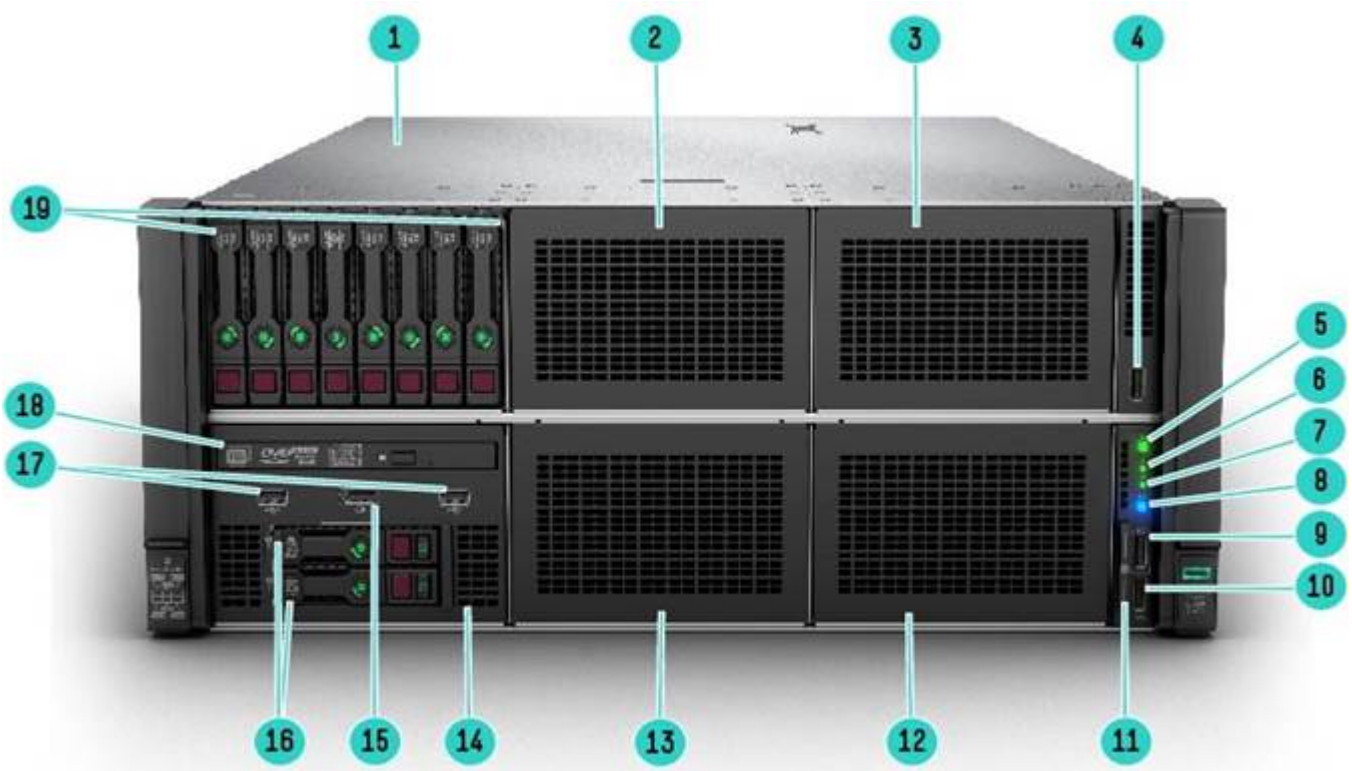
HPE ProLiant DL580 Gen10 Server

The HPE ProLiant DL580 Gen10 Server is a high-density, four-socket server with high performance, scalability and reliability, all in a 4U chassis. Supporting the latest 2nd generation of Intel® Xeon® Scalable processors, the HPE ProLiant DL580 Gen10 Server offers greater processing power, up to 6 TB of faster memory, IO of up to sixteen PCIe 3.0 slots, up to 12 TB of HPE Persistent Memory plus the intelligence and simplicity of automated management with HPE OneView and HPE iLO 5.

The HPE ProLiant DL580 Gen10 Server is the ideal server for business critical workloads, virtualization, server consolidation, database, business processing, graphics intensive and general 4P data-intensive applications where the right performance is paramount.

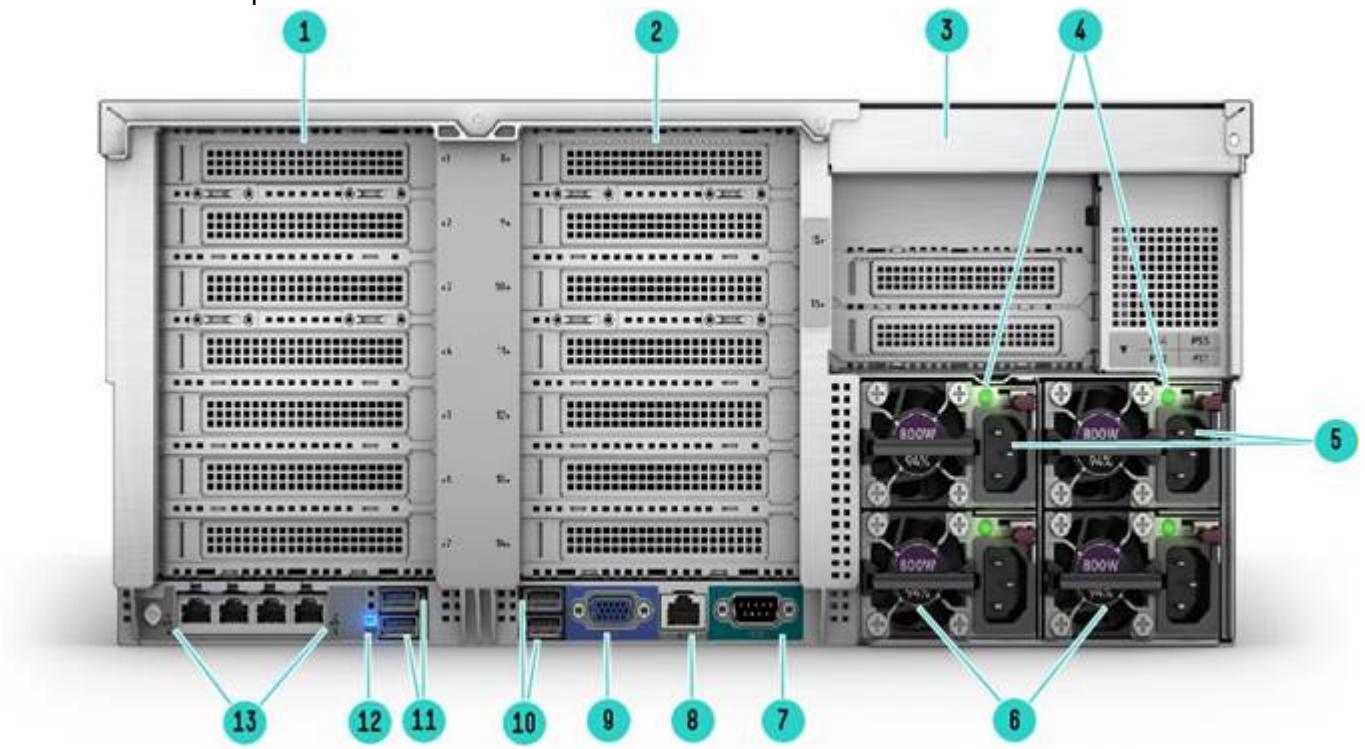


HPE ProLiant DL580 Gen10 Server Front View

1.	Quick removal access panel	11.	Serial label pull tag
2.	Box 2 (8 SFF or 6 SFF+2 NVMe or 8 NVMe SSD optional)	12.	Box 6 (8 SFF)
3.	Box 3 (8 SFF or 6 SFF+2 NVMe or 8 NVMe PCIe SSD optional)	13.	Box 5 (8 SFF)
4.	Front USB 3.0 port	14.	Box 4 (8 SFF or Universal Media bay)
5.	Power On/Standby button and system power LED button	15.	Optional front display port (via Universal Media Bay)
6.	Health LED	16.	Optional 2 SFF HDD, requires optional Universal Media bay
7.	NIC status	17.	Optional USB 2.0 (via Universal Media Bay)
8.	UID button	18.	Optical Drive (Optional)
9.	iLO Front Service Port (not available with SID)	19.	Box 1 (8 SFF or 6 SFF+2 NVMe or 8 NVMe (supports only 4 NVMe drives) SSD optional)

Overview

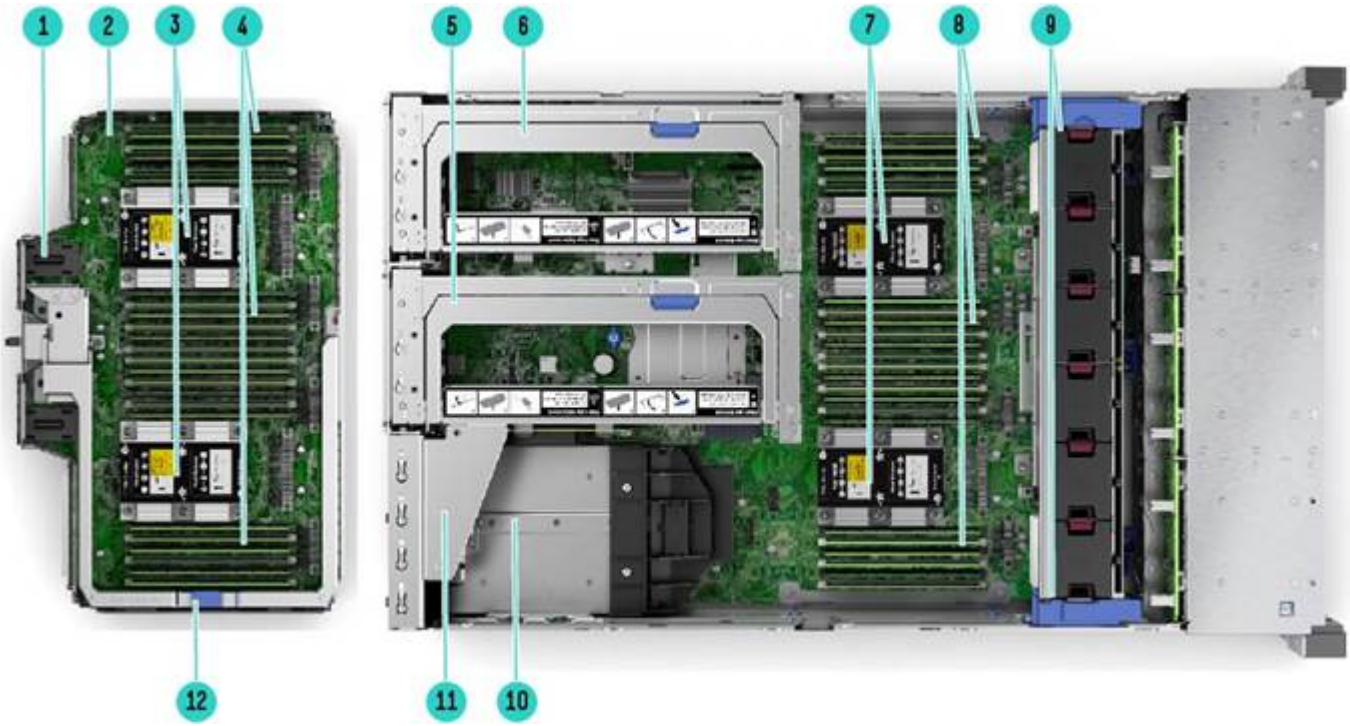
10. Front USB 3.0 port



HPE ProLiant DL580 Gen10 Server Rear View

1. PCIe Slots (Slots 1-7 top to bottom), requires primary riser
2. PCIe Slots (Slots 8-14 top to bottom), requires secondary riser (includes tertiary riser)
3. PCIe Slots (Slots 15-16 top to bottom), requires tertiary riser (included with secondary riser)
4. Power supply Power LED (max. 4)
5. Power supply Power connection (max. 4)
6. HPE Flexible Slot Power Supply, 800W PS shown (max. 4)
7. Serial connector
8. Dedicated iLO network connector
9. VGA (video) connector
10. USB connectors 2.0 (2)
11. USB connectors 3.0 (2)
12. Unit ID LED
13. FlexibleLOM ports (Port 1 on right side)

Overview



HPE ProLiant DL580 Gen10 Server Internal View with upper CPU mezzanine tray

1. Left connector used for DL580 4-port NVMe Mezzanine card (Daughter card)
2. Upper CPU Mezzanine Board Kit
3. 2 Processors, heatsink showing on upper CPU mezzanine board kit
4. DDR4 DIMM slots. Shown fully populated in 24 slots (12 per processor)
5. Optional secondary PCIe riser (includes tertiary riser)
6. Primary PCIe riser
7. 2 Processors
8. DDR4 DIMM slots on CPU board kit. Shown fully populated in 24 slots (12 per processor) under the air baffle
9. Fan cage shown with 12 standard Hot-plug fans
10. (Under) Max. 4 Hot Plug redundant HPE Flexible Slot Power supplies
11. Optional Tertiary riser (included with secondary riser)
12. Handle for removing upper CPU Mezzanine Board Kit

Overview

What's New

- Support NVMe U.3 SSDs

Platform Information

Form Factor

- 4U Rack Form Factor
  Entry, Base and Performance pre-configured models and Configure-to-order server ship with Gen10 Rail Kits and Cabl Management Assembly

Chassis Types

- 48 SFF with optional Universal Media Bay

Notes:

– The Universal Media Bay (872267-B21) is not available with the 48 SFF front end, and can only be populated in Box 4.

– All pre-configured models come with embedded software RAID support for 10 SATA drives. Optional HPE Smart Array Controllers can be added.

System Fans

- 12 Hot Plug Fans (with N+1 redundancy)

Notes: 12 hot plug fans are shipped as standard.

Processors

One, two, three or four 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)
- This table covers the public Intel offering only.
- For more information regarding Intel Xeon processors, please see thefollowing **http://www.intel.com/xeon**.

Processor Suffix	Description	Offering
L	Large memory tier	Up to 4.5 TB addressable memory per socket
M	Medium memory tier	Up to 2.0 TB addressable memory per socket
N	NFV Optimized	Targeted at Network Function Virtualization (NFV) workloads. Intel® Speed Select Technology-Base Frequency improves performance by directing base frequency to high priority/bottleneck cores.
S	Search Optimized	Optimized base frequency to address 'search' workloads.
V	VM Density Optimized	Fosters enhanced VM density, allowing to support more/larger virtual machines per host.
Y	Speed Select	Intel® Speed Select Technology -Performance Profile increases base frequency when less cores are enabled. Allows greater flexibility, deployment options and platform longevity.

