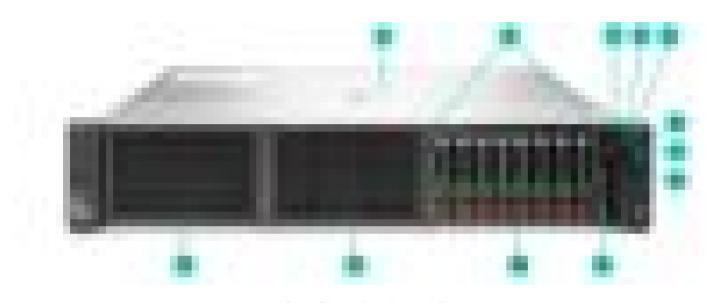
## **HPE ProLiant DL180 Gen10 Server**

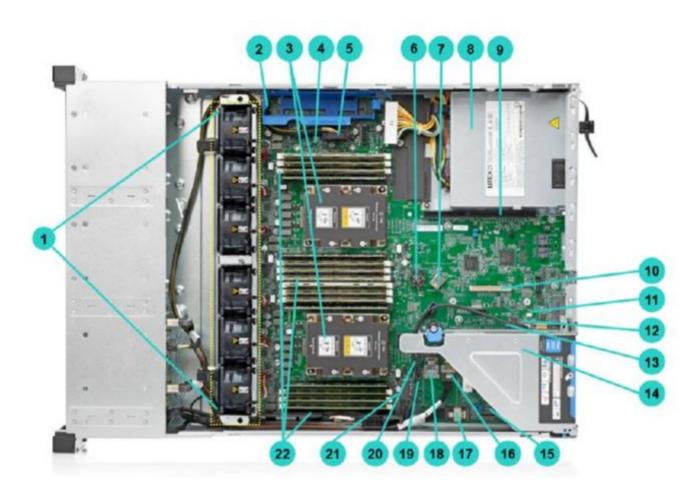
Adaptable for diverse workloads and environments, the secure 2P 2U HPE ProLiant DL180 Gen10 delivers world-class compelling performance with the right balance of expandability and scalability. Designed for supreme versatility and resiliency with the right balance of reliability, manageability and performance, while being backed by a comprehensive warranty make it ideal for multiple environments from Containers to Cloud to Big Data. Standardize on the industry's most trusted compute platform. SMBs and enterprises running application.



## **8SFF Chassis - Front View**

- 1. Quick removal access panel
- 2. 8 SFF Drive Cage
- 3. iLO Front Service Port
- 4. Health LED
- 5. NIC status
- 6. Power On/Standby button and system power LED button
- 7. UID button
- 8. USB 3.0
- 9. Serial label pull tag
- 10 Box 3
- 11. Box 2 (Optional 8 SFF, blank shown)
- 12 Box 1 (Optional 8 SFF or Optical Drive, blank shown)

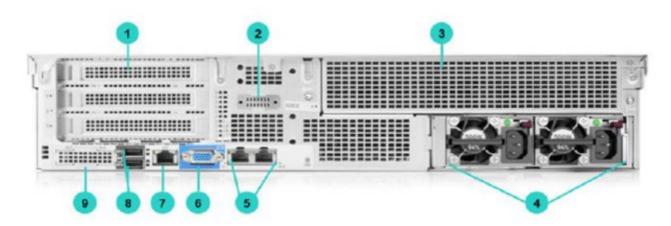
Overview



## 8SFF Chassis - with optional 2<sup>nd</sup> CPU - Internal View

1.	Standard single rotor hot swap fans 1 CPU - 3 standard fans	12.	MicroSD card slot
	2 CPUs - 5 standard fans (1 redundant fan shown)*		
2.	Smart Storage Battery (No battery shown) *	13.	iLO Service Port Connector
3.	Up to 2 processors (shown with standard heat sinks)	14.	Primary PCIe Riser: 8x8x8
4.	Chassis Intrusion Detection connector *	15.	Media Module Connector
5.	Hard Drive backplane power connector	16.	Mini-SAS port 1
6.	System Battery	17.	Mini-SAS port 2
7.	Internal USB 3.0 connector	18.	Mini-SAS port 3
8.	Power supply (non-redundant power supply shown)	19.	SATA port 4
9.	Secondary (CPU2) PCIe 3.0 riser	20.	SATA port 5
10.	Flexible Smart Array Controller Connector	21.	Front Power USB 3.0 connector
11.	TPM 2.0*	22.	DDR4 DIMM slots
			(Fully populated 16 DIMMs shown)

