Enablement Kit	866458-B21

Notes:

- This option kit will enable the additional 2SFF drive in an 8SFF Chassis
- This is a Field Upgradable option only
- This kit contains all necessary cables required to connect to the drives and controllers.

Optical Drive Options

HPE 9.5mm SATA DVD-ROM Optical Drive	726536-B21

Notes: The ODD Enablement kit (873961-B21) is required for this option on a SFF model.

HPE 9.5mm SATA DVD-RW Optical Drive	726537-B21

Notes: The ODD Enablement kit (873961-B21) is required for this option on a SFF model.

HPE 1U Gen10 8SFF Optical Disk Drive Enablement Kit	873961-B21
HPE Mobile USB DVD-RW Optical Drive	701498-B21

Notes: This option is only supported on USB 3.0 ports.

Security

HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21
HPE 1U Gen10 Bezel Kit	867998-B21
HPE Bezel Lock Kit	875519-B21
HPE 1U Gen10 Chassis Intrusion Detection Kit	866473-B21

Notes:

- This provides a physical connection from the chassis board and hood and detects any physical intrusion into the chassis, providing security during the entire supply chain process of shipping, receiving, distribution, and operation.

Core Options

– The 1U Gen10 Bezel Kit above requires a Quick Release Ear Kit. Installation of the Bezel Kit requires adding the HPE DL160 Gen10 FIO Quick Release Ear Kit (872987-B21) which can only be added at the time of factory configuration. The Quick Release Kit is not available as a field upgradable option.

HPE Processors

Please select one –L21 processor required above.
For second processor, please select the same processor model with –B21 from Core Options – HPE Processors section below.
For example: first processor, select 878947-L21 then for second processor, select 878947-B21.

Notes:

– Field upgrades from 1st generation processors (x1xx) to 2nd generation processors (x2xx) not supported.
– Mixing of 2 different processor models is not supported.
– For first processor, -L21 will include 3 fans, For second processor, -B21 will add 3 additional fans
– When 2nd Generation Intel Xeon Scalable Processor is slected, then only DDR4-2933 Memory Kit can be selected; When 1st Generation Intel Xeon Scalable Processor is selected, then only DDR4-2666 Memory Kit can be selected

2nd Generation Intel Xeon-Gold

Intel Xeon-Gold 6248 (2.5GHz/20-core/150W) Processor Kit for HPE ProLiant DL160 Gen10	P11138-B21
Intel Xeon-Gold 6244 (3.6GHz/8-core/150W) Processor Kit for HPE ProLiant DL160 Gen10	P11137-B21
Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) Processor Kit for HPE ProLiant DL160 Gen10	P11136-B21
Intel Xeon-Gold 6240 (2.6GHz/18-core/150W) Processor Kit for HPE ProLiant DL160 Gen10	P11135-B21
Intel Xeon-Gold 6234 (3.3GHz/8-core/130W) Processor Kit for HPE ProLiant DL160 Gen10	P11144-B21
Intel Xeon-Gold 6226R (2.9GHz/16-core/150W) Processor Kit for HPE ProLiant DL160 Gen10	P21194-B21
Intel Xeon-Gold 6226 (2.7GHz/12-core/125W) Processor Kit for HPE ProLiant DL160 Gen10	P11143-B21
Intel Xeon-Gold 5222 (3.8GHz/4-core/105W) Processor Kit for HPE ProLiant DL160 Gen10	P11142-B21
Intel Xeon-Gold 5220R (2.2GHz/24-core/150W) Processor Kit for HPE ProLiant DL160 Gen10	P21195-B21
Intel Xeon-Gold 5220 (2.2GHz/18-core/125W) Processor Kit for HPE ProLiant DL160 Gen10	P11133-B21
Intel Xeon-Gold 5218R (2.1GHz/20-core/125W) Processor Kit for HPE ProLiant DL160 Gen10	P24216-B21
Intel Xeon-Gold 5218 (2.3GHz/16-core/125W) Processor Kit for HPE ProLiant DL160 Gen10	P11132-B21
Intel Xeon-Gold 5215 (2.5GHz/10-core/85W) Processor Kit for HPE ProLiant DL160 Gen10	P11130-B21

2nd Generation Intel Xeon- Silver

Intel Xeon-Silver 4216 (2.1GHz/16-core/100W) Processor Kit for HPE ProLiant DL160 Gen10	P11129-B21
Intel Xeon-Silver 4215R (3.2GHz/8-core/130W) Processor Kit for HPE ProLiant DL160 Gen10	P24218-B21
Intel Xeon-Silver 4214R (2.4GHz/12-core/100W) Processor Kit for HPE ProLiant DL160 Gen10	P21192-B21
Intel Xeon-Silver 4214 (2.2GHz/12-core/85W) Processor Kit for HPE ProLiant DL160 Gen10	P11127-B21
Intel Xeon-Silver 4210R (2.4GHz/10-core/100W) Processor Kit for HPE ProLiant DL160 Gen10	P21191-B21
Intel Xeon-Silver 4210 (2.2GHz/10-core/85W) Processor Kit for HPE ProLiant DL160 Gen10	P11126-B21
Intel Xeon-Silver 4208 (2.1GHz/8-core/85W) Processor Kit for HPE ProLiant DL160 Gen10	P11125-B21