Platinum Processors - 2nd Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache (MB)**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Platinum 8280L Processor	2.7GHz	28	38.5	205W	3 @ 10.4 GT/s	2933 MT/s	4.5TB
Platinum 8280M Processor	2.7GHz	28	38.5	205W	3 @ 10.4 GT/s	2933 MT/s	2TB
Platinum 8280 Processor	2.7GHz	28	38.5	205W	3 @ 10.4 GT/s	2933 MT/s	1TB
Platinum 8276M Processor	2.2GHz	28	38.5	165W	3 @ 10.4 GT/s	2933 MT/s	2TB
Platinum 8276L Processor	2.2GHz	28	38.5	165W	3 @ 10.4 GT/s	2933 MT/s	4.5TB
Platinum 8276 Processor	2.2GHz	28	38.5	165W	3 @ 10.4 GT/s	2933 MT/s	1TB
Platinum 8270 Processor	2.7GHz	26	35.75	205W	3 @ 10.4 GT/s	2933 MT/s	1TB

Standard Features

Platinum 8268 Processor	2.9GHz	24	35.75	205W	3 @ 10.4 GT/s	2933 MT/s	1TB
Platinum 8260M Processor	2.4GHz	24	35.75	165W	3 @ 10.4 GT/s	2933 MT/s	2TB
Platinum 8260L Processor	2.4GHz	24	35.75	165W	3 @ 10.4 GT/s	2933 MT/s	4.5TB
Platinum 8260Y Processor	2.4GHz	24/20/16	35.75	165W	3 @ 10.4 GT/s	2933 MT/s	1TB
Platinum 8260 Processor	2.4GHz	24	35.75	165W	3 @ 10.4 GT/s	2933 MT/s	1TB
Platinum 8256 Processor	3.8GHz	4	16.5	105W	3 @ 10.4 GT/s	2933 MT/s	1TB
Platinum 8253 Processor	2.2GHz	16	22	125W	3 @ 10.4 GT/s	2933 MT/s	1TB

Gold Processors - 2nd Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache (MB)**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Gold 6256 Processor	3.6GHz	12	33	205W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6254 Processor	3.1GHz	18	24.75	200W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6252 Processor	2.1GHz	24	35.75	150W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6252N Processor	2.3GHz	24/20/16	35.75	150W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6248 Processor	2.5GHz	20	27.5	150W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6246 Processor	3.3GHz	12	24.75	165W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6244 Processor	3.6GHz	8	24.75	150W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6242 Processor	2.8GHz	16	22	150W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6240L Processor	2.6GHz	18	24.75	150W	3 @ 10.4 GT/s	2933MT/s	4.5TB
Gold 6240M Processor	2.6GHz	18	24.75	150W	3 @ 10.4 GT/s	2933MT/s	2TB
Gold 6240 Processor	2.6GHz	18	24.75	150W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6240Y Processor	2.6GHz	18/14/8	24.75	150W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6238L Processor	2.1GHz	22	30.25	140W	3 @ 10.4 GT/s	2933MT/s	4.5TB
Gold 6238M Processor	2.1GHz	22	30.25	140W	3 @ 10.4 GT/s	2933MT/s	2TB
Gold 6238 Processor	2.1GHz	22	30.25	140W	3 @ 10.4 GT/s	2933MT/s	1TB

Standard Features

Gold 6234 Processor	3.3GHz	8	24.75	130W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6230 Processor	2.1GHz	20	27.5	125W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6230N Processor	2.3GHz	20	27.5	125W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6226 Processor	2.7GHz	12	19.25	125W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6262V Processor	1.9GHz	24	33	135W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 6222V Processor	1.8GHz	20	27.5	115W	3 @ 10.4 GT/s	2933MT/s	1TB
Gold 5222Processor	3.8GHz	4	16.5	105W	2 @ 10.4 GT/s	2933MT/s	1TB
Gold 5220 Processor	2.2GHz	18	24.75	125W	2 @ 10.4 GT/s	2666MT/s	1TB
Gold 5220S Processor	2.7GHz	18	24.75	125W	2 @ 10.4 GT/s	2666MT/s	1TB
Gold 5218B Processor	2.3GHz	16	22	125W	2 @ 10.4 GT/s	2666MT/s	1TB
Gold 5218N Processor	2.3GHz	16	22	110W	2 @ 10.4 GT/s	2666MT/s	1TB
Gold 5218 Processor	2.3GHz	16	22	125W	2 @ 10.4 GT/s	2666MT/s	1TB
Gold 5217 Processor	3.0GHz	8	11	115W	2 @ 10.4 GT/s	2666MT/s	1TB
Gold 5215L Processor	2.5GHz	10	13.75	85W	2 @ 10.4 GT/s	2666MT/s	4.5TB
Gold 5215M Processor	2.5GHz	10	13.75	85W	2 @ 10.4 GT/s	2666MT/s	2TB
Gold 5215 Processor	2.5GHz	10	13.75	85W	2 @ 10.4 GT/s	2666MT/s	1TB

Notes:

- Platinum - 82xx series - 2 and 4 socket capable, 3UPI @ 10.4 GT/s, 6-Channel DDR4 @ 2933 MT/s 1DPC, 1 TB memory capacity (up to 2 TB on 'M' SKUs and up to 4.5 TB on 'L' SKUs), Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512 (2x 512-bit FMA), 48 lanes PCIe 3.0, advanced RAS.
- Gold - 62xx and 52xx series - 2 and 4 socket capable, 3UPI @ 10.4 GT/s on 62xx processors, 2UPI @ 10.4 GT/s on 52xx processors, 6 Channel DDR4 @ 2933 MT/s 1DPC on 62xx and 5222 processors , 6-Channel DDR4 @ 2666 MT/s on 52xx processors, 1 TB memory capacity (up to 2 TB on 'M' SKUs and up to 4.5 TB on 'L' SKUs), Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512(1x 512-bit FMA) (SKU 5222 supports 2x 512 bit FMA), 48 lanes PCIe 3.0, advanced RAS.
- With the current HPE DDR4 Smart Memory maximum offering (128GB LRDIMMs), the 'L' SKUs and 'M' SKUs can support up to 1.5TB per socket.
- More than 1.5TB per socket requires the use of HPE Persistent Memory kits : available in 512GB, 256GB and 128GB
- Platinum 8260Y and Gold 6240Y processors support Intel® Speed Select Technology -Performance Profile
- Gold 5218B processor and Gold 5218 processor have the same specifications and cannot be mixed within a server.
- Gold 6252N, 6230N and 5218N processor are optimized for NFV (Network Function Virtualization) workloads and support Intel® Speed Select Technology -Base Frequency

Standard Features

– Gold 6262V and 6222V are VM density optimized, Gold 5220S is search-optimized
– 82xx, 62xx and 52xx processors offer VNNI (vector neural network instruction) instruction set.

Platinum Processors - 1st Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache (MB)**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Platinum 8180M Processor	2.5 GHz	28	38.50	205W	3 @ 10.4 GT/s	2666 MT/s	1.5TB
Platinum 8168 Processor	2.7 GHz	24	33.00	205W	3 @ 10.4 GT/s	2666 MT/s	768GB
Platinum 8164 Processor	2.0 GHz	26	35.75	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Platinum 8160 Processor	2.1 GHz	24	33.00	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Platinum 8158 Processor	3.0 GHz	12	24.75	150W	3 @ 10.4 GT/s	2666 MT/s	768GB

Gold Processors - 1st Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache (MB)**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Gold 6154 Processor	3.0 GHz	18	24.75	200W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6152 Processor	2.1 GHz	22	30.25	140W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6150 Processor	2.7 GHz	18	24.75	165W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6148 Processor	2.4 GHz	20	27.50	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6144 Processor	3.5 GHz	8	24.75	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6140 Processor	2.3 GHz	18	24.75	140W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6137 Processor	3.9 GHz	8	24.75	205W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6136 Processor	3.0 GHz	12	24.75	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6134M Processor	3.2 GHz	8	24.75	130W	3 @ 10.4 GT/s	2666 MT/s	1.5TB
Gold 6134 Processor	3.2 GHz	8	24.75	130W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6132 Processor	2.6 GHz	14	19.25	140W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6130 Processor	2.1 GHz	16	22.00	125W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6126 Processor	2.6 GHz	12	19.25	125W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 5120 Processor	2.2 GHz	14	19.25	105W	2 @ 10.4 GT/s	2400 MT/s	768GB
Gold 5118 Processor	2.3 GHz	12	16.50	105W	2 @ 10.4 GT/s	2400 MT/s	768GB

Standard Features

Gold 5117 processor	2.0 GHz	14	19.25	105W	2 @ 10.4 GT/s	2400 MT/s	768GB
Gold 5115 Processor	2.4 GHz	10	13.75	85W	2 @ 10.4 GT/s	2400 MT/s	768GB

Notes:

- Platinum 81xx series - 2 and 4 socket capable, 3UPI @ 10.4 GT/s, 6-Channel DDR4 @ 2666 MT/s, 768 GB memory capacity (1.5 TB on select skus), Intel Turbo Boost Technology, Intel Hyper-Threading TechnologyIntel AVX-512 (2x 512-bit FMA), 48 lanes PCIe 3.0, advanced RAS.
- Gold 61xx and 51xx series - 2 and 4 socket capable, 3UPI @ 10.4 GT/s on 61xx processors, 2UPI @ 10.4 GT/s on 51xx processors, 6-Channel DDR4 @ 2400 MHz (SKU 5122=supports 2666), 768 GB memory capacity (1.5 TB on select skus), Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512(1x 512-bit FMA) (SKU 5122 supports 2x 512 bit FMA), 48 lanes PCIe 3.0, advanced RAS.
- All processors ship with a normal or a high performance heatsink.
- 82xx, 81xx, 62xx and 61xx processors support 3 UPI links and all processors are connected in a cross bar configuration with each processor connected to another directly in a four processor system. 52xx and 51xx processors support 2 UPI links only and all processors are connected in a ring configuration with processors 1, 3 and 2, 4 not connected directly in a four processor system.

Chipset

Intel C621 Chipset

Notes: For more information regarding Intel® chipsets, please see the following URL:
http://www.intel.com/products/server/chipsets/

On System Management Chipset

HPE iLO 5 ASIC

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

Memory

One of the following depending on model

Type	Smart Memory Registered (RDIMM), Load Reduced (LRDIMM)
DIMM Slots Available	48 12 DIMM slots per processor, 6 channels per processor, 2 DIMMs per channel

Standard Features

With 2nd generation processors		
Maximum capacity (LRDIMM)	6 TB	48 x 128 LRDIMM @ 2933 MT/s 2 DPC
Maximum capacity (RDIMM)	1.5 TB 3 TB	24 x 64 GB RDIMM @ 2933 MT/s 1 DPC 48 x 64 GB RDIMM @ 2666 MT/s 2 DPC
Maximum capacity **(HPE Persistent Memory)**	12 TB	24 x 512 GB Memory Kit @ 2666 MT/s

With 1st generation processors		
Maximum capacity (LRDIMM)	6 TB	48 x 128 GB LRDIMM @ 2666 MT/s
Maximum capacity (RDIMM)	1.5 TB	48 x 32 GB RDIMM @ 2666 MT/s
Maximum capacity (NVDIMM)	384 GB	24 x 16 GB NVDIMM @ 2666 MT/s

Notes:

- Only 2666 MT/s memory SKUs are supported with 1st generation processors (81xx,61xx and 51xx)
- Only 2933 MT/s memory SKUs are supported with 2nd generation processors (82xx,62xx and 52xx)
- HPE Persistent Memory is only supported on the 2nd generation processors
- Mixing of RDIMM and LRDIMM memory is not supported.
- The maximum memory speed is a function of the memory type, memory configuration, and processor model.
- Intel memory processors (with suffix M) are needed for supporting 1.5TB memory per socket on 1st generation processors
- Intel memory processors (with suffix M or suffix L) are needed for supporting more than 1 TB memory per socket on 2nd generation processors
- Maximum of 6 NVDIMMs are supported per processor on the 1st generation processors
- NVDIMM is not supported on the 2nd generation processors

Memory Protection

For details on the HPE Server Memory Options RAS feature, visit: **http://www.hpe.com/docs/memory-ras-feature**.

Expansion Slots

Standard Features

Primary 6-slot Riser (Optional) 872336-B21				
Expansion Slots #	**Technology**	**Bus/Connector Width**	**Form Factor/Connector**	**Notes**
2	PCIe 3.0	x16	Full length/full height	Proc 3
3	PCIe 3.0	x8	Full length/full height	Proc 3
4	PCIe 3.0	x16	Full length/full height	Proc 3
5	PCIe 3.0	x8	¾ length/full height	Proc 1
6	PCIe 3.0	x8	¾ length/full height	Proc 1
7	PCIe 3.0	x8	¾ length/full height	Proc 1
None (J4)	NVMe	x8	Slimline	Proc 1
None (J3)	NVMe	x8	Slimline	Proc 3

Primary 7-slot Riser (Optional) 878214-B21				
Expansion Slots (Primary/ Secondary) #	**Technology**	**Bus/Connector Width**	**Form Factor/Connector**	**Notes**
1	PCIe 3.0	x8	Full length/full height	Proc 3
2	PCIe 3.0	x16	Full length/full height	Proc 3
3	PCIe 3.0	x8	Full length/full height	Proc 3
4	PCIe 3.0	x16	Full length/full height	Proc 3
5	PCIe 3.0	x8	¾ length/full height	Proc 1
6	PCIe 3.0	x16	¾ length/full height	Proc 1
7	PCIe 3.0	x8	¾ length/full height	Proc 1

Secondary and Tertiary 8-slot Riser (Optional) 872338-B21				
Expansion Slots #	**Technology**	**Bus/Connector Width**	**Form Factor/Connector**	**Notes**
9	PCIe 3.0	x16	Full length/full height	Proc 4
10	PCIe 3.0	x8	Full length/full height	Proc 4
11	PCIe 3.0	x16	Full length/full height	Proc 4
12	PCIe 3.0	x8	Half length/ full height	Proc 2
13	PCIe 3.0	x8	Half length/ full height	Proc 2
14	PCIe 3.0	x8	Half length/ full height	Proc 2
15	PCIe 3.0	x8	Half length/ full height	Proc 2
16	PCIe 3.0	x8	Half length/ full height	Proc 2
None (J4)	NVMe	x8	Slimline	Proc 2
None (J3)	NVMe	x8	Slimline	Proc 4

Standard Features

Secondary and Tertiary 9-slot Riser (Optional) 872340-B21				
Expansion Slots (Primary/ Secondary) #	**Technology**	**Bus/Connector Width**	**Form Factor/Connector**	**Notes**
8	PCIe 3.0	x8	Full length/full height	Proc 4
9	PCIe 3.0	x16	Full length/full height	Proc 4
10	PCIe 3.0	x8	Full length/full height	Proc 4
11	PCIe 3.0	x16	Full length/full height	Proc 4
12	PCIe 3.0	x8	Half length/ full height	Proc 2
13	PCIe 3.0	x16	Halflength/ full height	Proc 2
14	PCIe 3.0	x8	Half length/ full height	Proc 2
15	PCIe 3.0	x8	Half length/ full height	Proc 2
16	PCIe 3.0	x8	Half length/ full height	Proc 2

Primary NVMe Slimline Riser (Optional) 878360-B21 (includes the 4-port NVMe Mezzanine card)				
Expansion Slots (Primary) #	**Technology**	**Bus/Connector Width**	**Form Factor/Connector**	**Notes**
None (J4)	NVMe	x8	Slimline	Proc 1
None (J5)	NVMe	x8	Slimline	Proc 1
None (J6)	NVMe	x8	Slimline	Proc 1
None (J8)	NVMe	x8	Slimline	Proc 1

4-port NVMe Mezzanine card (included with 878360-B21)				
Expansion Slots #	**Technology**	**Bus/Connector Width**	**Form Factor/Connector**	**Notes**
None	NVMe	x8	Slimline	Proc 3
None	NVMe	x8	Slimline	Proc 3
None	NVMe	x8	Slimline	Proc 3
None	NVMe	x8	Slimline	Proc 3

Notes:

- A minimum of 1 primary riser needs to be ordered.
- The secondary riser is shipped with the tertiary riser and can be installed only after the primary riser has been installed. The tertiary riser cannot be ordered separately.
- Slot availability is dependent on the processor installed. Please refer the above table carefully to make decisions on adding PCIe cards.
- The expansion slots at the back are numbered in ascending order from top to bottom and from left to right.
- The optional Slimline NVMe riser (878360-B21) supports a maximum of 16 NVMe drives and includes a primary 4-port riser and a 4-port NVMe mezzanine card. The 4-port NVMe mezzanine card installs on top of the HPE DL5x0 Gen10 CPU Mezzanine Board Kit (872222-B21) or HPE DL5x0 Gen10 CPU Version 2 Mezzanine Board Kit (P07991-B21) and requires three or four processor configuration.
- Each NVMe port (slot) supports 2 NVMe drives.