Notes: \*Optional



## **Rear View**

- 1. Primary Riser. PCI Slots (Slots 1-3 top to bottom)
- 2. Serial Port \*
- 3. Secondary Riser. PCI Slots (Slots 4-6 top to bottom, requires second riser card and second processor).
- 4. Power Supply (Redundant Hot plug shown)
- 5. Embedded 2 x 1GbE Network Adapter

Notes: \*Optional

- 6. VGA Port
- 7. Dedicated iLO management port
- 8. USB connectors 3.0 (2)
- 9. Media Module\*



## **8LFF Chassis - Front View**

1.	Quick removal access panel	7.	UID button
2.	Optional: Optical drive (Blank Shown)	8.	USB 3.0
3.	iLO Front Service Port	9.	LFF Drive cage
4.	Health LED	10.	Box 3
5.	NIC Status	11.	Box 2
6.	Power On/Standby button and system power LED button	12.	Box 1



## 12LFF Chassis - Front View

1.	Quick removal access panel	6.	USB 3.0
2.	Health LED	7.	LFF Drive cage
3.	NIC Status	8.	Box 3
4.	Power On/Standby button and system power LED button	9.	Box 2
5.	UID button	10	Box 1

## What's New

- New 2<sup>nd</sup> generation Intel® Xeon® Scalable Processors with improved price/performance
- Pre-configured servers with new 2<sup>nd</sup> generation Intel® Xeon® Scalable Processors
- Factory integrated models (CTO) available to all customers

## **Platform Information**

## **Form Factor**

• 2U rack

## **Chassis Types**

- 8 SFF (upgradeable to 24SFF)
- 8 LFF
- 12 LFF

**Notes:** All models come with the S100i Smart Array Controller with embedded software RAID support for 14 drives. However this needs to be enabled using Enable SW RAID option (784308-B21) while configuring.

## **System Fans**

Standard - fan types (without rear drives)

Model	Non-Redundant	Redundant
1P Model	3 fans	4 fans
2P Model	5 fans	6 fans





**Processors** - Up to 2 of the following depending on model.

## **Notes:**

- The 2nd digit of the processor model number "x1xx" and "x2xx" is used to denote the processor generation (i.e. 1=1st generation and 2=2nd generation)
- Field upgrades from 1st generation processors (x1xx) to 2nd generation processors (x2xx) not supported.
- "U" processors (i.e. 6209U) only supported in single socket configurations
- This table covers the public Intel offering only.
- For more information regarding Intel Xeon processors, please see the following http://www.intel.com/xeon.

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

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

2 <sup>nd</sup> Generation Intel® Xeon® Scalable Processor Family											
Intel Xeon	CPU	Cores	L3	Power	UPI	DDR4	Memory				
Models	Frequency		Cache				per socket				
Gold 6252 Processor	2.1 GHz	24	35.75 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB				
Gold 6248 Processor	2.5 GHz	20	27.5 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB				
Gold 6244 Processor	3.6 GHz	8	24.75 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB				
Gold 6242 Processor	2.8 GHz	16	22 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB				
Gold 6240 Processor	2.6 GHz	18	24.75 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB				