2nd Generation Intel Xeon- Bronze

Intel Xeon-Bronze 3206R (1.9GHz/8-core/85W) Processor Kit for HPE ProLiant DL160 Gen10	P21189-B21
Intel Xeon-Bronze 3204 (1.9GHz/6-core/85W) Processor Kit for HPE ProLiant DL160 Gen10	P11124-B21

Core Options

HPE Memory

For new Gen10 memory population rule whitepaper and optimal memory performance guidelines, please go to: **https://www.hpe.com/docs/memory-population-rules**
For Gen10 memory speed table, please go to: **https://www.hpe.com/docs/memory-speed-table**
For memory Reliability, Accessibility, Serviceability (RAS) features whitepaper like Gen10 Fast Fault Tolerance and legacy mirrored memory feature etc. please go to: **http://www.hpe.com/docs/memory-ras-feature**

Notes:

- Maximum memory capacity and speed per processor is dependent on processor model selection or limitation.
- DDR4-2933 Memory Kits are only supported with 2nd Generation Intel Xeon Scalable Series Processors and DDR4-2666 Memory Kits are only supported with 1st Generation Intel Xeon Scalable Series Processors.

HPE DDR4 Memory

Registered DIMMs (RDIMMs) for 2nd Generation Intel Xeon Scalable Series

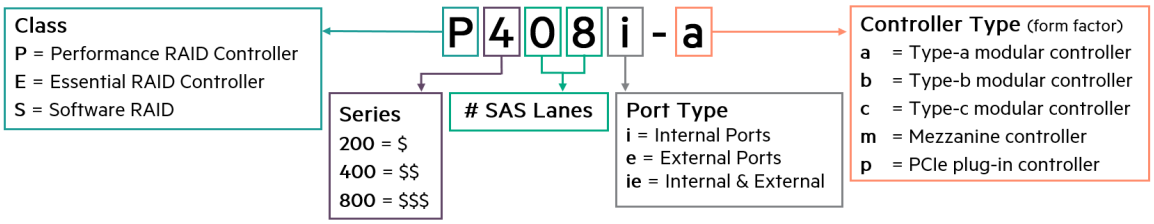
HPE 64GB (1x64GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00930-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00924-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00922-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00920-B21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00918-B21

Registered DIMMs (RDIMMs) for 1st Generation Intel Xeon Scalable Series

HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815098-B21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815097-B21

HPE Smart Array Controllers

The Gen10 controller naming framework has been updated to simplify identification as depicted below. For a more detailed breakout of the available Gen10 Smart Array controllers visit the **https://www.hpe.com/psnow/doc/a00047736enw?jumpid=in_hpesitesearch**



HPE Flexible Smart Array Controllers

HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular LH Controller	869081-B21
HPE Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular LH Controller	869079-B21

Notes:

- Must also select either 4LFF or 8SFF Smart Array SAS Cable Kit (866452-B21; 866448-B21), depending on chassis
- All performance RAID controllers are supported by the HPE Smart Storage Battery (P01366-B21), which supports multiple devices and is sold separately.
- Does not occupy a PCIe expansion slot.

Core Options

HPE Smart Array Controllers

HPE Smart Array P408i-p SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS PCIe Plug-in Controller	830824-B21
HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB Cache) 12G SAS PCIe Plug-in Controller	804405-B21
HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804394-B21
HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21

HPE Cable Options

HPE 1U Gen10 4LFF Smart Array SAS Cable Kit	866452-B21
HPE 1U Gen10 8SFF Smart Array SAS Cable Kit	866448-B21
Notes: Required when any Perforamance RAID Controller or Flexible Smart Array –a (i.e. P408i-a) controller is selected	
HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	P01366-B21
Notes: Supports up to 6 P-class Smart Array controllers	
HPE Smart Storage Hybrid Capacitor with 145mm Cable Kit	P02377-B21
Notes: Supports up to 3 P-class Smart Array controllers	

Optional Software

HPE Smart Array SR Secure Encryption (Data at Rest Encryption/per Server Entitlement) E-LTU	Q2F26AAE
HPE Smart Array SR SmartCache (Single Key/Multiple Servers) LTU	D7S27A
HPE Smart Array SR SmartCache (Single Key/Multiple Servers) E-LTU	D7S27AAE
Notes: SmartCache is offered on HPE Smart Array performance RAID controllers	