Standard Features

- A maximum of 1 primary, 1 secondary (includes tertiary) riser can be installed in one server.
- Internal storage controllers and SAS expanders are supported only in the primary and tertiary risers. Not supported in the secondary riser.
- Primary Riser
  - Slot #1-#4: full length
  - Slot #5-#7: ¾ length
- Secondary Riser
  - Slot #8-#11: full length
  - Slot #12-#14: half length
- Tertiary Riser
  - Slot #15-#16: half length

Network Controller

The HPE ProLiant DL580 Gen10 servers offer a flexible network technology - FlexibleLOMs, which offers customers a choice of 1 Gb, 10 Gb, 25 Gb or 10 Gb and 100Gb base-T Ethernet or converged networking in their embedded adapter. A range of NIC cards are also available to enhance networking capabilities.

Notes: For additional details see the Networking Section of this document.

BTO Model	Adapter
Entry Model	HPE Ethernet 1Gb 4-port FLR-T I350-T4V2 Adapter
Base Model	HPE FlexFabric 10Gb 2-port FLR-SFP+ 57810S Adapter10GbE or HPE Ethernet 10Gb 2-port FLR-T BCM57416 Adapter
Performance Model	HPE Ethernet 10/25Gb 2-port FLR-SFP28 MCX4121A-ACFT Adapteror HPE Ethernet 10/25Gb 2-port FLR-SFP28 BCM57414 Adapter

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Storage 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 **HPE Smart Array Gen10 Controllers Data Sheet**.

- 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, and for CTO orders please also select the Legacy mode settings part, 758959-B22.
- HPE Smart Array S100i SR Gen10 SW RAID is off by default and must be enabled. For enabling, please select HPE FIO Enable Smart Array SW RAID (784308-B21).

Standard Features

Essential RAID

- HPE Smart Array E208i-p SR Gen10 Controller
- HPE Smart Array E208e-p SR Gen10 Controller

Performance RAID

- HPE Smart Array P408i-p SR Gen10 Controller
- HPE Smart Array P408e-p SR Gen10 Controller
- HPE Smart Array P824i-p MR Gen10 Controller

Internal Storage Devices

One of the following depending on model

Optical Drive

- Optional: DVD-ROM, DVD-RW

Hard Drives

- None ship standard

Hard Drive Bays

- 8 hot plug SFF SAS/SATA HDD Bay in Entry, Base and Performance Models. Optional 8 NVMe SSD Express Bay Enablement Kit
- Optional Premium 6SFF and 2 NVMe or 8SFF Bay Kit

Maximum Internal Storage

Drive	Capacity	Configuration
Hot Plug SFF SATA HDD	96 TB	48 x 2 TB
Hot Plug SFF SAS HDD	115.2TB	48 x 2.4 TB
Hot Plug SFF SATA SSD	368.6 TB	48 x 7.68 TB
Hot Plug SFF SAS SSD	734 TB	48 x 15.3 TB
SFF NVMe SSD	307.2 TB	20 x 15.36 TB

Standard Features

Interfaces	
Serial	1 rear
Video	1 front display port (optional with Universal Media Bay), 1 rear VGA
HPE iLO Remote Management Network Port	1
HPE iLO Front Service Port	1 (Not available if SID is installed)
Micro SD Slot	1 (Internal), 2 (optional, internal) **Notes:** Requires the optional HPE Dual Micro SD 8GB USB kit.
USB 2.0 Ports	4 total: 2 front (optional); 2 rear
USB 3.0 Ports	5 total: 2 front; 2 rear, 1 internal **Notes:** 2 front (optional) USB 2.0 ports need the HPE DL560 Gen10 Universal Media Bay Kit (872267-B21).

Recommended NVMe drive configurations

The HPE Proliant DL580Gen10 offers a high degree of flexibility when configuring server solutions utilizing NVMe high performance SSD drives.This flexibility can make configuring the server a challenge and could result in non-optimal and partially connected NVMe configurations where not all NVMe drive bays are functional.

HPE strongly encourages customers to choose an NVMe configuration based on processor quantity and desired maximum NVMe drive needs. Configuring the server based on the recommendations presented in the table below will help guide customers to solutions optimized for NVMe drives and PCIe slot counts.

Maximum NVMe Drives supported	Proc Qty	Riser Configuration	Drive Kit NVMe 8 SSD Express Bay (878362-B21)	Drive Kit Premium 6SFF and 2 NVMe (878364-B21)	Drive Kit UMB 2SFF Premium HDD (880121-B21)
2	1	Primary 6-slot Riser (872336-B21)	0	0	1
2	1	Primary 6-slot Riser (872336-B21)	0	1	0
2	2	Primary 6-slot Riser (872336-B21)	0	1	0
2	2	Primary 6-slot Riser (872336-B21)	0	0	1

Standard Features

2	2	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 9-slot Riser (872340-B21)	0	0	1
2	2	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 9-slot Riser (872340-B21)	0	1	0
2	2	Primary 7-slot Riser (878214-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	0	1
2	2	Primary 7-slot Riser (878214-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	1	0
4	2	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	1	1
4	2	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	2	0
2	3	Primary 6-slot Riser (872336-B21)	0	0	1
2	3	Primary 7-slot Riser (878214-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	0	1
2	3	Primary 7-slot Riser (878214-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	1	0
4	3	Primary 6-slot Riser (872336-B21)	0	2	0
4	3	Primary 6-slot Riser (872336-B21)	0	1	1
4	3	Primary 6-slot Riser (872336-B21)	1	0	0

Standard Features

Notes: Partial configuration. Drive bays 5-8 are not functional. Add 4th processor and Secondary / Tertiary 8-slot Riser (872338-B21) to enable all 8 drive bays or change primary riser to NVMe Slimline Riser (878360-B21; includes the 4-port NVMe Mezzanine card) + Secondary and Tertiary 9-slot Riser (872340-B21) to enable 16 drive configuration.					
4	3	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 9-slot Riser (872340-B21)	0	2	0
4	3	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 9-slot Riser (872340-B21)	0	1	1
6	3	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	1	0	0
Notes: Partial configuration. Drive bays 7-8 are not functional. Add Processor 4 to enable all 8 drive bays.					

Maximum NVMe Drives supported	**Proc Qty**	**Riser Configuration**	**Drive Kit NVMe 8 SSD Express Bay (878362-B21)**	**Drive Kit Premium 6SFF and 2 NVMe (878364-B21)**	**Drive Kit UMB 2SFF Premium HDD (880121-B21)**
6	3	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	3	0
6	3	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	2	1
16	3	Primary NVMe Slimline Riser (878360-B21; includes the 4-port NVMe Mezzanine card) + Secondary and Tertiary 8-slot Riser (872338-B21)	2	0	0
16	3	Primary NVMe Slimline Riser (878360-B21; includes the 4-port NVMe Mezzanine card) + Secondary and Tertiary 9-slot Riser (872340-B21)	2	0	0

Standard Features

18	3	Primary NVMe Slimline Riser (878360-B21; includes the 4-port NVMe Mezzanine card) + Secondary and Tertiary 8-slot Riser (872338-B21)	2	0	1
2	4	Primary 6-slot Riser (872336-B21)	0	0	1
2	4	Primary 7-slot Riser (878214-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	1	0
2	4	Primary 7-slot Riser (878214-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	0	1
4	4	Primary 6-slot Riser (872336-B21)	0	2	
4	4	Primary 6-slot Riser (872336-B21)	0	1	1
4	4	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 9-slot Riser (872340-B21)	0	2	
4	4	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 9-slot Riser (872340-B21)	0	1	1
4	4	Primary 7-slot Riser (878214-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	2	0
4	4	Primary 7-slot Riser (878214-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	1	1
6	4	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	3	0
8	4	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	1	0	0
Maximum NVMe Drives supported	**Proc Qty**	**Riser Configuration**	**Drive Kit NVMe 8 SSD Express**	**Drive Kit Premium 6SFF and 2 NVMe**	**Drive Kit UMB 2SFF Premium HDD**

Standard Features

			Bay (878362-B21)	**(878364-B21)**	**(880121-B21)**
8	4	Primary 6-slot Riser (872336-B21) + Secondary and Tertiary 8-slot Riser (872338-B21)	0	3	1
16	4	Primary NVMe Slimline Riser (878360-B21; includes the 4-port NVMeMezzanine card) + Secondary and Tertiary 9-slot Riser (872340-B21)	2	0	0
18	4	Primary NVMe Slimline Riser (878360-B21; includes the 4-port NVMe Mezzanine card) + Secondary and Tertiary 8-slot Riser (872338-B21)	2	0	1
20	4	Primary NVMe Slimline Riser (878360-B21; includes the 4-port NVMe Mezzanine card) + Secondary and Tertiary 8-slot Riser (872338-B21)	3	0	0

Notes:

- Partial configuration. Maximum number of NVME drives supported. 8 Drive SFF NVME in Box 1 will only support drives 1-4. Drive bays 5-8 are not functional.
- Maximum number of NVMe drives supported depends on a combination of processor, box, drive bay and riser. Please refer the above table carefully before creating configurations.
- The table is a list of recommended configurations.
- The maximum drive count listed for each configuration cannot be exceeded.
- Box 1 is populated by 8 SFF SAS/SATA bay (878366-B21) and shipped as default without any drives.
- The 8 NVMe drive option (878362-B21) can only placed in Box 1, 2 and 3. When the 8 NVMe drive option is placed in Box 1, only the first 4 NVMe (left to right) drives can be populated.
- The 6 SFF plus 2 NVMe drive option (878364-B21) can only placed in Box 1, 2 and 3.
- The Universal Media Bay (872267-B21) is not available with the 48 SFF front end, and can only be populated in Box 4. The media bay can support 2 NVMe via the optional 2 SFF premium kit (880121-B21).
- Not all configurations supporting the UMB 2SFF are shown. Primary 6-slot Riser (872336-B21) and/or Secondary and Tertiary 8-slot Riser (872338-B21) must be selected to support this option.
- The 8 SFF can be upgraded with a multiple drive bay options with field upgrades. Please refer front diagram detail for available options. For optimal upgrade please upgrade Box 1, Box 2, Box 3, Box 4, Box 5 and Box 6 when using the 8 SFF HDD bay for a 48 SFF configuration.
- A maximum of 20 NVMe drives can be supported with 4 NVMe drives in Box 1, 8 NVMe drives in Box 2 and 8 NVMe drives in Box 3 or with 2 NVMe drives in Box 1, 8 NVMe drives in Box 2, 8 NVMe drives in Box 3 and 2 NVMe drives in Box 4 using the Universal Media Bay (872267-B21).
- All pre-configured models come with embedded software RAID support for 10 SATA drives and also include P408i-p Smart Array controller. Optional HPE Smart Array Controllers can be added.
- The 2x 4-port NVMe Slimline riser (878360-B21) comes with 2 separate 4-port NVMe risers, one which

installs on the upper processor mezzanine tray. NVMe Slimline Riser option (878360-B21) cannot be used in a 2 processor configuration.

Power Supply

One of the following depending on model

- HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
  Notes:
  – Available in 94% efficiency.
  – Also available in -48VDC
  – Must order 4x 800W Flex Slot PSU.

- HPE 1000W Flex Slot Titanium Hot Plug Power Supply Kit
  Notes: Flex Slot Titanium power supplies support power efficiency of up to 96% and include a standard C-14
  power inlet connector.

- HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
  Notes:
  – Available in 94% efficiency.
  – 1600W Power supplies only support high line voltage (200VAC to 240VAC).

- HPE 1800W-2200W Flex Slot Titanium Hot Plug Power Supply Kit
  Notes: Output capped at 1600W maximum on Gen10 & Gen10 Plus servers, greater than 1600W only feasible on Gen11." Similar to the one currently stated on FlexSlot PSUs

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 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 (416151-B21). 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.

European Union Erp Lot 9 Regulation

Beginning on January 1st, 2024, units sold into the European Union (EU), European Economic Area (EEA), the United Kingdom, or Switzerland must include more efficient AC power supplies: 94% for multi-output and 96% for single-output. HPE Flexible Slot power supplies are single-output, and part numbers 865438-B21, P03178-B21, and P44712-B21 are 96% efficient, thus meeting requirements.

HPE is on target to fulfil compliant systems ahead of time and will begin enforcing these requirements in advance to satisfy requests with the current power supplies by the set deadline.

To review the power requirements for your selected system, please use the **HPE Power Advisor Tool**.

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

Operating Systems and Virtualization Software Support for HPE Servers

HPE servers are designed for seamless integration with partner Operating Systems and Virtualization Software. By collaborating closely with our partners, we ensure that their products are optimized, certified, and fully supported within your HPE server environment.

Access the certified and supported servers for each of the OS and Virtualization software: **HPE Servers Support & Certification Matrices**

With 2nd generation processors Intel® Xeon® Scalable Processor Family

- **Windows Server 2012 R2**
- **Windows Server 2016**
- Windows Server 2019
- VMware ESXi
- **Red Hat Enterprise Linux (RHEL)** 7.6 and 8.0
- **SUSE Linux Enterprise Server (SLES)** 12 SP4 ,12 SP3 and 15 SP1

Notes:

– Not directly supported / Community Supported (Based on RHEL so RHEL testing and enablement applicable to Cent OS) CentOS 6.9 / CentOS 7.3.

– 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**.

Industry Standard Compliance

- ACPI 6.1 Compliant
- PCIe 3.0 Compliant
- WOL Support
- Microsoft® Logo certifications
- PXE Support
- USB 3.0 Compliant (internal); USB 2.0 Compliant
- SMBIOS 3.1
- UEFI 2.6
- Redfish API
- 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**

Notes: For additional technical thermal details regarding ambient temperatures, humidity and features support please visit: **https://support.hpe.com/hpesc/public/docDisplay?docId=a00026969en_us&page=index.html**.

Graphics

Standard Features

- 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**.

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:

- TPM 2.0 support
- NVMe Boot Support
- Platform Trust Technology (PTT) can be enabled
- 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.
– UEFI FIO Setting (758959-B22) can be selected to configure the system in Legacy mode in the factory for your HPE ProLiant Gen10 Server.

Embedded Management

HPE Integrated Lights-Out (HPE iLO)

Monitor your servers for ongoing management, service alerting, reporting and remote management with HPE iLO.

Standard Features

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 one 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**.