Gold 6238 Processor	2.1 GHz	22	30.25 MB	140W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6234 Processor	3.3 GHz	8	24.75 MB	130W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6230R Processor	2.1 GHz	26	35.75 MB	150W	2 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6230 Processor	2.1 GHz	20	27.5 MB	125W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6226R Processor	2.9 GHz	16	22 MB	150W	2 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6226 Processor	2.7 GHz	12	19.25 MB	125W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6210U Processor	2.5 GHz	20	27.50 MB	150W	N/A	2933 MT/s	1TB
Gold 6209U Processor	2.1 GHz	20	27.50 MB	125W	N/A	2933 MT/s	1TB
Gold 6208U Processor	2.9 GHz	16	22 MB	150W	N/A	2933 MT/s	1TB
Gold 5222 Processor	3.8 GHz	4	16.5 MB	105W	2 @ 10.4 GT/s	2933 MT/s	1TB
Gold 5220R Processor	2.2 GHz	24	35.75 MB	150W	2 @ 10.4 GT/s	2933 MT/s	1TB
Gold 5220 Processor	2.2 GHz	18	24.75 MB	125W	2 @ 10.4 GT/s	2666 MT/s	1TB
Gold 5218R Processor	2.1 GHz	20	27.50 MB	125W	2 @ 10.4 GT/s	2666 MT/s	1TB
Gold 5218 Processor	2.3 GHz	16	22 MB	125W	2 @ 10.4 GT/s	2666 MT/s	1TB
Gold 5217 Processor	3.0 GHz	8	11 MB	115W	2 @ 10.4 GT/s	2666 MT/s	1TB
Gold 5215 Processor	2.5 GHz	10	13.75 MB	85W	2 @ 10.4 GT/s	2666 MT/s	1TB

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

## **Standard Features**

-48 lanes PCIe 3.0

1 <sup>st</sup> Generation Intel® Xeon® Scalable Processor Family										
Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	UPI	DDR4	Memory per socket			
Gold 6152	2.1 GHz	22	30.25 MB	140W	3 @	2666	768GB			
Processor	2.1 GHZ	22	30.23 IVID	14000	10.4	MT/s	70000			
FIOCESSOI					GT/s	IVI 1/5				
Cald C1 10	2.4.01.1-	20	07.50 MD	450\\		2000	700CD			
Gold 6148	2.4 GHz	20	27.50 MB	150W	3 @	2666	768GB			
Processor					10.4	MT/s				
<u> </u>					GT/s					
Gold 6144	3.5 GHz	8	24.75 MB	150W	3 @	2666	768GB			
Processor					10.4	MT/s				
					GT/s					
Gold 6142	2.6 GHz	16	22.00 MB	150W	3 @	2666	768GB			
Processor					10.4	MT/s				
					GT/s					
Gold 6140	2.3 GHz	18	24.75 MB	140W	3 @	2666	768GB			
Processor					10.4	MT/s				
					GT/s					
Gold 6138	2.0 GHz	20	27.50 MB	125W	3 @	2666	768GB			
Processor	2.0 01 12	20	27.00 1112	12011	10.4	MT/s	70002			
1 10003301					GT/s	IVI 1/3				
Gold 6136	3.0 GHz	12	24.75 MB	150W	3 @	2666	768GB			
	3.0 GHZ	12	24.75 IVID	13000	10.4		70000			
Processor						MT/s				
0.110404	0.0.011		04.75.140	400\4/	GT/s	0000	70000			
Gold 6134	3.2 GHz	8	24.75 MB	130W	3 @	2666	768GB			
Processor					10.4	MT/s				
					GT/s					
Gold 6132	2.6 GHz	14	19.25 MB	140W	3 @	2666	768GB			
Processor					10.4	MT/s				
					GT/s					
Gold 6130	2.1 GHz	16	22.00 MB	125W	3 @	2666	768GB			
Processor					10.4	MT/s				
					GT/s					
Gold 6128	3.4 GHz	6	19.25 MB	115W	3 @	2666	768GB			
Processor					10.4	MT/s				
					GT/s					
Gold 6126	2.6 GHz	12	19.25 MB	125W	3 @	2666	768GB			
Processor	2.0 0.12		10120 1112	.2011	10.4	MT/s	. 3332			
1 10000001					GT/s	101170				
Gold 5122	3.6 GHz	4	16.50 MB	105W	2 @	2666	768GB			
Processor	J.0 OI IZ	7	10.30 1010	10000	10.4	MT/s	7 0000			
1 10069901					GT/s	1011/5				
Cold E120	2.2.04-	1.1	10.25 MD	105\\\		2400	769CD			
Gold 5120	2.2 GHz	14	19.25 MB	105W	2 @	2400	768GB			
Processor					10.4	MT/s				
0.115440	0.0.011	40	40.50.15	40514	GT/s	0.100	70005			
Gold 5118	2.3 GHz	12	16.50 MB	105W	2 @	2400	768GB			
Processor					10.4	MT/s				
					GT/s	1				
Gold 5115	2.4 GHz	10	13.75 MB	85W	2 @	2400	768GB			
Processor					10.4	MT/s				
					GT/s					