HPE Drives

Mission Critical (Enterprise) - 12G SAS - SFF Drives

HPE 2.4TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD	881457-B21
HPE 1.8TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD	872481-B21
HPE 1.2TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	872479-B21
HPE 600GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	872477-B21
HPE 300GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	872475-B21
HPE 900GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870759-B21
HPE 600GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870757-B21
HPE 300GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870753-B21

Business Critical (Midline) - 12G SAS- SFF Drives

HPE 2TB SAS 12G Business Critical 7.2K SFF SC 1-year Warranty 512e HDD	765466-B21
HPE 1TB SAS 12G Business Critical 7.2K SFF SC 1-year Warranty HDD	832514-B21

Business Critical (Midline) - 12G SAS - LFF Drives

HPE 12TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	881781-B21
HPE 8TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	834031-B21
HPE 6TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	861746-B21
HPE 4TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	833928-B21
HPE 2TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	833926-B21
HPE 10TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e ISE Multi Vendor HDD	P53556-B21

Business Critical (Midline) - 6G SATA- SFF Drives

HPE 2TB SATA 6G Business Critical 7.2K SFF SC 1-year Warranty 512e HDD	765455-B21
HPE 1TB SATA 6G Business Critical 7.2K SFF SC 1-year Warranty HDD	655710-B21

Business Critical (Midline) - 6G SATA - LFF Drives

HPE 12TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	881787-B21
HPE 8TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	834028-B21

Core Options

HPE 6TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	861742-B21
HPE 4TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861683-B21
HPE 2TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861681-B21
HPE 1TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861686-B21
HPE 10TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e ISE Multi Vendor HDD	P53557-B21

SSD Selection

For SSD selection guidance, please visit **https://ssd.hpe.com/**

Read Intensive - 12G SAS - SFF - Solid State Drives

HPE 7.68TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	P49039-B21
HPE 7.68TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	P37003-B21
HPE 3.84TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	P49034-B21
HPE 3.84TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	P37001-B21
HPE 1.92TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	P49030-B21
HPE 1.92TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	P36999-B21
HPE 960GB SAS 12G Read Intensive SFF SC Multi Vendor SSD	P49028-B21
HPE 960GB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	P36997-B21

Mixed Use - 12G SAS - LFF - Solid State Drives

HPE 7.68TB SAS 24G Read Intensive LFF LPC Multi Vendor SSD	P49040-B21
HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD	P37009-B21

Mixed Use - 12G SAS - SFF - Solid State Drives

HPE 6.4TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	P49056-B21
HPE 3.84TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	P37017-B21
HPE 3.2TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	P49052-B21
HPE 1.92TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	P37011-B21
HPE 1.6TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	P49048-B21
HPE 960GB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	P37005-B21
HPE 800GB SAS 12G Mixed Use SFF SC Multi Vendor SSD	P49046-B21

Write Intensive - 12G SAS - SFF - Solid State Drives

HPE 1.6TB SAS 12G Write Intensive SFF SC PM6 SSD	P26376-B21
HPE 800GB SAS 12G Write Intensive SFF SC PM6 SSD	P26372-B21
HPE 400GB SAS 12G Write Intensive SFF SC PM6 SSD	P26295-B21

Read Intensive - SATA - SFF - Solid State Drives

HPE 7.68TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18430-B21
HPE 3.84TB SATA 6G Read Intensive SFF SC PM893 SSD	P47813-B21
HPE 3.84TB SATA 6G Read Intensive SFF SC S4520 SSD	P47321-B21
HPE 3.84TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18428-B21
HPE 1.9TB SATA 6G Read Intensive SFF SC PM893 SSD	P47812-B21
HPE 1.92TB SATA 6G Read Intensive SFF SC S4520 SSD	P47319-B21
HPE 1.92TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18426-B21
HPE 960GB SATA 6G Read Intensive SFF SC PM893 SSD	P47811-B21
HPE 960GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18424-B21
HPE 480GB SATA 6G Read Intensive SFF SC PM893 SSD	P47810-B21
HPE 480GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18422-B21
HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18420-B21
HPE 240GB SATA 6G Read Intensive SFF RW Multi Vendor SSD	P47809-B21

Core Options

Very Read Optimized- SATA – LFF – Solid State Drives

HPE 7.68TB SATA 6G Very Read Optimized LFF LPC 5400 SSD	P58232-B21

Mixed Use - SATA - SFF - Solid State Drives

HPE 3.84TB SATA 6G Mixed Use SFF BC S4620 SSD	P47327-B21
HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18438-B21
HPE 1.92TB SATA 6G Mixed Use SFF SC PM897 SSD	P47816-B21
HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18436-B21
HPE 1.92TB SATA 6G Mixed Use SFF SC S4620 SSD	P47325-B21
HPE 960GB SATA 6G Mixed Use SFF SC PM897 SSD	P47815-B21
HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18434-B21
HPE 480GB SATA 6G Mixed Use SFF SC PM897 SSD	P47814-B21
HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18432-B21
HPE 480GB SATA 6G Mixed Use SFF SC S4620 SSD	P47323-B21

Read Intensive - SATA - LFF - Solid State Drives

HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD	P47808-B21

Internal Dual M.2 Kit

HPE Universal SATA 6G AIC HHHL M.2 SSD Enablement Kit	878783-B21

Notes: The Universal SATA M.2 Kit above will require a PCIe slot and support up to two of the same M.2 cards below.