Smart Update

Keep your servers up to date with the HPE Smart Update solution by using Smart Update Manager (SUM) to optimize the firmware and driver updates of the Service Pack for ProLiant (SPP). Learn more at **https://www.hpe.com/us/en/servers/smart-update.html**.

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.

Standard Features

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 **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 (iLO 5 certification in progress)
- Common Criteria certification (iLO 5 certification in progress)
- Configurable for PCI DSS compliance
- Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser
- Support for Commercial National Security Algorithms (CNSA)
- Granular control over iLO interfaces
- Smart card (PIV/CAC) and Kerberos based 2-factor Authentication
- 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) 1.2 option
- TPM (Trusted Platform Module) 2.0 option

Standard Features

- Bezel Locking Kit
- Chassis Intrusion detection option

Notes:

– HPE Trusted Platform Module 2.0 Option (864279-B21) works with Gen10 servers with UEFI Mode and not Legacy Mode. The Trusted Platform Module 2.0 Option can be configured to the 1.2 version through the UEFI BIOS to support TPM 1.2 functionality.
– HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

About Trusted Platform Module

Trusted Platform Module (TPM) is a separate processor that monitors the system state. TPM is a passive component needing to be updated and not able to lock down any component in the system except access to its own memory. It also provides some cryptographic operations - among them: creating RSA key pairs, and working with them.

The first verification of signatures happens by code on the CPU, which can be intercepted and replaced. Emulating a "properly" booted system is possible by sending the right values to the TPM.

HPE supports two version of TPM, the 1.2 device and the 2.0 device. The TPM 2.0 device works with Gen10 servers that are using a Linux operating system or Microsoft Windows Server 2016. Both TPM 1.2 and 2.0 are compatible with HPE ProLiant Gen9 and Gen10 servers. These TPM modules are not compatible with server generations prior to Gen9. Once the TPM module is installed, it locks into place and cannot be removed, nor can it be replaced with a different TPM device.

HPE Silicon Root of Trust

The HPE Silicon Root of Trust provides protection because as soon as the server is powered on and the iLO firmware comes alive, it looks into the silicon for the immutable fingerprint that verifies all the firmware code is valid and uncompromised. Over a million lines of firmware code run, before the operating system starts, making it essential to confirm that all server essential firmware is free from malware or compromised code.

Silicon Root of Trust is included with iLO5 Standard with all platforms that contain the iLO5 chip. That includes ML, DL, Apollo, C-Class Blades, and Synergy Compute Modules. HPE Cloudline and the HPE Microserver do not have silicon root of trust, since they do not contain an iLO5 silicon chip. This technology is NOT available on any previous version of HPE ProLiant like the Gen9, Gen8, or Gen 7 servers, nor can those previous generations be retrofitted to accommodate the silicon root of trust.

The silicon validates the iLO 5 firmware code before it is fetched and executed. If any malware or compromised code has been inserted in the iLO 5 firmware, the silicon will detect that, because any infected firmware code will not match-up with the hash burned into the silicon. From there, the iLO 5 firmware validates the rest of the server firmware, namely the UEFI, CPLD, IE, and ME. The UEFI then validates the connection to the operating system, thus completing a complete root, or chain, that is anchored into the silicon.

During operation of the server, Hewlett Packard Enterprise has a new technology that conducts run-time firmware validation that checks the firmware stored in the server. At any point, if compromised code or malware is inserted in any of the critical firmware, an iLO audit log alert is created to notify the customer

Standard Features

that a compromised has occurred.

In the unlikely event of a breach into the HPE server firmware, after detection has been completed, the customer may then securely recover the firmware automatically to a previous known good state. Hewlett Packard Enterprise provides this function through HPE iLO Advanced license.

Warranty

This product is covered by a global limited warranty and supported by HPE 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 Services 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.

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: **https://www.hpe.com/support/ProLiantServers-Warranties**.

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 **https://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**.

GPGPU Information

Optional Features

- NVIDIA A100 80GB PCIe NonCEC Accelerator for HPE
- NVIDIA A40 48GB GPU NONCEC Accelerator for HPE
- HPE NVIDIA Tesla P40 24GB Computational Accelerator
- HPE NVIDIA Tesla V100 PCIe 32GB Computational Accelerator
- HPE NVIDIA Quadro RTX 8000 GPU
- HPE NVIDIA Quadro RTX 6000 GPU

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 Services

No matter where you are in your digital transformation journey, you can count on HPE Services to deliver the expertise you need when, where and how you need it. From planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.
https://www.hpe.com/services

Consulting Services

No matter where you are in your journey to hybrid cloud, experts can help you map out your next steps. From determining what workloads should live where, to handling governance and compliance, to managing costs, our experts can help you optimize your operations.
https://www.hpe.com/services/consulting

HPE Managed Services

HPE runs your IT operations, providing 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.
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Operational services

Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources. Meet service-level targets and business objectives with features designed to drive better business outcomes.
https://www.hpe.com/services/operational

HPE Complete Care Service

HPE Complete Care Service is a modular, edge-to-cloud IT environment service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals through a personalized experience. All delivered by an assigned team of HPE Services experts. HPE Complete Care Service 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

HPE Tech Care Service

HPE Tech Care Service is the operational support service experience for HPE products. The service 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 Tech Care Service delivers a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Tech Care Service 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 Lifecycle Services

HPE Lifecycle Services provide a variety of options to help maintain your HPE systems and solutions at all stages of the product lifecycle. A few popular examples include:

- Lifecycle Install and Startup Services: Various levels for physical installation and power on, remote access setup, installation and startup, and enhanced installation services with the operating system.
- HPE Firmware Update Analysis Service: Recommendations for firmware revision levels for selected HPE products, taking into account the relevant revision dependencies within your IT environment.
- HPE Firmware Update Implementation Service: Implementation of firmware updates for selected HPE server, storage, and solution products, taking into account the relevant revision dependencies within your IT environment.
- Implementation assistance services: Highly trained technical service specialists to assist you with a variety of activities, ranging from design, implementation, and platform deployment to consolidation, migration, project management, and onsite technical forums.
- HPE Service Credits: Access to prepaid services for flexibility to choose from a variety of specialized service activities, including assessments, performance maintenance reviews, firmware management, professional services, and operational best practices.

Notes: To review the list of Lifecycle Services available for your product go to:
https://www.hpe.com/services/lifecycle
For a list of the most frequently purchased services using service credits, see the **HPE Service Credits Menu**

Other Related Services from HPE Services:

HPE Education Services

Training and certification designed for IT and business professionals across all industries. Broad catalogue of course offerings to expand skills and proficiencies in topics ranging from cloud and cybersecurity to AI and DevOps. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options.
https://www.hpe.com/services/training

Defective Media Retention

An option available with HPE Complete Care Service and HPE Tech Care Service and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.
Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and services options.

Parts and Materials

HPE 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 quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

How to Purchase Services

Services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:

- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find services at **https://ssc.hpe.com/portal/site/ssc/**

Service and Support

AI Powered and Digitally Enabled Support Experience
Achieve faster time to resolution with access to product-specific resources and expertise through a digital and data driven customer experience
Sign into the HPE Support Center experience, featuring streamlined self-serve case creation and management capabilities with inline knowledge recommendations. You will also find personalized task alerts and powerful troubleshooting support through an intelligent virtual agent with seamless transition when needed to a live support agent.
https://support.hpe.com/hpesc/public/home/signin

Consume IT On Your Terms

HPE GreenLake edge-to-cloud platform 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 edge-to-cloud platform 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

To learn more about HPE Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Contact information for a representative in your area can be found at "Contact HPE" **https://www.hpe.com/us/en/contact-hpe.html**
For more information
http://www.hpe.com/services

Pre-configured Models

Entry Models	
SKU Number	P21273-B21 (WW) P21273-291 (JPN) P21273-AA1 (PRC)
Model Name	HPE ProLiant DL580 Gen10 5220 2.2GHz 18-core 2P 64GB-R P408i-p 8SFF 4x800W RPS Server
Processor	Intel® Xeon® 5220 (18-Core, 2.2GHz, 125W)
Number of Processors	2
Memory	64 GB (2x 32GB Registered DIMMs, 2933 MT/s) **Notes:** 24 DIMM slots available with Entry Model; 2 more processor slots and 24 more DIMMs available via optional HPE DL5x0 Gen10 CPU Version 2 Mezzanine Board Kit (P07991-B21).
Network Controller	HPE Ethernet 1Gb 4-port FLR-T I350-T4V2 Adapter
Storage Controller	HPE Smart Array P408i-p controller **Notes:** Additional Storage controllers are available as options, to enable both SAS capability as well as provide data retention with flash-backed write cache (FBWC).
Power Supply	4x 800W **NOTES:** None Lot 9 compliant
PCI-Express Slots	3 PCIe 3.0 slots available **Notes:** 16 PCIe 3.0 slots available with the secondary riser and 4 processors installed.
Hard Drive	None ship standard
Internal Storage	8 SFF Drive Bays **Notes:** – Can be expanded up to a max. of 48 SFF drives, with optional HPE DL580 Gen10 8SFF HDD Bay Kit (878366-B21). – Optionally NVMe SSD drives can be added with HPE DL580 Gen10 Premium 6SFF and 2 NVMe or 8SFF Bay Kit (878364-B21) which can be added to Box1, 2 or 3 or HPE DL580 NVMe 8 SSD Express Bay Enablement Kit (878362-B21) which can be added to Box 1 (only 4 NVMe drives), Box 2 and Box 3. – Alternatively, optional HPE DL560 Gen10 Universal Media Bay Kit (872267-B21) can be added in Box 4.
Optical Drive	Optional via Universal Media Bay
Fans	12 hot plug fans, n+1 redundant
Management	HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download); HPE iLO Advanced and HPE OneView Advanced (requires license)
Form Factor	Rack (4U), HPE DL580 Gen10 4U Rail Kit with CMA
Warranty	3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

Pre-configured Models

Base Models		
SKU Number	P22709-B21 (WW) P22709-291 (JPN) P22709-AA1 (PRC)	P40458-B21 (WW) P40458-291 (JPN) P40458-AA1 (WW)
Model Name	HPE ProLiant DL580 Gen10 6230 2.1GHz 20-core 4P 256GB-R P408i-p 8SFF 4x1600W RPS Server	
Processor	Intel® Xeon® 6230 (20-Core, 2.1GHz, 125W)	
Number of Processors	4	
Memory	256 GB (8x 32GB Registered DIMMs, 2933 MT/s)	
Network Controller	HPE FlexFabric 10Gb 2-port FLR-SFP+ 57810S Adapter	HPE Ethernet 10Gb 2-port FLR-T BCM57416 Adapter
Storage Controller	HPE Smart Array P408i-p controller **Notes:** Additional Storage controllers are available as options, to enable both SAS capability as well as provide data retention with flash-backed write cache (FBWC).	
Power Supply	4x 1600W	
	Notes: – 1600W Power supplies only support high line voltage (200VAC to 240VAC). – None Lot 9 compliant	
PCI-Express Slots	16 PCIe 3.0 slots available	
Hard Drive	None ship standard	
Internal Storage	8 SFF Drive Bays **Notes:** – Can be expanded up to a max. of 48 SFF drives, with optional HPE DL580 Gen10 8SFF HDD Bay Kit (878366-B21). – Optionally NVMe SSD drives can be added with HPE DL580 Gen10 Premium 6SFF and 2 NVMe or 8SFF Bay Kit (878364-B21) which can be added to Box1, 2 or 3 or HPE DL580 NVMe 8 SSD Express Bay Enablement Kit (878362-B21) which can be added to Box 1 (only 4 NVMe drives), Box 2 and Box 3. – Alternatively, optional HPE DL560 Gen10 Universal Media Bay Kit (872267-B21) can be added in Box 4.	
Optical Drive	Optional via Universal Media Bay	
Fans	12 hot plug fans, n+1 redundant	
Management	HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download);	
Form Factor	Rack (4U), HPE DL580 Gen10 4U Rail Kit with CMA	
Warranty	3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response	

Pre-configured Models

Performance Models		
SKU Number	P05671-B21 (WW) P05671-291 (JPN) P05671-AA1 (PRC)	P40459-B21 (WW) P40459-291 (JPN) P40459-AA1 (PRC)
Model Name	HPE ProLiant DL580 Gen10 8260 2.4GHz 24-core 4P 512GB-R P408i-p 8SFF 4x1600W RPS Server	
Processor	Intel® Xeon® 8260 (24-Core, 2.4GHz, 165W)	
Number of Processors	4	
Memory	512 GB (16x 32GB Registered DIMMs, 2933 MT/s)	
Network Controller	HPE Ethernet 10/25Gb 2-port FLR-SFP28 MCX4121A-ACFT Adapter	HPE Ethernet 10/25Gb 2-port FLR-SFP28 BCM57414 Adapter
Storage Controller	HPE Smart Array P408i-p controller **Notes:** Additional Storage controllers are available as options, to enable both SAS capability as well as provide data retention with flash-backed write cache (FBWC).	
Power Supply	4x 1600W	
	Notes: – 1600W Power supplies only support high line voltage (200VAC to 240VAC). – None Lot 9 compliant	
PCI-Express Slots	16 PCIe 3.0 slots available	
Hard Drive	None ship standard	
Internal Storage	8 SFF Drive Bays **Notes:** – Can be expanded up to a max. of 48 SFF drives, with optional HPE DL580 Gen10 8SFF HDD Bay Kit (878366-B21). – Optionally NVMe SSD drives can be added with HPE DL580 Gen10 Premium 6SFF and 2 NVMe or 8SFF Bay Kit (878364-B21) which can be added to Box1, 2 or 3 or HPE DL580 NVMe 8 SSD Express Bay Enablement Kit (878362-B21) which can be added to Box 1 (only 4 NVMe drives), Box 2 and Box 3. – Alternatively, optional HPE DL560 Gen10 Universal Media Bay Kit (872267-B21) can be added in Box 4.	
Optical Drive	Optional via Universal Media Bay	
Fans	12 hot plug fans, n+1 redundant	
Management	HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download); HPE iLO Advanced and HPE OneView Advanced	
Form Factor	Rack (4U), HPE DL580 Gen10 4U Rail Kit with CMA	
Warranty	3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response	

Pre-configured Models

Notes: 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.

European Union Erp Lot 9 Regulation

Beginning on January 1st, 2024, units sold into the European Union (EU), European Economic Area (EEA), the United Kingdom, or Switzerland must include more efficient AC power supplies: 94% for multi-output and 96% for single-output. HPE Flexible Slot power supplies are single-output, and part numbers 865438-B21, P03178-B21, and P44712-B21 are 96% efficient, thus meeting requirements.

HPE is on target to fulfil compliant systems ahead of time and will begin enforcing these requirements in advance to satisfy requests with the current power supplies by the set deadline.