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

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

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



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

## **Notes:**

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

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

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



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

#### **Notes:**

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

## Chipset

Intel C622 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**

Туре	HPE DDR4 SmartMemory
	Registered (RDIMM), Load Reduced (LRDIMM)
DIMM Slots	16
Available	
	8 DIMM slots per processor, 6 channels per processor, 2 channels @ 2 DIMMs per channel,
	4 channels @ 1 DIMM per channel
Maximum capacity (LRDIMM)	1.0 TB
(LIXBININI)	16 x 64 GB LRDIMM @ 2933 MT/s
Maximum capacity	1.0 TB
(RDIMM)	40 04 0D DDIMM @ 0000 MT/
	16 x 64 GB RDIMM @ 2933 MT/s



#### Notes:

- -Mixing of RDIMM and LRDIMM memory is not supported.
- For General Server Memory Population Rules and Guidelines for Gen10 see details here:

http://www.hpe.com/docs/memory-population-rules

## **Memory Protection**

#### **Advanced ECC**

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

## **Online Spare**

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

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

## **Expansion Slots**

CPU1 x8x8x	CPU1 x8x8x8 riser					
Slots #	Technology	Bus Width	Connector Width	Slot Form Factor	Notes	
1	PCIe 3.0	X8	X8	Full-height, full-length slot	Proc 1	
2	PCIe 3.0	X8	X8	Full-height, half-length slot	Proc 1	
3	PCIe 3.0	X8	X8	Full-height, half-length slot	Proc 1	

Notes: Bus Width Indicates the number of physical electrical lanes running to the connector.

F	lexibleLOM						
	Slots #	Technology	Bus Width	<b>Connector Width</b>	Slot Form Factor	Notes	
	1	PCIe 3.0	X8	X8	Full-height, full-length slot	Proc 1	
	2	PCIe 3.0	X8	X8	Full-height, half- length slot	Proc 1	
	3	PCIe 3.0	X8	X8	FlexibleLOM	Proc 1	



#### Notes:

- -Bus Width Indicates the number of physical electrical lanes running to the connector.
- -This riser is necessary to install FlexibleLOM adapters

CPU1 x16x8 riser						
Slots #	Technology	Bus Width	Connector Width	Slot Form Factor	Notes	
1	PCIe 3.0	X16	X16	Full-height, full- length slot	Proc 1	
2	PCIe 3.0	X8	X8	Full-height, half-length slot	Proc 1	

Notes: Bus Width Indicates the number of physical electrical lanes running to the connector.

CPU2 x8x8x8 riser						
Slots #	Technology	Bus Width	Connector Width	Slot Form Factor	Notes	
1	PCIe 3.0	X8	X8	Full-height,full-length slot	Proc 2	
2	PCIe 3.0	X8	X8	Full-height,half- length slot	Proc 2	
3	PCIe 3.0	X8	X8	Low profile	Proc 2	

#### Notes:

- -Bus Width Indicates the number of physical electrical lanes running to the connector.
- -When populating the second optional riser slot, the second processor must be installed.

CPU2 x16x8 riser						
Slots #	Technology	Bus Width	Connector Width	Slot Form Factor	Notes	
1	PCIe 3.0	X16	X16	Full-height, full-length slot	Proc 2	
2	PCIe 3.0	X8	X8	Low profile	Proc 2	

## Notes:

- Bus Width Indicates the number of physical electrical lanes running to the connector.
- When populating the second optional riser slot, the second processor must be installed.
- Includes GPU cable kit

## **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 <a href="https://example.com/HPE Smart Array Gen10 Controllers Data Sheet">HPE Smart Array Gen10 Controllers Data Sheet</a>. One of the following depending on model

#### **Software RAID**

## **Standard Features**

HPE Smart Array S100i SR Gen10 SW RAID

#### Notes:

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

#### **Essential RAID Controller**

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

#### **Performance RAID Controller**

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

#### Notes:

- Performance RAID Controllers require the HPE Smart Storage Battery (P01366-B21) which is sold separately.
- For additional details, please see HPE Smart Array Gen10 Controllers Data Sheet