Read Intensive - M.2 - Solid State Drives (2280 type)

HPE 960GB SATA 6G Read Intensive M.2 2280 5300P SSD	P19892-B21
HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	P47818-B21
HPE 240GB SATA 6G Read Intensive M.2 Multi Vendor SSD	P47817-B21

M.2 Cable Kit

HPE DL160 Gen10 SATA M.2 Cable Kit	866456-B21

Notes: Must be selected along with “HPE Universal SATA HHHL 3yr Wty M.2 Kit- 878783-B21”

Hard Drive Blank Kits

HPE Small Form Factor Hard Drive Blank Kit	666987-B21

HPE Networking

25 Gigabit Ethernet adapters

HPE Ethernet 10/25Gb 2-port SFP28 MCX4121A-ACUT Adapter	817753-B21
HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter	817718-B21
HPE Ethernet 10/25Gb 2-port SFP28 QL41401-A2G Adapter	867328-B21

10 Gigabit Ethernet adapters

HPE Ethernet 10Gb 2-port BASE-T X550-AT2 Adapter	817738-B21
HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter	727055-B21

Notes: Can be installed only in Slot 2 and Slot 3

HPE Ethernet 10Gb 2-port BASE-T BCM57416 Adapter	813661-B21
HPE Ethernet 10Gb 2-port SFP+ 57810S Adapter	652503-B21
HPE Ethernet 10Gb 2-port BASE-T 57810S Adapter	656596-B21
HPE Ethernet 10Gb 2-port BASE-T QL41401-A2G Adapter	867707-B21

Core Options

1 Gigabit Ethernet adapters

HPE Ethernet 1Gb 4-port BASE-T I350-T4V2 Adapter	811546-B21
Notes: Can be installed only in Slot 1 and Slot 3	
HPE Ethernet 1Gb 4-port BASE-T BCM5719 Adapter	647594-B21
Notes: Can be installed only in Slot 1 and Slot 3	
HPE Ethernet 1Gb 2-port BASE-T BCM5720 Adapter	615732-B21

FlexibleLOM adapters

HPE Ethernet 10/25Gb 2-port FLR-SFP28 MCX4121A-ACFT Adapter	817749-B21
HPE Ethernet 10/25Gb 2-port FLR-SFP28 BCM57414 Adapter	817709-B21
HPE Ethernet 10/25Gb 2-port FLR-SFP28 QL41401-A2G Converged Network Adapter	867334-B21
HPE Ethernet 10Gb 2-port FLR-T X550-AT2 Adapter	~~817745-B21~~
HPE FlexFabric 10Gb 4-port FLR-T 57840S Adapter	764302-B21
HPE Ethernet 10Gb 2-port FLR-T BCM57416 Adapter	817721-B21
HPE FlexFabric 10Gb 2-port FLR-SFP+ 57810S Adapter	700751-B21
HPE FlexFabric 10Gb 2-port FLR-T 57810S Adapter	700759-B21
HPE Ethernet 1Gb 4-port FLR-T BCM5719 Adapter	629135-B22
HPE Ethernet 1Gb 4-port FLR-T I350-T4V2 Adapter	665240-B21

Notes:

- The HPE ProLiant DL160 Gen10 chassis ships with 2x 1 Gb embedded.
- Only one FlexibleLOM can be added to the server. These options are upgradeable and can be changed from the original configuration after the server is shipped.
- FlexibleLOM Riser Kit (875748-B21) is required to install these adapters

Media Module adapters

HPE Ethernet 1Gb 2-port 368T Media Module Adapter	866464-B21
HPE Ethernet 10Gb 2-port 568SFP+ Media Module Adapter	866467-B21
HPE Ethernet 10Gb 2-port 568T Media Module Adapter	866470-B21

SKU	866464-B21	866467-B21	866470-B21
Description	HPE Ethernet 1Gb 2-port 368FLR-T Media Module Adapter	HPE Ethernet 10Gb 2-port 568FLR-SFP+ Media Module Adapter	HPE Ethernet 10Gb 2-port 568FLR-T Media Module Adaptor
Card Type/Profile	Media Module Adapter	Media Module Adapter	Media Module Adapter
ASIC/Chip	C622	C622	C622
PCIe Version	PCIe Gen3	PCIe Gen3	PCIe Gen3
Networking PHY	Marvell 88E1514	Inphi (Cortina) CS4227	Intel X557
Network controller	Intel C622 Chipset*	Intel C622 Chipset*	Intel C622 Chipset*
UEFI PXE Boot	√	√	√
Root of Trust[1]	√	√	√
Secure Boot[1]	√	√	√
Wake-on-LAN (WOL) [1]	√	√	√

Notes:

- [1] Feature support dependent on server chipset
- *Media Module Adapter is a unique form factor to HPE and provides physical network ports to the server with the Intel chipset performing as the networking controller.
- ** Media Module Adaptors do not consume a PCI slot.
- The DL160 Gen10 chassis ships with 2x 1 Gb embedded.