For more information regarding HPE Lot 9 conformance, please visit:

https://www.hpe.com/us/en/about/environment/msds-specs-more.html

Country Code Key

xx1 = B21	Worldwide (excluds Japan and PRC)
xx1 = 291	Japan
xx1 = AA1	PRC

Configuration Information

This section lists some of the steps required to configure a Factory Integrated Model. To ensure only 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 the number of initial hard drives ordered with the 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)

Server description	HPE ProLiant DL580 Gen10 8SFF Configure-to-order Server
SKU Number	869854-B21
TAA SKU	878213-B21
Chipset	Intel® C621 Chipset
Processor	4U Server Chassis with 2 processor slots available; 3 or 4 processors configuration would require optional oLiant HPE DL5x0 Gen10 CPU Mezzanine Board Kit (872222-B21) HPE DL5x0 Gen10 CPU Version 2 Mezzanine Board Kit (P07991-B21)
DIMM Slots	24 DIMM slots for RDIMM, LRDIMM DDR4 Memory; (6 DIMM slots per processor can be used for NVDIMMs or can be used for HPE Persistent Memory) 48 DIMM configuration would require optional HPE ProLiant HPE DL5x0 Gen10 CPU Mezzanine Board Kit (872222-B21) and 4 processors **Notes:** If 2nd generation Intel® Xeon® Scalable processors are being used (82xx, 62xx or 52xx series) the 48 DIMM configuration would require optional HPE DL5x0 Gen10 CPU Version 2 Mezzanine Board Kit (P07991-B21)
Network Controller	None. FlexibleLOM slot (various options can be chosen for networking; NIC cards also available via expansion slots)
Storage Controller	HPE Smart Array S100i **Notes:** HPE Smart Array S100i SR Gen10 SW RAID is off by default and must be enabled. For enabling, please select HPE FIO Enable Smart Array SW RAID (784308-B21).
PCIe	None. Must order a primary riser (16 PCIe 3.0 slots are available if all processors are chosen and the primary, secondary and tertiary Riser Kits have been installed)
Drive Cage - included	8 SFF in Box 1, no drives
Fans	12 hot plug fans, (n+1) redundant

Configuration Information

Management	HPE iLO Standard with Intelligent Provisioning and (Standard); HPE OneView Standard (requires download) and HPE iLO Advanced (require additional licenses), HPE OneView Advanced (require additional licenses)
microSD Slots	1 microSD card slot (internal)
TPM Connector	1 Trusted Platform Module (TPM) connector
UEFI	BIOS Legacy mode (field configurable) or Unified Extensible Firmware Interface (UEFI) mode (default)
USB	7 USB ports (2 USB 2.0 and 5 USB 3.0), Optional 2 front available via universal media kit upgrade
Video Ports	2 video ports (1 front optional via the Universal Media Kit upgrade option, 1 rear)
Rails	HPE DL580 Gen10 4U Rail Kit with CMA

Notes:

- Trade Agreement Act (TAA) and means that these SKUs are manufactured in countries that are part of the global trade act. This provides greater security assurance that these servers come from countries that signed the agreement act. This is particularly important to HPE customers in our federal sector and other verticals that have concerns about the country of origin for our solutions.
- TAA chassis are only orderable in North America and Canada.
- PCIe slot availability is dependent on the number of processors and riser kits installed. Please refer to the "Expansion slots" section for more details.
- For four processors, the HPE DL5x0 Gen10 CPU Version 2 Mezzanine Board Kit (P07991-B21) is required if 2nd generation Intel® Xeon® Scalable processors are being used.
- This applies to CTO configurations, field upgrades may differ depending on field configuration.
- For more information about riser configuration, please visit: **https://h20195.www2.hpe.com/v2/Getdocument.aspx?docname=a00043229enw**
- DL500 family is identified as Resilent Server category under LOT 9 regulation, system minimum configuration with 2 Memory DIMMs and 2 PSUs for CE Market.

Step 2: Choose Required Options

Please select one -L21 processor required below.

Step 2a: Choose Processor Options

Processor Option Kits

Description	SKU
Intel Xeon-Platinum 8280L (2.7GHz/28-core/205W) FIO Processor Kit for HPE ProLiant DL580 Gen10	P05713-L21
Notes: Ships with Performance Heatsink.	
Intel Xeon-Platinum 8280 (2.7GHz/28-core/205W) FIO Processor Kit for HPE ProLiant DL580 Gen10	P05716-L21
Notes: Ships with Performance Heatsink.	
Intel Xeon-Platinum 8276L (2.2GHz/28-core/165W) FIO Processor Kit for HPE ProLiant DL580 Gen10	P05722-L21

Configuration Information

Notes: Ships with Performance Heatsink.

Intel Xeon-Platinum 8270 (2.7GHz/26-core/205W) FIO Processor Kit for HPE ProLiant DL580 Gen10	P05712-L21

Notes: Ships with Performance Heatsink.

Intel Xeon-Platinum 8268 (2.9GHz/24-core/205W) FIO Processor Kit for HPE ProLiant DL580 Gen10	P05711-L21

Notes: Ships with Performance Heatsink.

Intel Xeon-Platinum 8260 (2.4GHz/24-core/165W) FIO Processor Kit for HPE ProLiant DL580 Gen10	P05708-L21

Notes: Ships with Performance Heatsink.

Intel Xeon-Gold 6256 (3.6GHz/12-core/205W) FIO Processor Kit for HPE ProLiant DL580 Gen10	P24436-L21

Notes: Ships with Performance Heatsink.

Intel Xeon-Gold 6254 (3.1GHz/18-core/200W) FIO Processor Kit for HPE ProLiant DL580 Gen10	P05704-L21

Notes: Ships with Performance Heatsink.

Intel Xeon-Gold 6252 (2.1GHz/24-core/150W) FIO Processor Kit for HPE ProLiant DL580 Gen10	P05703-L21

Notes: Ships with Performance Heatsink.

Intel Xeon-Gold 6248 (2.5GHz/20-core/150W) FIO Processor Kit for HPE ProLiant DL580 Gen10	P05701-L21

Notes: Ships with Performance Heatsink.

Intel Xeon-Gold 6246 (3.3GHz/12-core/165W) FIO Processor Kit for HPE ProLiant DL580 Gen10	P15748-L21

Notes: Ships with Performance Heatsink.

Step 2b: Choose Memory Options (at least one Memory Kit is required)

Only one of the following from each list unless otherwise noted

Memory Options

Registered DIMMs (RDIMMs)

HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00918-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00920-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00922-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00924-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00930-B21

Load Reduced DIMMs (LRDIMMs)

Configuration Information

HPE 128GB (1x128GB) Quad Rank x4 DDR4-2933 CAS-21-21-21 Load Reduced Smart Memory Kit	P11040-B21

HPE Persistent Memory

Intel Optane 128GB persistent memory 100 Series for HPE	835804-B21
Intel Optane 256GB persistent memory 100 Series for HPE	835807-B21
Intel Optane 512GB persistent memory 100 Series for HPE	835810-B21

Notes:

- LRDIMM and RDIMM are distinct memory technologies and cannot be mixed within a server.
- The 2933 MT/s memory DIMMs are supported with the 2nd generation Intel® Xeon® Scalable processors (82xx,62xx and 52xx)
- The 2666 MT/s memory DIMMs are supported with the 1st generation Intel® Xeon® Scalable processors (81xx,61xx and 51xx).
- The HPE Persistent Memory kits are only supported with the 2nd generation Intel® Xeon® Scalable processors
- The HPE Persistent Memory kits are required to support up to 2 TB on 'M" processors and up to 4.5TB on 'L' processors
- The HPE Persistent Memory kits cannot be selected with NVDIMMs or with any single rank x8 DDR4 2933 memory kit
- The HPE Persistent Memory cannot be supported in a 3P configuration
- HPE Persistent Memory kits of different capacities cannot be mixed within a server
- For General Server Memory , HPE Persistent Memory and NVDIMM Population Rules and Guidelines for Gen10 see details here: **http://www.hpe.com/docs/memory-population-rules**

Step 2c: Choose Power Supplies (at least one Power Supply Kit is required)

Only one or more of the following from each list unless otherwise noted

Power Supplies

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 1000W Flex Slot Titanium Hot Plug Power Supply Kit	P03178-B21
HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	830272-B21
HPE 1800W-2200W Flex Slot Titanium Hot Plug Power Supply Kit	P44712-B21

Notes: Output capped at 1600W maximum on Gen10 & Gen10 Plus servers, greater than 1600W only feasible on Gen11." Similar to the one currently stated on FlexSlot PSUs

Notes:

- Select one or more power supplies. For 800W, 4 power supplies need to be selected.
- 1600W Power supplies only support high line voltage (200VAC to 240VAC).
- The -48VDC power supply cannot be selected with the HPE Persistent Memory kits
- Prior to making a power supply selection it is highly recommended that the HPE Power Advisor is run to determine the right size power supply for your server configuration. The HPE Power Advisor is located at: **http://www.hpe.com/info/hppoweradvisor**.
- All power supplies in a server should match. Mixing Power Supplies is not supported.
- HPE ProLiant servers ship with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs). Visit **HPE power cords** for a full list of optional power cords.
- DL500 family is identified as Resilent Server category under LOT 9 regulation, system minimum

Configuration Information

configuration with 2 Memory DIMMs and 2 PSUs for CE Market.

– Beginning on January 1st, 2024, units sold into the European Union (EU), European Economic Area (EEA), the United Kingdom, or Switzerland must include more efficient AC power supplies: 94% for multi-output and 96% for single-output. HPE Flexible Slot power supplies are single-output, and part numbers 865438-B21, P03178-B21, and P44712-B21 are 96% efficient, thus meeting requirements. HPE is on target to fulfil compliant systems ahead of time and will begin enforcing these requirements in advance to satisfy requests with the current power supplies by the set deadline.

Step 2d: Choose network adapters (at least one adapter is required)

Only one of the following from each list unless otherwise noted

Network adapters

HPE Ethernet 1Gb 4-port FLR-T BCM5719 Adapter	629135-B22
HPE Ethernet 1Gb 4-port FLR-T I350-T4V2 Adapter	665240-B21
HPE Ethernet 10Gb 2-port FLR-T BCM57416 Adapter	817721-B21
HPE Ethernet 10Gb 2-port FLR-SFP+ X710-DA2 Adapter	727054-B21
HPE Ethernet 10Gb 2-port FLR-T X550-AT2 Adapter	817745-B21
HPE Ethernet 10/25Gb 2-port FLR-SFP28 BCM57414 Adapter	817709-B21
HPE Ethernet 10/25Gb 2-port FLR-SFP28 MCX4121A-ACFT Adapter	817749-B21

Step 3: Choose Additional Factory Integratable Options

Only one of the following from each list unless otherwise noted

HPE Gen10 TPM 1.2 FIO Setting	872108-B21

Notes: TPM 2.0 is set as default, for 1.2 TPM setting instead, please select this option.

HPE OneView

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

BIOS Mode

HPE Legacy FIO Mode Setting	758959-B22

Notes: Selecting this option will change the UEFI BIOS setting into Legacy BIOS Setting.

Controller State

HPE FIO Enable Smart Array SW RAID	784308-B21

Notes: If not selecting an HPE Storage Controller, this option may be selected to support RAID and Hot-plug capabilities for SATA hard drives. The S100i does not support SAS hard drives.

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

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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 an Hewlett Packard Enterprise approved configurator. Contact your local sales representative for additional information.

HPE Unique Options

HPE DL38x Gen10 8-pin Keyed Cable Kit 871829-B21

Notes:

- Must be ordered if P40/ V100 is selected. If more than 3 GPUs are selected ,then 2 Quantity of cable kit is required.
- The HPE DL580 Gen10 8SFF HDD Bay Kit (878366-B21) is shipped default with the server.
- A minimum of 1 primary riser must be ordered.

HPE DL38X/560/580/ML350 Gen10 P824i-p Cable Kit P00614-B21

Notes: Needs to be ordered with the SmartArray P824i-p MR Gen10 controller.

HPE Processors

Intel Xeon-Platinum 8268 (2.9GHz/24-core/205W) Processor Kit for HPE ProLiant DL580 Gen10 P05711-B21

Notes: Ships with Performance Heatsink.

Intel Xeon-Platinum 8260 (2.4GHz/24-core/165W) Processor Kit for HPE ProLiant DL580 Gen10 P05708-B21

Notes: Ships with Performance Heatsink.

Intel Xeon-Gold 6252 (2.1GHz/24-core/150W) Processor Kit for HPE ProLiant DL580 Gen10 P05703-B21

Notes: Ships with Performance Heatsink.

Memory Selection

To streamline the configuration process for HPE ProLiant Gen10 servers and to provide the best product availability, Hewlett Packard Enterprise recommends memory from the list located here: **http://www.hpe.com/products/recommend**.

Best product availability is limited to US, Canada, and Latin America at this time.

HPE Memory

Hewlett Packard Enterprise memory from previous generation servers is not qualified or warranted with this HPE ProLiant Server. HPE Smart Memory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen10. For additional information, please see the **HPE Smart Memory QuickSpecs**.

LRDIMM and RDIMM are all distinct memory technologies and cannot be mixed within a server.

Registered DIMMs (RDIMMs)

Core Options

HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00918-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00920-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00922-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00924-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00930-B21

Load Reduced DIMMs (LRDIMMs)

HPE 128GB (1x128GB) Quad Rank x4 DDR4-2933 CAS-21-21-21 Load Reduced Smart Memory Kit	P11040-B21

Notes:

- The maximum memory speed is a function of the memory type, memory configuration, and processor model.
- LRDIMM and RDIMM are distinct memory technologies and cannot be mixed within a server.
- The 2666 MT/s DIMMs are only supported with the 1st generation Intel® Xeon® Scalable processors (81xx,61xx and 51xx)
- The 2933MT/s DIMMs are only supported with the 2nd generation Intel® Xeon® Scalable processors (82xx,62xx and 52xx).

HPE Persistent Memory

Intel Optane 128GB persistent memory 100 Series for HPE	835804-B21
Intel Optane 512GB persistent memory 100 Series for HPE	835810-B21

Notes:

- A maximum of 6 HPE Persistent Memory kits per processor and a maximum of 24 kits are supported
- The HPE Persistent Memory kits are only supported with the 2nd generation Intel® Xeon® Scalable processors
- The HPE Persistent Memory kits are required to support up to 2 TB on 'M" processors and up to 4.5TB on 'L' processors
- The HPE Persistent Memory kits cannot be selected with NVDIMMs or with any single rank x8 DDR4 2933 memory kit
- HPE Persistent Memory cannot be supported in a 3P configuration
- Persistent Memory kits of different capacities cannot be mixed within a server

Core Options

Configuration	HPE Persistent Memory kits	Number of RDIMMs or LRDIMMs required
1P	1	6
	2	4,6 or 8
	4	6
	6	6
2P	2	12
	4	8, 12 or 16
	8	12
	12	12
4P	4	24
	8	16,24 or 32
	16	24
	24	24

Notes: Please refer to **http://www.hpe.com/info/persistentmemory** for HPE Persistent Memory population rules and guidelines.

HPE Optical Drives

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

Notes: The optional Universal Media Bay Kits are required for this option. (HPE ProLiant DL560 Gen10 Universal Media Bay kit 872267-B21).

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

Notes: The optional Universal Media Bay Kits are required for this option. (HPE ProLiant DL560 Gen10 Universal Media Bay kit 872267-B21).

HPE Mobile USB DVD-RW Optical Drive 701498-B21

Notes: External

HPE Drives

Notes:

- The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.
- Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

Enterprise - 12G SAS - SFF Drives

Core Options

HPE 300GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870753-B21
HPE 300GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	872475-B21
HPE 600GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870757-B21
HPE 600GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	872477-B21
HPE 900GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870759-B21
HPE 1.2TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	872479-B21
HPE 1.8TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD	872481-B21
HPE 2.4TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD	881457-B21
Midline - 12G SAS - SFF Drives	
HPE 1TB SAS 12G Business Critical 7.2K SFF SC 1-year Warranty HDD	832514-B21
HPE 2TB SAS 12G Business Critical 7.2K SFF SC 1-year Warranty 512e HDD	765466-B21

SSD Selection

To streamline the configuration process for HPE ProLiant Gen10 servers and to provide the best product availability, Hewlett Packard Enterprise recommends SSDs from the list located here: **http://www.hpe.com/products/recommend**.