## **Internal Storage Devices**

Optical Drive

Optional: DVD-ROM or DVD-RW

Hard Drives

None ship standard

Maximum Internal Storage

Maximum internal Storage					
Drive	Capacity	Configuration			
Hot Plug SFF SAS HDD	62.4 TB	24 + 2 X 2.4 TB (with dual SFF rear drive			
		option)			
Hot Plug LFF SAS HDD	144 TB	12 X 12 TB			
Hot Plug SFF SATA HDD	52 TB	24 + 2 X 2 TB (with dual SFF rear drive option)			
Hot Plug LFF SATA HDD	144 TB	12 X 12 TB			
Hot Plug SFF SAS SSD	100 TB	24 + 2 X 3.84 TB (with dual SFF rear drive			
		option)			
Hot Plug LFF SAS SSD	46.1 TB	12 X 3.84 TB			
Hot Plug SFF SATA SSD	200 TB	24 + 2 X 7.68 TB (with dual SFF rear drive			
		option)			
Hot Plug LFF SATA SSD	23 TB	12 X 1.92 TB			



## Interfaces

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

## Operating Systems and Virtualization Software Support for ProLiant Servers

2<sup>nd</sup> Generation Intel® Xeon® Scalable Processor Family

- Windows Server 2016\*, 2019
- VMware ESXi 6.5 U3\*, 6.7 U3, 7.0
- Red Hat Enterprise Linux (RHEL) 7.6 with Kbase\*, 8.0
- SUSE Linux Enterprise Server (SLES) 12 SP4\*, 15 SP1

## 1st Generation Intel® Xeon® Scalable Processor Family

- Windows Server 2012R2\*, 2016, 2019
- VMware ESXi 6.0 U3\*, 6.5 U3, 6.7 U3, 7.0
- Red Hat Enterprise Linux (RHEL) 6.9\*, 7.3, 7.6 (with Kbase), 8.0
- SUSE Linux Enterprise Server (SLES) 12 SP2\*, 12 SP3-SP4, 15 SP1
- CentOS

#### Notes:

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

## **Industry Standard Compliance**

- ACPI 6.1 Compliant
- PCle 3.0 Compliant
- WOL Support
- Microsoft® Logo certifications
- PXE Support
- USB 3.0 Compliant (internal)
- SMBIOS 3.1
- UEFI 2.6

## **Standard Features**

- Redfish API
- IPMI 2.0
- Secure Digital 2.0
- Advanced Encryption Standard (AES)
- Triple Data Encrytion Standard (3DES)
- SNMP v3
- TLS 1.2
- DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP)
- Active Directory v1.0
- ASHRAE A3/A4

**Notes:** For additional technical thermal details regarding ambient temperatures, humidity and features support please visit: http://www.hpe.com/servers/ashrae.

UEFI (Unified Extensible Firmware Interface Forum)

Notes: UEFI is the default for the HPE ProLiant DL160 Gen10. Legacy mode can be selected in the field.

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

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

## **Power Supply**

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

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

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

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

## Standard Features

## **Graphics**

#### **Integrated Video Standard**

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

#### HPE iLO 5 on system management memory

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

## **HPE Server UEFI/Legacy ROM**

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

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

- UEFI enables numerous new capabilities specific to HPE ProLiant servers such as:
- Secure Boot and Secure Start enable for enhanced security
- · Operating system specific functionality
- Support for > 2.2 TB (using GPT) boot drives
- USB 3.0 Stack
- Embedded UEFI Shell
- Mass Configuration Deployment Tool using iLO RESTful API that is Redfish API Conformant
- PXE boot support for IPv6 networks
- Workload Profiles for simple performance optimization
- UEFI Boot Mode only:
- NVMe Boot Support
- iSCSI Software Initiator Support.
- HTTP/HTTPs Boot support as a PXE alternative.
- Boot support for option cards that only support a UEFI option ROM