Core Options

- Only one Media Module can be added to the server. These options are upgradeable and can be changed from the original configuration after the server is shipped
- These adapters should be installed in the Media Module connector slot on the system board only.
- Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.

HPE InfiniBand

HPE 100Gb 1-port OP101 QSFP28 x16 PCIe Gen3 with Intel Omni-Path Architecture Adapter	829335-B21

HPE Power Supplies

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HPE ProLiant Gen10 Performance Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to "right-size" a power supply for specific server configurations. This flexibility helps to reduce power waste, lower overall energy costs, and avoid "trapped" power capacity in the data center.
All pre-configured servers ship with a standard 6-foot IEC C-13/C-14 jumper cord (A0K02A). This jumper cord is also included with each standard AC power supply option kit. If a different power cord is required, please check the **ProLiant Power Cables** web page.

HPE Flex Slot Power Supplies

HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21
HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit	865438-B21
HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21
HPE 800W Flex Slot Universal Hot Plug Low Halogen Power Supply Kit	865428-B21
HPE DL160/180 Gen10 Redundant Power Supply Enablement Kit	866442-B21

Notes: This enablement kit is required with the selection of a Flex Slot power supply

Additional Options

Some options may not be integrated at the factory. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an HPE approved configurator. Contact your local sales representative for additional information.

Embedded Management

HPE iLO Advanced

HPE iLO Advanced Electronic License with 1yr Support on iLO Licensed Features	E6U59ABE
HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features	512485-B21
HPE iLO Advanced Flexible Quantity License with 1yr Support on iLO Licensed Features	512486-B21
HPE iLO Advanced AKA Tracking License with 1yr Support on iLO Licensed Features	512487-B21
HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features	E6U64ABE
HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A
HPE iLO Advanced Flexible Quantity License with 3yr Support on iLO Licensed Features	BD506A
HPE iLO Advanced AKA Tracking License with 3yr Support on iLO Licensed Features	BD507A

Software as a Service Management

HPE GreenLake for Compute Ops Management

HPE GreenLake for Compute Ops Management Standard 3-year Upfront ProLiant SaaS	R6Z89AAE

Additional Options

HPE GreenLake for Compute Ops Management Standard 1-year Upfront ProLiant SaaS	R6Z88AAE
HPE GreenLake for Compute Ops Management Standard 5-year Upfront ProLiant SaaS	R6Z90AAE
HPE GreenLake for Compute Ops Management Standard 1-year Monthly ProLiant SaaS	R6Z91AAE
HPE GreenLake for Compute Ops Management Standard 3-year Monthly ProLiant SaaS	R6Z92AAE
HPE GreenLake for Compute Ops Management Standard 5-year Monthly ProLiant SaaS	R6Z93AAE
HPE GreenLake for Compute Ops Management Enhanced 1-year Upfront ProLiant SaaS	R7A10AAE
HPE GreenLake for Compute Ops Management Enhanced 3-year Upfront ProLiant SaaS	R7A11AAE
HPE GreenLake for Compute Ops Management Enhanced 5-year Upfront ProLiant SaaS	R7A12AAE
HPE GreenLake for Compute Ops Management Enhanced 1-year Monthly ProLiant SaaS	R7A13AAE
HPE GreenLake for Compute Ops Management Enhanced 3-year Monthly ProLiant SaaS	R7A14AAE
HPE GreenLake for Compute Ops Management Enhanced 5-year Monthly ProLiant SaaS	R7A15AAE

Notes: For customers purchasing HPE GreenLake for Compute Ops Management, without a hardware purchase or a BTO purchase, use this base SKU within ASQ order:

HPE GreenLake for Compute Ops Management Base SaaS	R6Z73AAE

HPE iLO Common Password Setting

HPE iLO Common Password FIO Setting	P08040-B21

Notes:

- Replaces iLO default randomized password by an HPE defined common password. HPE highly recommends changing this password immediately after the initial onboarding process.
- Customers who want to choose their own custom iLO default password should use the HPE Factory Express Integration Services

Additional Options

HPE Converged Infrastructure Management Software

HPE OneView Advanced (with HPE iLO Advanced)