Read Intensive - SAS - SFF - Solid State Drives	
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
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 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 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 15.36TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	P49044-B21
Read Intensive - SATA - SFF - Solid State Drives	
HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18420-B21
HPE 480GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18422-B21
HPE 960GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18424-B21
HPE 1.92TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18426-B21
Read Intensive - SATA - SFF - Solid State Drives	
HPE 3.84TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18428-B21
Read Intensive - NVMe - SFF U.2 Solid State Drives	
HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN U.2 P5520 SSD	P51452-B21

Core Options

HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.2 V2 Multi Vendor SSD	P64874-B21
HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.2 V2 Multi Vendor SSD	P64882-B21
HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SCN U.2 P5520 SSD	P51456-B21
HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.2 V2 Multi Vendor SSD	P64890-B21
Read Intensive- NVMe -SFF- U.3 - Solid State Drives	
HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733a SSD	P50214-B21
HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733a SSD	P50217-B21

Notes:

- **Warning:** In order to have SED feature on NVMe SED drives connected via direct attach,
- Local Key Management requires TPM2.0
- Remote Key Management requires iLO Adv
- Requirements for Direct Attach SED support:
  - TPM2.0 is required for Local Key Management. Keys will be encrypted locally by TPM and stored locally.
  - iLO Adv is required for Remote Key Management. Key is stored in remote key manager(Ex.ESKM)
- Requirements for MR controller(BRCM) SED support
  - TPM is not required for Local Key Management as Key is stored in controller
  - iLO Adv is required for Remote Key Management. Key is stored in remote key manager(Ex.ESKM)

Write Intensive - NVMe - SFF - Solid State Drives	
Read Intensive - M.2 - Solid State Drives	
HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	P47818-B21
Mixed Use - SAS - SFF - Solid State Drives	
HPE 800GB SAS 12G Mixed Use SFF SC Multi Vendor SSD	P49046-B21
HPE 960GB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	P37005-B21
HPE 1.6TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	P49048-B21
HPE 1.92TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	P37011-B21
HPE 3.2TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	P49052-B21
HPE 3.84TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	P37017-B21
HPE 6.4TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	P49056-B21
Mixed Use - SATA - SFF - Solid State Drives	
HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18432-B21

Core Options

HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18434-B21
HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18436-B21
HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18438-B21
Mixed Use - NVMe - U.3 - Solid State Drives	
HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735a SSD	P50225-B21
HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735a SSD	P50228-B21
Mixed Use - NVMe - SFF - U.2 -Solid State Drives	
HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.2 P5620 SSD	P51458-B21
HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.2 V2 Multi Vendor SSD	P64870-B21
HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.2 P5620 SSD	P51460-B21
HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.2 V2 Multi Vendor SSD	P64878-B21
HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.2 P5620 SSD	P51462-B21
HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.2 V2 Multi Vendor SSD	P64886-B21

Notes:

- A NVMe (878366-B21) or Premium (878364-B21) drive cage are required to support these drives in conjunction with an NVMe riser Option. Consult pages 11-13 for recommended NVMe server configurations.
- NVMe drives are not supported by HPE Smart Array controllers.

Hard Drive Blank Kits

HPE Small Form Factor Hard Drive Blank Kit	666987-B21

Hard Drive Kits

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

NVMe Kit

HPE NS204i-p x2 Lanes NVMe PCIe3 x8 OS Boot Device	P12965-B21

HPE Networking

100 Gigabit Ethernet adapters

HPE Ethernet 100Gb 1-port QSFP28 MCX515A-CCAT Adapter	874253-B21

25 Gigabit Ethernet adapters

HPE Ethernet 10/25Gb 2-port SFP28 MCX4121A-ACUT Adapter	817753-B21

Core Options

10 Gigabit Ethernet adapters

HPE Ethernet 10Gb 2-port BASE-T BCM57416 Adapter	813661-B21
HPE Ethernet 10Gb 2-port BASE-T X550-AT2 Adapter	817738-B21
HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter	727055-B21

Notes:

- A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.
- Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately. Please see the related NIC QuickSpecs for Technical Specifications and additional information: **https://www.hpe.com/us/en/product-catalog/servers/server-adapters.hits-12.html**.

1 Gigabit Ethernet adapters

HPE Ethernet 1Gb 4-port BASE-T BCM5719 Adapter	647594-B21
HPE Ethernet 1Gb 4-port BASE-T I350-T4V2 Adapter	811546-B21
HPE Ethernet 1Gb 2-port BASE-T BCM5720 Adapter	615732-B21

FlexibleLOM Adapters

HPE Ethernet 1Gb 4-port FLR-T BCM5719 Adapter	629135-B22
HPE Ethernet 1Gb 4-port FLR-T I350-T4V2 Adapter	665240-B21
HPE Ethernet 10Gb 2-port FLR-T BCM57416 Adapter	817721-B21
HPE Ethernet 10Gb 2-port FLR-SFP+ X710-DA2 Adapter	727054-B21
HPE Ethernet 10Gb 2-port FLR-T X550-AT2 Adapter	817745-B21
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

Notes: Please see the NIC QuickSpecs for Technical Specifications and additional information:

https://www.hpe.com/us/en/product-catalog/servers/server-adapters.hits-12.html

HPE InfiniBand

HPE InfiniBand FDR/Ethernet 40/50Gb 2-port 547FLR-QSFP Adapter	879482-B21
HPE 100Gb 1-port OP101 QSFP28 x16 PCIe Gen3 with Intel Omni-Path Architecture Adapter	829335-B21
HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe3 x16 MCX653105A-ECAT Adapter	P06250-B21
HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe3 x16 MCX653106A-ECAT Adapter	P06251-B21

Notes: Not supported on DL580 Gen10 configurations with more than 24SFF bays when system inlet temperature is higher than 25°C.

HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe3 x16 MCX653105A-HDAT Adapter	P06154-B21

Notes: Not supported on DL580 Gen10 configurations with more than 24SFF bays when system inlet temperature is higher than 25°C.

HPE InfiniBand HDR PCIe3 Auxiliary Card with 350mm Cable Kit	P06154-B23

Notes: For additional InfiniBand information: **https://www.hpe.com/h20195/v2/GetHTML.aspx?docname=c04154440**

HPE I/O Expansion Options

Core Options

Notes:

- Includes the tertiary riser kit.
- A maximum of 2 risers can be selected, 1 primary riser and another secondary riser (which includes tertiary riser kit).
- Risers are optional kits which can be utilized depending on riser and processor selection. Refer to "Expansion Slots" section for additional details on risers.
- For more information about riser configuration, please visit: **https://h20195.www2.hpe.com/v2/Getdocument.aspx?docname=a00043229enw**

HPE Smart I/O Expansion Options

Pensando Distributed Services Platform DSC-25 Enterprise 10/25Gb 2-port SFP28 Card	P26966-B21
Pensando Distributed Services Platform Enterprise 1-year Renewal Subscription 24x7 Support E-RTU	R6A06AAE
Pensando Distributed Services Platform Enterprise 3-year Subscription 24x7 Support E-RTU	R6A07AAE
Pensando Distributed Services Platform Enterprise 4-year Subscription 24x7 Support E-RTU	R6F68AAE
Pensando Distributed Services Platform Enterprise 5-year Subscription 24x7 Support E-RTU	R6A08AAE
Pensando Distributed Services Platform Enterprise Pro 1-year Renewal Subscription 24x7 Support E-RTU	R6A09AAE
Pensando Distributed Services Platform Enterprise Pro 3-year Subscription 24x7 Support E-RTU	R6A10AAE
Pensando Distributed Services Platform Enterprise Pro 4-year Subscription 24x7 Support E-RTU	R6F69AAE
Pensando Distributed Services Platform Enterprise Pro 5-year Subscription 24x7 Support E-RTU	R6A11AAE

HPE Power Supplies

HPE 1800W-2200W Flex Slot Titanium Hot Plug Power Supply Kit — P44712-B21

Notes: Output capped at 1600W maximum on Gen10 & Gen10 Plus servers, greater than 1600W only feasible on Gen11." Similar to the one currently stated on FlexSlot PSUs

HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit — 830272-B21

Notes:

- Flex Slot Platinum Plus power supplies support power efficiency of up to 94% and include a C-14 power inlet connector that can support HPE Power Discovery Services (blue connector).
- 1600W Power supplies only support high line voltage (200VAC to 240VAC).

HPE 1000W Flex Slot Titanium Hot Plug Power Supply Kit — P03178-B21

Notes: Flex Slot Titanium power supplies support power efficiency of up to 96% and include a standard C-14 power inlet connector.

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

Notes:

Core Options

- The -48VDC power supply cannot be selected with the HPE Persistent Memory kits
- 4x 800W power supplies must be selected.
- Flex Slot Platinum power supplies support power efficiency of up to 94% and include a standard C-14 power inlet connector.
- Prior to making a power supply selection it is highly recommended that the HPE Power Advisor is run to determine the right size power supply for your server configuration. The HPE Power Advisor is located at: **http://www.hpe.com/info/hppoweradvisor**.
- All power supplies in a server should match. Mixing Power Supplies is not supported.
- Option kits contain the specified power supply and a PDU IEC cable.
- HPE ProLiant servers ship with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs). Visit **HPE power cords** for a full list of optional HPE power cords.
- DL500 family is identified as Resilent Server category under LOT 9 regulation, system minimum configuration with 2 Memory DIMMs and 2 PSUs for CE Market.
- Beginning on January 1st, 2024, units sold into the European Union (EU), European Economic Area (EEA), the United Kingdom, or Switzerland must include more efficient AC power supplies: 94% for multi-output and 96% for single-output. HPE Flexible Slot power supplies are single-output, and part numbers 865438-B21, P03178-B21, and P44712-B21 are 96% efficient, thus meeting requirements. HPE is on target to fulfil compliant systems ahead of time and will begin enforcing these requirements in advance to satisfy requests with the current power supplies by the set deadline.

GPU

HPE Computational Accelerators				
Part number	**Card**	**Qty support**	**Processor support**	**PCIe speed**
Q0V80C	NVIDIA Tesla P40 24GB Module	4	All	Gen3
Q9U36C	NVIDIA Tesla V100 PCIe 32GB Module	4	All	Gen3
R0Z45C	HPE NVIDIA Quadro RTX6000 GPU	4	All	Gen3
R1F97C	HPE NVIDIA Quadro RTX8000 GPU	4	All	Gen3
R9P49C	NVIDIA A100 80GB PCIe Non-CEC Accelerator for HPE	4	All	Gen3
R9S37C	NVIDIA A40 48GB PCIe Non-CEC Accelerator for HPE	4	All	Gen3

Notes:

- Check the power usage via the HPE Power Advisor Tool located at **http://www.hpe.com/info/hppoweradvisor**.
- A maximum of four GPU cards can be supported, two in primary riser expansion slots (2 and 4) and another two in secondary riser expansion slots (9 and 11). A GPU bracket (P00268-B21) kit is needed to install GPUs in slots 4 and 11 and must be be ordered along with the GPU cable kits 871829-B21 (for P40, V100). Refer Expansion Slots sections for additional details on risers.
- Primary riser expansion slots 2 and 4 are connected to Processor 3. Secondary riser expansion slots 9

Core Options

and 11 are connected to Processor 4. This mandates a minimum of 3 processors for a 2 GPU configuration and 4 processors for a 4 GPU configuration. Refer to Expansion slots to review processor and slots availability.

– 1 cable kit supports three GPUs and two cable kits must be ordered when supporting four GPUs.

GPGPU Thermal considerations

Server configurations employing GPGPU Accelerators may require additional thermal considerations due to their operating power and the thermal cooling solution employed (on-card active fan or passive heat sink). Support of GPGPU server configurations with multiple storage devices guaranteeing full GPGPU performance requires the server configured as outlined in the following table restricting inlet air temperatures as follows:

Card	P40	32GB V100	Recommended DL580 Drive bay configuration			
Part number	Q0V80C	Q9U36C				
Qty	4	4				
Processors supported	All	All	8 SFF	8 NVMe	6+2 Premium	UMB
8SFF	35C	35C	Bay 1			
16SFF	35C	30C	Bay 1 and 4			
24SFF	35C	30C	Bay 1, 4 and 5			
32SFF	35C	30C	Bay 1, 4, 5 and 6			
40SFF	25C	25C	Bay 1, 2, 4, 5 and 6			
48SFF	Not supported	Not supported				

Card	P40	32GB V100	Recommended DL580 Drive bay configuration			
1 Premium (6+2)	35C	25C			Bay 2	
1 Premium (6+2) + 8SFF	35C	25C	Bay 1		Bay 2	
1 Premium (6+2) + 6SFF	35C	25C	Bay 1 and 4		Bay 2	
1 Premium (6+2) + 4SFF	25C	25C	Bay 1, 4 and 5		Bay 2	
1 Premium (6+2) +32SFF	Not supported	Not supported	Bay 1, 4, 5 and 6		Bay 2	
1 Premium (6+2) +40SFF	Not supported	Not supported				
Card	**P40**	**32GB V100**	**Recommended DL580 Drive bay configuration**			
2 Premium (6+2)	30C	25C			Bay 2 and 3	
2 Premium (6+2) + 8SFF	25C	25C	Bay 1		Bay 2 and 3	
2 Premium (6+2) 16SFF	25C	25C	Bay 1 and 4		Bay 2 and 3	
2 Premium (6+2) + 4SFF	Not supported	Not supported	Bay 1, 4, and 6		Bay 2 and 3	

Core Options

Card	P40	32GB V100	Recommended DL580 Drive bay configuration			
2 Premium (6+2) + 2SFF	Not supported	Not supported				
3 Premium (6+2)	25C	25C			Bay 1, 2 and 3	
3 Premium (6+2) + 8SFF	25C	25C	Bay 4		Bay 1, 2 and 3	
3 Premium (6+2) + 6SFF	Not supported	Not supported	Bay 4 and 6		Bay 1, 2 and 3	
3 Premium (6+2) + 4SFF	Not supported	Not supported				
8NVMe	35C	25C		Bay 2		

Card	P40	32GB V100	Recommended DL580 Drive bay configuration			
Media Bay	35C	35C				Bay 4
Media Bay + 8SFF	35C	35C	Bay 1			Bay 4
Media Bay + 16SFF	35C	30C	Bay 1 and 5			Bay 4
Media Bay + 24SFF	35C	30C	Bay 1, 5 and 6			Bay 4
Media Bay + 32SFF	25C	25C	Bay 1, 2, 5 and 6			Bay 4
Media Bay + 40SFF	Not supported	Not supported				