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

## **Security**

- UEFI Secure Boot and Secure Start support
- Immutable Silicon Root of Trust
- FIPS 140-2 validation
- Common Criteria certification
- Configurable for PCI DSS compliance
- Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser
- Support for Commercial National Security Algorithms (CNSA)
- iLO Security Modes
- Granular control over iLO interfaces
- Tamper-free updates components digitally signed and verified

## Standard Features

- Secure Recovery recover critical firmware to known good state on detection of compromised firmware
- · Ability to rollback firmware
- Secure erase of NAND/User data
- TPM (Trusted Platform Module) 2.0 option
- Bezel Locking Kit
- Chassis Intrusion detection option

## **Embedded Management**

#### **UEFI**

Configure and boot your servers securely with industry standard Unified Extensible Firmware Interface (UEFI).

Learn more at http://www.hpe.com/servers/uefi.

#### Intelligent Provisioning

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

#### **iLO RESTful API**

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

## **Server Utilities**

#### **iLO Amplifier Pack**

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

Learn more at http://www.hpe.com/servers/iLOamplifierpack.

#### **HPE iLO Mobile Application**

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

## **RESTful Interface Tool**

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



## **Scripting Tools**

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

#### **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 <a href="http://www.hpe.com/info/oneview">http://www.hpe.com/info/oneview</a>

## **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.

## **Active Health System Viewer**

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

## Service Pack for ProLiant (SPP)

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

## 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 Pointnext operational services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

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

## http://h17007.www1.hpe.com/us/en/enterprise/servers/warranty/.



**Optional Features** 

## **Server Management**

#### **HPE iLO Advanced**

HPE iLO Advanced licenses offer smart remote functionality without compromise, for all HPE ProLiant servers. The license includes the full integrated remote console, virtual keyboard, video, and mouse (KVM), multi-user collaboration, console record and replay, and GUI-based and scripted virtual media and virtual folders. You can also activate the enhanced security and power management functionality. Learn more about HPE iLO Advanced at <a href="http://www.hpe.com/servers/iloadvanced">http://www.hpe.com/servers/iloadvanced</a>.

#### **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.

## **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.



## **Optional Features**

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

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

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

## One Config Simple (SCE)

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



Service and Support

## **HPE Pointnext - Service and Support**

## Protect your business beyond warranty with HPE Support Services

HPE Pointnext provides a comprehensive portfolio including Advisory and Transformational, Professional, and Operational Services to help accelerate your digital transformation. From the onset of your transformation journey, Advisory and Transformational Services focus on designing the transformation and creating a solution roadmap. Professional Services specializes in creative configurations with flawless and on-time implementation, and on-budget execution. Finally, operational services provides innovative new approaches like Flexible Capacity and Datacenter Care, to keep your business at peak performance. Hewlett Packard Enterprise is ready to bring together all the pieces of the puzzle for you, with an eye on the future, and make the complex simple.

#### Connect your devices:

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Achieve up to 77% <sup>1</sup> reduction in down time, near 100% <sup>2</sup> diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support.

#### Notes:

-1 IDC

-2 HPE CSC reports 2014 - 2015

Learn more about getting connected at http://www.hpe.com/services/getconnected

## **Recommended Services**

## HPE Proactive Care\* with 6 hour call-to-repair commitment, three year Support Service

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This Service combines three years' proactive reporting and advice with our highest level of hardware support - HPE's 24x7, six hour hardware call-to-repair. HPE is the only leading manufacturer who makes this level of coverage available as a standard service offering for your most valuable servers. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.) running on your HPE servers.

## https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf

#### HPE Proactive Care\* with 24x7 coverage, three year Support Service

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice This Service combines three years proactive reporting and advice with our 24x7 coverage, four hour hardware response time when there is a problem. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare,

## Service and Support

Microsoft, etc.) running on your HPE servers.

## https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf

#### HPE Proactive Care\* - Next Business Day service, three year Support Service

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This service combines three years of Hardware Support where an HPE authorized representative will arrive at the Customer's site during the onsite coverage window to begin hardware maintenance service the next coverage day after the service request has been logged. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.) running on your HPE servers.

## https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf

**Notes:** \*HPE Proactive Care and HPE Proactive Care Advanced require that the customer connect their devices to make the most of these services and receive all the deliverables.