HPE OneView including 3yr 24x7 Support Physical 1-server LTU	E5Y34A
HPE OneView including 3yr 24x7 Support Flexible Quantity E-LTU	E5Y35AAE

HPE OneView Advanced (without HPE iLO Advanced)

HPE OneView w/o iLO including 3yr 24x7 Support 1-server LTU	P8B24A
HPE OneView w/o iLO including 3yr 24x7 Support Track 1-server LTU	P8B25A
HPE OneView w/o iLO including 3yr 24x7 Support Flexible Quantity E-LTU	P8B26AAE

Notes:

- Licenses ship without media. The HPE OneView Media Kit can be ordered separately, or can be downloaded at: **https://www.hpe.com/us/en/integrated-systems/software.html**
- Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.
- Licenses ship without media. The HPE OneView Media Kit can be ordered separately, or can be downloaded at: **https://www.hpe.com/us/en/integrated-systems/software.html**

HPE Storage Options

Emulex Fibre Channel HBAs

HPE SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter	Q0L13A
HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	Q0L14A
HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter	Q0L11A
HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	Q0L12A

QLogic Fibre Channel HBAs

HPE SN1100Q 16Gb Single Port Fibre Channel Host Bus Adapter	P9D93A
HPE SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter	P9D94A
HPE SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter	P9M75A
HPE SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter	P9M76A

Rail Kits

HPE 1U Small Form Factor Easy Install Rail Kit	734807-B21
HPE 1U Cable Management Arm for Rail Kit	734811-B21

HPE USB and SD Options

HPE Enterprise Mainstream Flash Media Kits for Memory Cards

HPE 32GB microSD Flash Memory Card	700139-B21
HPE 32GB microSD RAID 1 USB Boot Drive	P21868-B21

Notes: In vSphere 7.0, VMware made changes that impact the use of an SD Card/USB media as a standalone boot device and will be removing support for them after version 7.x.
SD Card/USB media can still be used as a standalone boot option through all 7.x releases via published Customer Advisory Usage of SD Card/USB Devices As Standalone Boot Devices Has Changed Due to System Storage Changes For VMware ESXi 7.0 (Or Later).
For any major release beyond VMware ESXi 7.x, VMware will require M.2 or another local persistent device as the standalone boot option.

Additional Options

HPE Support Services

Tech Care

HPE 5 Year Tech Care Essential DL160 Gen10 Service	HV6S6E
HPE 5 Year Tech Care Essential wDMR DL160 Gen10 Service	HV6S9E
HPE 3 Year Tech Care Essential DL160 Gen10 Service	HV6S4E
HPE 3 Year Tech Care Essential wDMR DL160 Gen10 Service	HV6S7E

Notes: For a full listing of support services available for this server, please visit **http://www.hpe.com/services**.

HPE Racks

- Please see the **HPE Advanced Series Racks QuickSpecs** for information on additional racks options and rack specifications.
- Please see the **HPE Enterprise Series Racks QuickSpecs** for information on additional racks options and rack specifications.

HPE Rack Options

- Please see the **HPE IT Access and Control** for information on these products and their specifications.

HPE Power Distribution Units (PDUs)

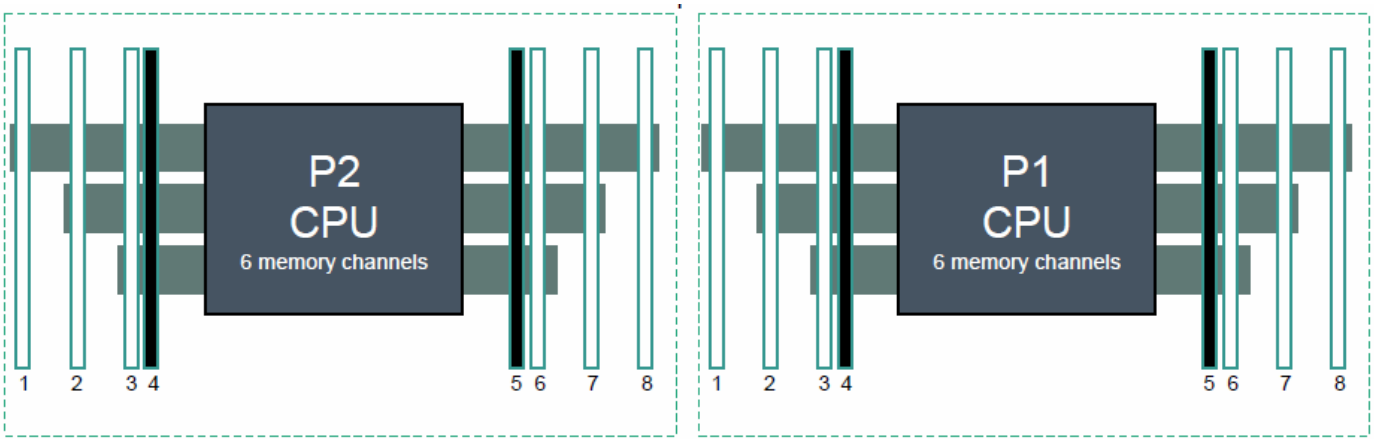
- Please see the **HPE Basic Power Distribution Units (PDU) QuickSpecs** for information on these products and their specifications.
- Please see the **HPE Metered Power Distribution Units (PDU) QuickSpecs** for information on these products and their specifications.
- Please see the **HPE Intelligent Power Distribution Unit (PDU) QuickSpecs** for information on these products and their specifications.
- Please see the **HPE Metered and Switched Power Distribution Units (PDU) QuickSpecs** for information on these products and their specifications.