Card	P40	32GB V100	Recommended DL580 Drive bay configuration			
8NVMe + 8SFF	35C	25C	Bay 1	Bay 2		
8NVMe + 16SFF	35C	25C	Bay 1 and 4	Bay 2		
8NVMe + 24SFF	25C	25C	Bay 1, 4 and 5	Bay 2		
8NVMe + 32SFF	Not supported	Not supported	Bay 1, 4, 5 and 6	Bay 2		
8NVMe + 40SFF	Not supported	Not supported				
16NVMe	Not supported	Not supported				
16NVMe +8SFF	Not supported	Not supported				
16NVMe +16SFF	Not supported	Not supported				
16NVMe +24SFF	Not supported	Not supported				
16NVMe +32SFF	Not supported	Not supported				
20NVMe	Not supported	Not supported				
20NVMe+8SFF	Not supported	Not supported				
20NVMe+16SFF	Not supported	Not supported				
20NVMe+24SFF	Not supported	Not supported				

Core Options

Card	P40	32GB V100	Recommended DL580 Drive bay configuration			
1 Premium (6+2) + 32SFF	Not supported	Not supported	Bay 1, 4, 5 and 6		Bay 2	
1 Premium (6+2) + 40SFF	Not supported	Not supported				
2 Premium (6+2)	30C	25C			Bay 2 and 3	
2 Premium (6+2) + 8SFF	25C	25C	Bay 1		Bay 2 and 3	
2 Premium (6+2) + 16SFF	25C	25C	Bay 1 and 4		Bay 2 and 3	
2 Premium (6+2) + 24SFF	Not supported	Not supported	Bay 1, 4, and 6		Bay 2 and 3	
2 Premium (6+2) + 32SFF	Not supported	Not supported				

Card	P40	32GB V100	Recommended DL580 Drive bay configuration			
Part number	Q0V80C	Q9U36C				
Qty	2	2				
Processor supported	All	All	8 SFF	8 NVMe	6+2 Premium	UMB
8SFF	35C	35C	Bay 1			
16SFF	35C	30C	Bay 1 and 4			
24SFF	35C	30C	Bay 1, 4 and 5			
32SFF	35C	30C	Bay 1, 4, 5 and 6			
40SFF	25C	25C	Bay 1, 2, 4, 5 and 6			
48SFF	Not supported	Not supported				
1 Premium (6+2)	35C	25C			Bay 2	
1 Premium (6+2) + 8SFF	35C	25C	Bay 1		Bay 2	
1 Premium (6+2) + 16SFF	35C	25C	Bay 1 and 4		Bay 2	
1 Premium (6+2) + 24SFF	25C	25C	Bay 1, 4 and 5		Bay 2	

Core Options

Card	P40	32GB V100	Recommended DL580 Drive bay configuration			
16NVMe +24SFF	Not supported	Not supported	Bay 1, 4 and 6	Bay 2 and 3		
16NVMe +32SFF	Not supported	Not supported				
20NVMe	25C	Not supported		Bay 1, 2 and 3		
20NVMe+8SFF	25C	Not supported	Bay 4	Bay 1, 2 and 3		
20NVMe+16SFF	Not supported	Not supported	Bay 4 and 6	Bay 1, 2 and 3		
20NVMe+24SFF	Not supported	Not supported				
Media Bay	35C	35C				Bay 4
Media Bay + 8SFF	35C	35C	Bay 1			Bay 4
Media Bay + 16SFF	35C	30C	Bay 1 and 5			Bay 4
Media Bay + 24SFF	35C	30C	Bay 1, 5 and 6			Bay 4
Media Bay + 32SFF	25C	25C	Bay 1, 2, 5 and 6			Bay 4
Media Bay + 40SFF	Not supported	Not supported				

Card	P40	32GB V100	Recommended DL580 Drive bay configuration			
3 Premium (6+2)	25C	25C			Bay 1, 2 and 3	
3 Premium (6+2) + 8SFF	25C	25C	Bay 4		Bay 1, 2 and 3	
3 Premium (6+2) + 16SFF	Not supported	Not supported	Bay 4 and 6		Bay 1, 2 and 3	
3 Premium (6+2) + 24SFF	Not supported	Not supported				
8NVMe	35C	25C		Bay 2		
8NVMe + 8SFF	35C	25C	Bay 1	Bay 2		
8NVMe + 16SFF	35C	25C	Bay 1 and 4	Bay 2		
8NVMe + 24SFF	25C	25C	Bay 1, 4 and 5	Bay 2		
8NVMe + 32SFF	Not supported	Not supported	Bay 1, 4, 5 and 6	Bay 2		
8NVMe + 40SFF	Not supported	Not supported				
16NVMe	30C	Not supported		Bay 2 and 3		
16NVMe +8SFF	25C	Not supported	Bay 1	Bay 2 and 3		
16NVMe +16SFF	25C	Not supported	Bay 1 and 4	Bay 2 and 3		

Core Options

Card	RTX8000	RTX6000	Recommended DL580 Drive bay configuration			
Part number	R1F97C	R0Z45C				
Qty	2/4	2/4				
Processors supported	All	All	8 SFF	8 NVMe	6+2 Premium	UMB
8SFF	35C	35C	Bay 1			
16SFF	35C	35C	Bay 1 and 4			
24SFF	35C	35C	Bay 1, 4 and 5			
32SFF	35C	35C	Bay 1, 4, 5 and 6			
40SFF	35C	35C	Bay 1, 2, 4, 5 and 6			
48SFF	35C	35C	Bay 1-6			

Card	RTX8000	RTX6000	Recommended DL580 Drive bay configuration			
Qty	2/4	2/4				
1 Premium (6+2)	35C	35C			Bay 2	
1 Premium (6+2) + 8SFF	35C	35C	Bay 1		Bay 2	
1 Premium (6+2) + 16SFF	35C	35C	Bay 1 and 4		Bay 2	
1 Premium (6+2) + 24SFF	35C	35C	Bay 1, 4 and 5		Bay 2	
1 Premium (6+2) +32SFF	35C	35C	Bay 1, 4, 5 and 6		Bay 2	
1 Premium (6+2) +40SFF	35C	35C	Bay 1, 3,4, 5 and 6		Bay 2	

Card	RTX8000	RTX6000	Recommended DL580 Drive bay configuration			
Qty	2/4	2/4				
2 Premium (6+2)	35C	35C			Bay 2 and 3	
2 Premium (6+2) + 8SFF	35C	35C	Bay 1		Bay 2 and 3	
2 Premium (6+2) 16SFF	35C	35C	Bay 1 and 4		Bay 2 and 3	
2 Premium (6+2) + 24SFF	35C	35C	Bay 1, 4, and 6		Bay 2 and 3	
3 Premium (6+2) + 32SFF	35C	35C	Bay 1, 4, 5 and 6		Bay 2 and 3	
3 Premium (6+2)	35C	35C			Bay 1, 2 and 3	
3 Premium (6+2) + 8SFF	35C	35C	Bay 4		Bay 1, 2 and 3	
3 Premium (6+2) + 16SFF	35C	35C	Bay 4 and 6		Bay 1, 2 and 3	

Core Options

3 Premium (6+2) + 24SFF	35C	35C				

Card	**RTX8000**	**RTX6000**	**Recommended DL580 Drive bay configuration**			
Qty	2/4	2/4				
Media Bay	35C	35C				Bay 4
Media Bay + 8SFF	35C	35C	Bay 1			Bay 4
Media Bay + 16SFF	35C	35C	Bay 1 and 5			Bay 4
Media Bay + 24SFF	35C	35C	Bay 1, 5 and 6			Bay 4
Media Bay + 32SFF	35C	35C	Bay 1, 2, 5 and 6			Bay 4
Media Bay + 40SFF	35C	35C	Bay 1, 2, 3, 5 and 6			Bay 5

Card	**RTX8000**	**RTX6000**	**Recommended DL580 Drive bay configuration**			
Qty	2/4	2/4				
8NVMe	35C	35C		Bay 2		
8NVMe + 8SFF	35C	35C	Bay 1	Bay 2		
8NVMe + 16SFF	35C	35C	Bay 1 and 4	Bay 2		
8NVMe + 24SFF	35C	35C	Bay 1, 4 and 5	Bay 2		
8NVMe + 32SFF	35C	35C	Bay 1, 4, 5 and 6	Bay 2		
8NVMe + 40SFF	35C	35C	Bay 1, 3, 4, 5 and 6	Bay 2		

Card	**RTX8000**	**RTX6000**	**Recommended DL580 Drive bay configuration**			
Qty	2	2				
16NVMe	35C	35C		Bay 2 and 3		
16NVMe +8SFF	35C	35C	Bay 1	Bay 2 and 3		
16NVMe +16SFF	35C	35C	Bay 1 and 4	Bay 2 and 3		
16NVMe +24SFF	35C	35C	Bay 1, 4 and 6	Bay 2 and 3		
16NVMe +32SFF	35C	35C	Bay 1, 4, 5 and 6	Bay 2 and 3		
20NVMe	35C	35C		Bay 1, 2 and 3		
20NVMe+8SFF	35C	35C	Bay 4	Bay 1, 2 and 3		
20NVMe+16SFF	35C	35C	Bay 4 and 6	Bay 1, 2 and 3		
20NVMe+24SFF	35C	35C	Bay 4, 5 and 6	Bay 1, 2 and 3		

Core Options

Card	RTX8000	RTX6000	Recommended DL580 Drive bay configuration			
Qty	4	4				
16NVMe	Not supported	Not supported				
16NVMe +8SFF	Not supported	Not supported				
16NVMe +16SFF	Not supported	Not supported				
16NVMe +24SFF	Not supported	Not supported				
16NVMe +32SFF	Not supported	Not supported				
20NVMe	Not supported	Not supported				
20NVMe+8SFF	Not supported	Not supported				
20NVMe+16SFF	Not supported	Not supported				
20NVMe+24SFF	Not supported	Not supported				

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.

iLO Advanced

HPE iLO Common Password FIO Setting	P08040-B21
HPE iLO Advanced Electronic License with 1yr Support on iLO Licensed Features	E6U59ABE
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
HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features	512485-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

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Software as a Service Management

HPE GreenLake for Compute Ops Management

HPE GreenLake for Compute Ops Management Enhanced 3-year Upfront ProLiant SaaS	R7A11AAE

Additional Options

HPE GreenLake for Compute Ops Management Enhanced 1-year Upfront ProLiant SaaS	R7A10AAE
HPE GreenLake for Compute Ops Management Enhanced 5-year Upfront ProLiant SaaS	R7A12AAE

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 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 for ProLiant DL Server including 3yr 24x7 Support FIO Bundle Physical 1-server LTU	E5Y43A

HPE OneView Advanced (without HPE iLO Advanced)

HPE OneView w/o iLO including 3yr 24x7 Support 1-server LTU	P8B24A

Additional Options

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.
- Please see the **HPE OneView QuickSpecs** for technical specifications and additional information.

HPE PCIe Workload Accelerator Options

NVIDIA Accelerator for HPE

NVIDIA A40 48GB PCIe Non-CEC Accelerator for HPE	R9S37C

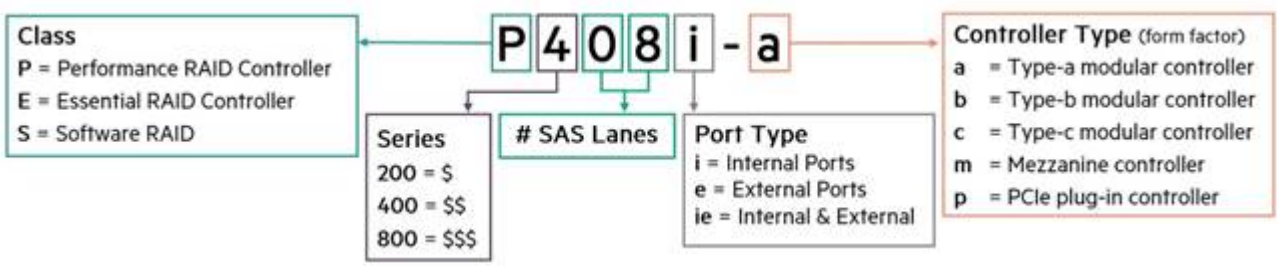
HPE Security

HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21
HPE Gen10 Chassis Intrusion Detection Kit	867824-B21
HPE Bezel Lock Kit	875519-B21

Notes: HPE Trusted Platform Module 2.0 Option (864279-B21) works with Gen10 servers with UEFI Mode not Legacy Mode. It is not compatible with HPE ProLiant Gen9 servers or earlier generation variants.HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

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 **HPE Smart Array Gen10 Controllers Data Sheet**.



Performance RAID Controllers

Notes:

Additional Options

- HPE 96W Smart Storage Battery (up to 20 Devices) with 145mm Cable Kit (P01366-B21), which supports multiple devices and is sold separately.
- Only standup controllers are supported and there is no support for AROC 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
Essential RAID Controllers	
HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21
HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804394-B21

Optional Software

HPE Smart Array SR Secure Encryption (Data at Rest Encryption/per Server Entitlement) E-LTU	Q2F26AAE

Notes: SmartCache is offered on HPE Smart Array performance RAID controllers.

Optional Upgrades

HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	P01366-B21

Notes: Provides backup power for multiple HPE Smart Array controllers or other devices. Is required with performance RAID controllers.

HPE Tape Backup

For the complete range of tape drives, autoloaders, libraries and media see: **http://www.hpe.com/storage/storeever**.

For hardware and software compatibility of Hewlett Packard Enterprise tape backup products: **http://www.hpe.com/storage/BURAcompatibility**.

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

Additional Options

HPE SN1610E 32Gb 1-port Fibre Channel Host Bus Adapter	R2J62A
HPE SN1610E 32Gb 2-port Fibre Channel Host Bus Adapter	R2J63A
HPE SN1610Q 32Gb 1-port Fibre Channel Host Bus Adapter	R2E08A
HPE SN1610Q 32Gb 2-port Fibre Channel Host Bus Adapter	R2E09A
Converged Network Adapter	
HPE CN1200R 10GBASE-T Converged Network Adapter	Q0F26A
HPE CN1300R 10/25Gb Dual Port Converged Network Adapter	Q0F09A

HPE Racks

- Please see the HPE Advanced Series Racks QuickSpecs for information on additional racks options and rack specifications. **HPE G2 Advanced Series Racks**
- Please see the HPE Enterprise Series Racks QuickSpecs for information on additional racks options and rack specifications. **HPE G2 Enterprise Series Racks**

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.

HPE Rack Options

- Please see the **HPE KVM Switches web page** for information on these products and their specifications.

Rail Kits

Notes:HPE rail kits are designed to work with HPE racks in compliance with industry standard EIA-310-E. In the event a customer elects to purchase a third-party rack for use with an HPE rail kit, any such use is at customer's own risk. HPE makes no express or implied warranties with respect to such third-party racks and specifically disclaims any implied warranties of merchantability and fitness for a particular purpose. Furthermore, HPE has no obligation and assumes no liability for the materials, design, specifications,

Additional Options

installation, safety, and compatibility of any such third-party racks with any rail kits, including HPE rail kits.

HPE USB and SD Options

HPE Enterprise Mainstream Flash Media Kits for Memory Cards

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

Notes: Please see the **HPE Flash Media Kits QuickSpecs** for additional information.

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.