## Other related Services

#### **HPE Server Hardware Installation**

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

## **HPE Installation and Startup Service**

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

#### **HPE Datacenter Care service**

HPE Datacenter Care helps improve IT stability and security, increase the value of IT, and enable agility and innovation. It is a structured framework of repeatable, tested, and globally available services "building blocks." You can deploy, operate, and evolve your datacenter wherever you are on your IT journey. With HPE Datacenter Care, you benefit from a personalized relationship with HPE via a single point of accountability for HPE and others' products. For more information, visit

## http://www.hpe.com/services/datacentercare

#### **HPE Factory Express for Servers and storage**

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

Factory Express offers service packages for simple configuration, racking, installation, complex

## Service and Support

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

#### **HPE Service Credits**

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

## **HPE Education Services**

Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book on a class today and learn how to get the most from your technology investment.

http://www.hpe.com/ww/learn

## **Parts and Materials**

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

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

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

## **HPE Support Center**

The HPE Support Center is a personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with Hewlett Packard Enterprise experts, access support resources or collaborate with peers.

Learn more http://www.hpe.com/support/hpesc.

The HPE Support Center Mobile App\* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

HPE Insight Remote Support and HPE Support Center are available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.

Notes:\*HPE Support Center Mobile App is subject to local availability.

## Service and Support

For more information: http://www.hpe.com/services.

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



## **Configuration Information**

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

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

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

Powered by 2nd Gener	ration Intel Xeon Processors			
SKU Number- WW	P35519-B21	P35520-B21		
SKU Number-	P35519-291	P35520-291		
Japan				
Model Name	HPE ProLiant DL180 Gen10 4210R	HPE ProLiant DL180 Gen10 5218		
	2.4GHz 10-core 1P 16GB-R S100i 8SFF	2.3GHz 16-core 1P 16GB-R S100i		
	500W PS Server	8SFF 500W PS Server		
Chassis	8SFF	8SFF		
Processor	4210R (2.4GHz/10-core/100W)	5218 (2.3GHz/16-core/125W)		
Number of	One processor with Standard heatsink	One processor with Standard heatsink		
Processors				
Memory	HPE 16GB 1Rx4 PC4-2933Y-R Smart	HPE 16GB 1Rx4 PC4-2933Y-R Smart		
	Kit	Kit		
<b>Network Controller</b>	Embedded 2-Port 1GbE	Embedded 2-Port 1GbE		
Storage Controller	Embedded 14Port S100i	Embedded 14Port S100i		
	Notes: SATA only	Notes: SATA only		
Cables	1x Box3 MB/-p cable (879752-B21) to	1x Box3 MB/-p cable (879752-B21) to		
	connect 8 drive bays in box3 to S100i	connect 8 drive bays in box3 to \$100i		
	(can also be used to connect to -p	(can also be used to connect to -p		
	controller).	controller).		
Hard Drive	None included	None included		
Optical Drive	None included	None included		
PCIe Slots	3 PCle: 1x8 FHFL, 1x8 FHHL, 1x8 FHHL			
Power Supply	1x 500W Hot Plug; RPS ready	1x 500W Hot Plug; RPS ready		
Fans	3 Fans	3 Fans		
Management	HPE iLO5, Infosight			
Rail Kit	SFF Easy Install	SFF Easy Install		
Form Factor	2U Rack			
Warranty	Varranty 3-year parts, 3-year labor, 3-year onsite support with next business day response			