HPE Uninterruptible Power Systems (UPS)

- To learn more, please visit the **HPE Uninterruptible Power Systems (UPS) web page.**
- Please see the **HPE DirectFlow Three Phase Uninterruptible Power System QuickSpecs** for information on these products and their specifications.
- Please see the **HPE Line Interactive Single Phase UPS QuickSpecs** for information on these products and their specifications.

Memory

Memory Population guidelines



HPE DL160/DL180 Gen 10 Servers Front Server
(2+1+1 slots per channel)

1 DIMM			**3**					
2 DIMM s		**2**	**3**					
3 DIMM s	**1**	**2**	**3**					
4 DIMM s		**2**	**3**			**6**	**7**	
5 DIMM s*	**1**	**2**	**3**			**6**	**7**	
6 DIMM s	**1**	**2**	**3**			**6**	**7**	**8**
7 DIMM s*	**1**	**2**	**3**	**4**		**6**	**7**	**8**
8 DIMM s*	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**

HPE ProLiant Gen10 8 slot per CPU DIMM population order
Notes:*Unbalanced, not recommended

General Memory Population Rules and Guidelines:

- Install DIMMs only if the corresponding processor is installed.
- If only one processor is installed in a two-processor system, only half of the DIMM slots are available.
- To maximize performance, it is recommended to balance the total memory capacity between all installed processors.
- When two processors are installed, balance the DIMMs across the two processors.
- White DIMM slots denote the first slot to be populated in a channel.
- Mixing of DIMM types (UDIMM, RDIMM, and LRDIMM) is not supported.
- The maximum memory speed is a function of the memory type, memory configuration, and processor model.
- The maximum memory capacity is a function of the number of DIMM slots on the platform, the largest DIMM capacity qualified on the platform, the number and model of installed processors qualified on the platform.
- For details on the HPE Server Memory Options Population Rules, visit:
  http://www.hpe.com/docs/memory-population-rules
- To realize the performance memory capabilities listed in this document, HPE DDR4 SmartMemory is required. For additional information, please see the **HPE DDR4 SmartMemory QuickSpecs.**

Notes: The maximum memory speed is a function of the memory type, memory configuration, and processor model
For details on the HPE Server Memory speed, visit: **https://www.hpe.com/docs/memory-speed-table**

Technical Specifications

System Unit

Dimensions

(Height X Width X Depth)

- 4.29 x 43.46 x 61.49 cm
- 1.69 x 17.11 x 24.21 in

Weight (approximate)

- **SFF Minimum**
  8 SFF chassis with 1x SFF HDD, 1 X Memory DIMM, 3 Fans, 1 Processor with heatsink, 1 power supply
  - 24.19lb
    10.97kg
- **SFF Maximum**
  8SFF chassis with 8 SFF HDD, 1 X Memory DIMM, 6 Fans, 2 Processors with heatsink, 2 power supplies
  - 30.69 lb
    13.92 kg
- **LFF Minimum**
  4 LFF chassis with 1X LFF Hard Drive, 1X Memory DIMM, 3 Fans, 1 Processor with heatsink, 1 power supply
  - 25.69 lb
    11.65 kg
- **LFF Maximum**
  4 LFF chassis with 4X LFF Hard Drive, 1X Memory DIMM, 6 Fans, 2 Processors with heatsink, 2 power supplies
  - 34.69 lb
    15.74kg

Input Requirements (per power supply)

Rated Line Voltage

- 100 to 120 VAC
- 200 to 240 VAC

BTU Rating

- **Maximum**
  For 500W Power Supply: 1979 BTU/hr (at 100 VAC), 1911 BTU/hr (at 200 VAC), 1965 BTU/hr (at 240 VAC) for China Only

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Power Supply Output (per power supply)

- **Rated Steady-State Power**
  For 500W Power Supply: 500W (at 100 VAC), 500W (at 240 VAC), 500W (at 240 VAC) input for China only
- **Maximum Peak Power**
  For 500W Power Supply: 500W (at 100 to 127 VAC), 500W (at 200 to 240 VAC), 500W (at 240 VAC) input for China only

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Altitude

- **Operating**
  3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
- **Non-operating**
  9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Technical Specifications

System Inlet Temperature

- **StandardOperating Temperature**
  10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed.
  System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).
- **Extended Ambient Operating Temperature**
  For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° 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 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL:**http://www.hpe.com/servers/ashrae**

  For approved hardware configurations, the supported system inlet range is extended to be: 40° to 45°C (104° 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 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL:**http://www.hpe.com/servers/ashrae**

  System performance may be reduced if operating in the extended ambient operating range or with a fan fault.
- **Non-operating**
  -30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).