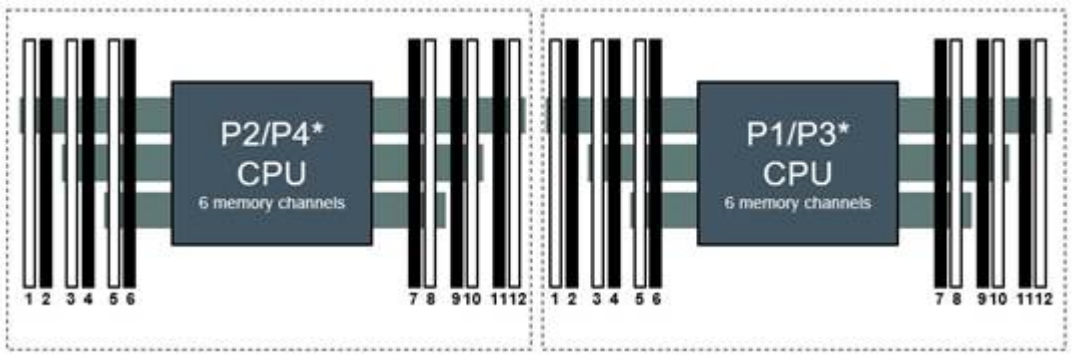
HPE Support Services

Tech Care

HPE 5 Year Tech Care Essential DL580 Gen10 Service	HV5S9E
HPE 5 Year Tech Care Essential wDMR DL580 Gen10 Service	HV5T4E
HPE 3 Year Tech Care Essential DL580 Gen10 Service	HV5S7E
HPE 3 Year Tech Care Essential wDMR DL580 Gen10 Service	HV5T2E

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

Memory



HPE DL360/DL380/DL560*/DL580* Gen10 Servers (2 slots per channel)

Notes:*HPE Proliant DL580 is a 4 socket server (uses P3, P4)

1 DIMM								**8**				
2 DIMM s								**8**		**10**		
3 DIMM s								**8**		**10**		**12**
4 DIMM s			**3**		**5**			**8**		**10**		
5 DIMM s*			**3**		**5**			**8**		**10**		**12**
6 DIMM s	**1**		**3**		**5**			**8**		**10**		**12**
7 DIMM s*	**1**		**3**		**5**		**7**	**8**		**10**		**12**
8 DIMM s			**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**		
9 DIMM s*	**1**		**3**		**5**		**7**	**8**	**9**	**10**	**11**	**12**
10 DIMM s*	**1**		**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**		**12**
11 DIMM s*	**1**		**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
12 DIMM s	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**

HPE ProLiant Gen10 12 slot per CPU DIMM Population Order

Notes:*Unbalanced, not recommended

Memory Population guidelines

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.

Memory

- 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 Smart Memory is required.

For additional information, please see the **HPE DDR4 Smart Memory QuickSpecs**.

Memory Speed Table for HPE ProLiant DL580 Gen 10

For the HPE Server Memory speed table, please visit: **https://www.hpe.com/docs/memory-speed-table**

Standard and Maximum Memory Capacity (Pre-configured Models)			
Pre Configured Models	**Standard Memory**	**Maximum Memory Plus Optional Memory**	**Standard Memory Replaced with Optional Memory**
5120	64 GB (4 x16 GB)	384 GB (24 x16 GB)	6144GB (48 x128 GB)
6148	128 GB (8 x16 GB)	384 GB (48 x16 GB)	6144GB (48 x128 GB)
8164	256 GB (8 x32 GB)	1536 GB (48 x32 GB)	6144GB (48 x128 GB)
5220	128 GB (4 x32 GB)	768 GB (24 x32 GB)	6144GB (48 x128 GB)
6230	256 GB (8 x32 GB)	1536 GB (48 x32 GB)	6144GB (48 x128 GB)
8260	512 GB (16 x32 GB)	1536 GB (48 x32 GB)	6144GB (48 x128 GB)

DDR4 memory options part number decoder

Notes:

– Capacity references are rounded to the common gigabyte (GB) values.

- 4 GB = 4,096 MB
- 8 GB = 8,192 MB
- 16 GB = 16,384 MB
- 32 GB = 32,768 MB
- 64 GB = 65,536 MB
- 128 GB = 131,072 MB

For more information on memory, please see the Memory Quickspecs: **HPE DDR4 Smart Memory**

40 SFF hot-plug drive model and 2 NVMe SSDs with Universal Media Bay

System Unit

Dimensions

- **(H x W x D)** (with bezel)

17.48cm x 44.55cm x 75.18cm

6.88 x 17.54 x 29.60 in

Weight (approximate)

- **Maximum:** (all hard drives, power supplies, DIMMs and processors installed)
  - 51.71 kg
  - 114 lb
- **Minimum:** (one processor, one standard heatsink, one air baffle, one hard drive, two power supply, one DIMM, one NIC one rail kit with CMA and one primary riser installed)
  - 28.12 kg
  - 62 lb

Input Requirements (per power supply)

- **Rated Input Voltage**
  - 100 - 127 VAC, 200 - 240 VAC, 240VDC for China Only (800W Platinum PS only)
  - -40 VDC to -72 VDC, -48 VDC nominal input (800W -48VDC PS only)
  - 200 - 240 VAC, 240 VDC for China only (1600W PS only)
- **Rated Input Current**
  - 9.4 A (100 VAC), 4.5 A (200 VAC), 3.8 A at 240VDC for China only (800W Platinum PS only)
  - 26 A at -40 VDC input, 19 A at -48 VDC input, nominal input, 12.4 A at -72 VDC input - (800W - 48VDC PS only)
  - 8.7 A at 200 VAC, 7.2 A at 240 VAC - (1600W PS only)
- **Rated Input Frequency**
  - 50 to 60 Hz (Not applicable for VDC ranges)
- **Maximum Rated Input Power**
  - 940 W (100 VAC), 900 W (200VAC), 912 W at 240 VDC for China only - (800W Platinum PS only)
  - 936 W at -40 VDC input 912 W at -48 VDC input, nominal input 900 W at -72 VDC input - (800W - 48VDC PS only)
  - 1734 W at 200 VAC 1720 W at 240 VAC - (1600W PS only)

BTU Rating

Technical Specifications

Maximum

- 3207 BTU/hr at 100 VAC, 3071 BTU/hr at 200 VAC, 3112 BTU/hr at 240 for China only - (800W Platinum PS only)
- 3194 BTU/hr at -40 VDC input, 3112 BTU/hr at -48 VDC input (nominal input), 3071 BTU/hr at -72VDC input - (800W -48VDC PS only)
- 5918 BTU/hr at 200 VAC, 5884 BTU/hr at 240 VAC - (1600W PS only)

Power Supply Output (per power supply)

- **Rated Steady-State Power**
  - 800 W at 100 VAC to 127 VAC input, 800 W at 200 VAC to 240 VAC input, 800 W at 240 VDC input for China only - (800W Platinum PS only)
  - 800 W at -40 VDC to -72 VDC - (800W -48VDC PS only)
  - 1600 W at 200 VAC to 240 VAC input, 1600 W at 240 VDC input - (1600W PS only)

- **Maximum Peak Power**
  - 800 W at 100 VAC to 127 VAC input, 800 W at 200 VAC to 240 VAC input, 800 W at 240 VDC input for China only - (800W Platinum PS only)
  - 800 W at -40 VDC to -72 VDC - (800W -48VDC PS only)
  - 2200 W for 1ms (turbo mode) at 200 VAC to 240 VAC input - (1600W PS only)

Notes: To review typical system power ratings use the HPE Power Advisor which is available online located at url: **http://www.hpe.com/info/hppoweradvisor**.

System Inlet Temperature

- **Standard Operating Support**

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 Support**

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:

https://support.hpe.com/hpesc/public/docDisplay?docId=a00026969en_us&page=index.html

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

Technical Specifications

are listed at the URL:

https://support.hpe.com/hpesc/public/docDisplay?docId=a00026969en_us&page=index.html

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 (82.4°F) 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.

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).

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.

Product Configuration	Entry	Base	Performance
Idle - LWAd	5.4 B	5.4 B	5.3 B
Idle - LpAm	37 dBA	36 dBA	36 dBA
Operating - LWAd	5.8 B	6.1 B	6.1 B
Operating - LpAm	39 dBA	43 dBA	44 dBA

Notes: Acoustics levels presented here are generated by the test configuration only. Acoustics levels will vary depending on system configuration. Values are subject to change without notification and are for reference only.

Regulatory Information

To view the regulatory information for yotur 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

Please refer to the appropriate QuickSpecs listed below for technical specifications on controllers.

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)

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
16-Sep-2024	Version 52	Changed	Standard Features (Operating Systems and Virtualization Software Support for HPE Servers), Configuration Information and Core Options sections were updated.
18-Mar-2024	Version 51	Changed	Standard Features and Additional Options sections were updated.
04-Dec-2023	Version 50	Changed	HPE Services Rebranding
02-Oct-2023	Version 49	Changed	Standard Features, Service and Support and Core Options sections were updated. Obsolete SKUs were removed.
05-Sep-2023	Version 48	Changed	Standard Features ,Pre-Configured and Core Options sections were updated.
10-Jul-2023	Version 47	Changed	Standard Features, Service and Support and Core Options sections were updated. Obsolete SKUs were removed.
01-May-2023	Version 46	Changed	Optional Features and Additional Options sections were updated. Obsolete SKUs were removed.
12-Dec-2022	Version 45	Changed	Optional Features and Additional Features sections were updated. Obsolete SKUs were removed.
01-Aug-2022	Version 44	Changed	Core Options section was updated. Obsolete SKUs were removed.
05-Jul-2022	Version 43	Changed	Core Options section was updated. Obsolete SKUs were removed.
06-Jun-2022	Version 42	Changed	Additional Options section was updated.
16-May-2022	Version 41	Changed	Additional Options section was updated. Obsolete SKUs were removed.
06-Dec-2021	Version 40	Changed	Core Options and Additional Options sections were updated. Obsolete SKUs were removed.
01-Nov-2021	Version 39	Changed	Core Options and Service and Support sections were updated. Obsolete SKUs were removed.
07-Sep-2021	Version 38	Changed	Core Options section was updated. Obsolete SKUs were removed.
02-Aug-2021	Version 37	Changed	Core Options section was updated. Obsolete SKUs were removed.
06-Apr-2021	Version 36	Changed	Standard Features, Service and Support and Additional Options sections were updated. Obsolete SKUs were removed.

Summary of Changes

01-Feb-2021	Version 35	Changed	Core Options sections was updated. Obsolete SKUs were removed.
07-Dec-2020	Version 34	Changed	Optional Features and Core Options sections were updated. Obsolete SKUs were removed.
02-Nov-2020	Version 33	Changed	Standard Features and Pre-configured Models sections were updated. Obsolete SKUs were removed.
05-Oct-2020	Version 32	Changed	Core Options section was updated. Obsolete SKUs were removed.
03-Aug-2020	Version 31	Changed	Overview, Standard Features, Core Options, Additional Options and Memory sections were updated. Obsolete SKUs were removed.
20-Jul-2020	Version 30	Changed	Standard Features section was updated.
01-Jun-2020	Version 29	Changed	Configuration Information and Core Options sections were updated.
04-May-2020	Version 28	Changed	Pre-configured Models section was updated.
06-Apr-2020	Version 27	Changed	Configuration Information and Core Options sections were updated.

Date	Version History	Action	Description of Change
24-Feb-2020	Version 26	Changed	Add in GPU configuration rule Service and Support and Core Options sections were updated Overview, Standard Features, Pre-configured Models, Core Options and Configuration Information sections were updated. Obsolete SKUs was removed.
02-Dec-2019	Version 25	Changed	Core Options and Additional Options sections were updated. SKUs were updated. Obsolete SKUs were removed from the QuickSpecs.
04-Nov-2019	Version 24	Changed	Memory section was updated. Obsolete SKUs were removed.
07-Oct-2019	Version 23	Changed	Overview,Standard Features,Optional Features,Configuration Information, Core Options sections were updated. Obsolete SKU was removed. Remove some 1st Generation Intel Xeon processors Removed Nvidia P6000, P100 and V100 16GB GPGPUs Added new SATA and NVMe drives
12-Aug-2019	Version 22	Changed	Additional Options section was updated.

Summary of Changes

05-Aug-2019	Version 21	Changed	Overview, Standard features, Configuration information, Core options, and Technical specifications sections were updated. Obsolete SKUs were removed.
01-Jul-2019	Version 20	Changed	The 5218N wattage has changed from 105 to 110W The U.S. version of QuickSpecs is no longer being updated, please reference the Worldwide QuickSpecs for latest information.
03-Jun-2019	Version 19	Changed	Overview, Standard Features, Configuration Information and Core Options sections were updated.
18-Apr-2019	Version 18	Changed	SKUs were updated.
15-Apr-2019	Version 17	Changed	Standard Features, Pre-configured Models and Core Options sections were updated.
02-Apr-2019	Version 16	Changed	Overview, Standard Features,Optional Features, Configuration Information, Pre-configured Models,Core Options and Memory sections were updated.
04-Feb-2019	Version 15	Changed	Optional Features and Core Options sections were updated. Obsolete SKUs were removed.
17-Dec-2018	Version 14	Changed	Processor 8158 was listed in Standard Features Section
03-Dec-2018	Version 13	Changed	Core Options,Standard Features,Optional Features, Configuratio Information Aditional Options were Updated. SKUs descriptions were updated, Obsolete SKUs were removed from the QuickSpecs.
15-Oct-2018	Version 12	Changed	Core Options, Aditional Options were Updated. SKUs descriptions were updated, Obsolete SKUs were removed from the QuickSpecs.
01-Oct-2018	Version 11	Changed	Overview, Pre Configured models. Configuration Information, Core Options and Additional Options sections were updated. SKUs were added. SKUs descriptions were updated,

Summary of Changes

Date	Version History	Action	Description of Change
06-Aug-2018	Version 10	Changed	Updated the list of supported operating systems. Configuration Information - Factory Integrated Models, Core Options, and Additional Options were revised.
02-Jul-2018	Version 9	Added	Added drive population guideline table with GPUs.
04-Jun-2018	Version 8	Changed	Added HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features. New HPE Smart Array P824i-p MR Gen10 (24 Internal Lanes/4GB Cache/CacheCade) 12G SAS PCIe Controller was added. New 375GB NVMe WI drive and 750GB PCIE accelerator were added. Configuration Information - Factory Integrated Models, Core Options, Additional Options, Service and Support, and Memory were revised. Obsolete SKUs were removed from the QuickSpecs.
02-Apr-2018	Version 7	Changed	Standard Features, Configuration Information - Factory Integrated Models and Core Options were revised. SKUs descriptions were updated.
05-Mar-2018	Version 6	Changed	Front view image, Expansion Slots, Internal Storage Devices, Standard Features, and Storage section were revised.
05-Feb-2018	Version 5	Changed	Added new SSD offering. GPU slots and Maximum Internal Storage were revised. Core Options and Additional Options were revised. Obsolete SKUs were removed from the QuickSpecs.
18-Dec-2017	Version 4	Changed	Configuration Information - Factory Integrated Models and Core Options were revised.
04-Dec-2017	Version 3	Changed	Added support for new core boosting Intel® Xeon® Processors 6143 and 8165. Added support for up to 24 16GB NVDIMM. Processors, Memory, and Acoustic Noise were revised.
16-Oct-2017	Version 2	Added	Added note - 1600W Power supplies only support high line voltage (200VAC to 240VAC) - to power supplies. Added HPE Support Services. Added acoustic noise to the Technical Specifications section.
25-Sep-2017	Version 1	New	New QuickSpecs.

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