Relative Humidity (non-condensing)

- **Operating**
  8% to 90% - Relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.
- **Non-operating**
  5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.

Acoustic Noise

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 operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have your HPE representative provide information from the HPE EMESC website for further technical details regarding the configurations listed below.

Configuration SKU	LFF Config	SFF Config
Idle		
LWAd	4.5 B	4.5 B
LpAm	28.1 dBA	27.8 dBA
Operating		
LWAd	5.1 B	5.1 B
LpAm	34.0 dBA	33.0 dBA

Notes:

- Acoustics levels will vary depending on system configuration. Values are based on below configurations and are for reference only.
- Additional options may result in increased sound levels.
- 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 appropriate compliance logos and statements.

Technical Specifications

Emissions Classification (EMC) – 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:
http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts

HPE Smart Array

For latest information on **HPE Smart Array Gen10 Controllers for HPE ProLiant DL, ML and Apollo Servers** please refer to their QuickSpecs. (E208i-a,E208i-p,E208e-p,P408i-a,P408i-p,P408e-p,P816i-a)
https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=a00047736enw

Environment-friendly Products and Approach - End-of-life Management and Recycling

Hewlett Packard Enterprise offers **end-of-life product return, trade-in, and recycling programs**, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Summary of Changes

Date	Version History	Action	Description of Change
05-Dec-2022	Version 24	Changed	Core Options section was updated.
07-Nov-2022	Version 23	Changed	Optional Features, Pre-Configured and Additional Options section were updated. Obsolete SKUs were removed.
01-Aug-2022	Version 22	Changed	Configuration Information section was updated.
05-Jul-2022	Version 21	Changed	Core Options section was updated. Obsolete SKUs were removed.
06-Dec-2021	Version 20	Changed	Core Options and Additional Options sections were updated.
01-Nov-2021	Version 19	Changed	Core Options section was updated. Obsolete SKUs were removed.
02-Aug-2021	Version 18	Changed	Core Options section was updated. Obsolete SKUs were removed.
04-May-2021	Version 17	Changed	Core Options section was updated. Obsolete SKUs were removed.
06-Apr-2021	Version 16	Changed	Core Options, Service and Support and Additional Options sections were updated. Obsolete SKUs were removed.
01-Feb-2021	Version 15	Changed	Overview and Core Options sections were updated. Obsolete SKUs were removed.
07-Dec-2020	Version 14	Changed	Overview and Standard Features sections were updated. Obsolete SKUs were removed.
05-Oct-2020	Version 13	Changed	Pre-Configured Models and Configuration Information sections were updated. Obsolete SKUs were removed.
08-Sep-2020	Version 12	Changed	Overview, Standard Features, Pre-Configured Models, Configuration Information, Core Options and Additional Options sections were updated.
01-Jun-2020	Version 11	Changed	Overview, Configuration Information, Core Options and Additional Options sections were updated
06-Apr-2020	Version 10	Changed	Service and Support and Core Options sections were updated.
03-Feb-2020	Version 9	Changed	Overview, Standard Features, Pre-Configured Models, Configuration Information and Core Options sections were updated.
02-Dec-2019	Version 8	Changed	Overview, Standard Features, Core Options, Additional Options and Technical Specifications sections were updated.
04-Nov-2019	Version 7	Changed	Image corrected in Overview section.
07-Oct-2019	Version 6	Changed	All sections were updated.
12-Aug-2019	Version 5	Changed	Overview, Standard Features, Additional Options and Memory sections were updated.
05-Aug-2019	Version 4	Changed	Overview, Standard Features, Optional Features,Additional Options and Memory sections were updated.
03-Jun-2019	Version 3	Changed	Overview, Additional Options and Pre-configured Models sections were updated.
15-Apr-2019	Version 2	Changed	Overview, Standard Features, Optional Features and Pre-configured Models sections were updated.
04-Feb-2019	Version 1	New	New QuickSpecs

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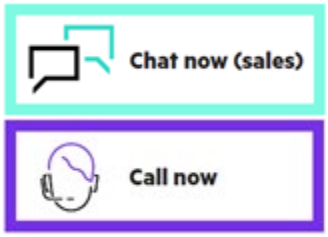
Contact our presales specialists.



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