## **Configuration Information**

## **Country Code Key**

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

Powered by 2nd General	ation Intel Xeon Processors			
SKU Number- WW	P19562-B21	P19564-B21	P19563-B21	
SKU Number-	P19562-291	P19564-291	P19563-291	
Japan				
Model Name	HPE ProLiant DL180	HPE ProLiant DL180	HPE ProLiant DL180	
	Gen10 3204 1.9GHz 6-	Gen10 4208 2.1GHz 8-	Gen10 4208 2.1GHz 8-core	
	core 1P 16GB-R S100i	core 1P 16GB-R S100i	1P 16GB-R P408i-a 12LFF	
	8LFF 500W PS Server	8SFF 500W PS Server	500W PS Server	
Chassis	8LFF	8SFF	12LFF	
Processor	3204 (1.9GHz/6-	4208 (2.1GHz/8-	4208 (2.1GHz/8-	
	core/85W)	core/85W)	core/85W)	
Number of	One processor with	One processor with	One processor with	
Processors	Standard heatsink	Standard heatsink	Standard heatsink	
Memory	HPE 16GB 1Rx4 PC4-	HPE 16GB 1Rx4 PC4-	HPE 16GB 1Rx4 PC4-	
	2933Y-R Smart Kit	2933Y-R Smart Kit	2933Y-R Smart Kit	
Network Controller	Embedded 2-Port 1GbE	Embedded 2-Port 1GbE	Embedded 2-Port 1GbE	
Storage Controller	Embedded 14Port S100i	Embedded 14Port S100i	P408i-a with Smart	
			Storage Battery included	
	Notes: SATA only	Notes: SATA only	N. A. BASS.	
			Notes: P408i-p must be	
			added to support all 12	
			drive bays with SAS drives	
			(Cable included in base	
Cablas	Ov. LEE MD/ n. cobles	4v Day2 MD/ n cable	BTO. See below)	
Cables	2x LFF MB/-p cables	1x Box3 MB/-p cable	2x LFF/-a cables (875172-	
	(875170-B21) to connect 8 drive bays to S100i	(879752-B21) to connect 8 drive bays in box3 to	B21) to connect 8 drive	
	(can also be used to	S100i (can also be used to	bays to included P408i-a and 1x LFF MB/-p cable	
	connect to -p controller).	connect to -p controller).	(875170-B21) to connect 4	
	connect to -p controller).	connect to -p controller).	drive bays to S100i (can	
			also be used to connect to	
			-p controller).	
Hard Drive	None included	None included	None included	
Optical Drive	None included	None included	None included	
PCIe Slots	3 PCIe: 1x8 FHFL, 1x8 FHF			
Power Supply	1x 500W Hot Plug; RPS	1x 500W Hot Plug; RPS	1x 500W Hot Plug; RPS	
	ready	ready	ready	
Fans	3 Fans	3 Fans	3 Fans	
Management	HPE iLO5, Infosight			
Rail Kit	LFF Easy Install	SFF Easy Install	LFF Easy Install	
Form Factor	2U Rack	,		
Warranty		3-vear onsite support with nex	t business day response	
	3-year parts, 3-year labor, 3-year onsite support with next business day response			

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

## **Configuration Information**

## **Factory Integrated Models**

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)

CTO Server	HPE DL180 Gen10	HPE DL180 Gen10	HPE DL180 Gen10	
	8SFF CTO Server	8LFF CTO Server	12LFF CTO Server	
SKU Number	879517-B21	879515-B21	879516-B21	
Processor	Not included as standard			
DIMM Slots	16-DIMM Slots			
Storage Controller	Embedded SW RAID with and PCIe plug-in controller	14 SATA ports, choice of HI	PE modular Smart Array	
PCle	None standard. Primary ris	ser must be added.		
Drive Cage - included	8SFF	8LFF	12LFF	
Network Controller	Embedded 2x1GbE with optional, Media Module, HPE FlexibleLOM on riser			
	and optional Standup card			
Fans	1 CPU- 3 Standard Fans 2 CPU- 5 Standard Fans			
Management		ovisioning (standard), iLO A	dvanced and OneView	
USB	Front: 1 USB 3.0 + iLO service port  Rear: 2 USB 3.0  Internal: 1 USB 3.0			
Included Drive Cage	8 SFF	8LFF	12 LFF	
Additional drive cages	8-16 SFF SAS/SATA 16-24 SFF SAS/SATA	8-12 LFF SAS/SATA	-	
ODD - 2SFF Rear	Optional	Optional	2SFF rear- Optional	



## **Configuration Information**

## Step 2: Choose Required Options (only one of the following unless otherwise noted)

Please select one -L21 processor required below.

For second processor, please select the same processor model with -B21 from Core Options - HPE Processors section.

For example: first processor, select P12007-L21 then for second processor, select P12007-B21.

#### Notes:

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

#### Step 2a: Choose Processors

**Processor Option Kits** (Required Processor)

## 2<sup>nd</sup> Generation Intel Xeon- Platinum

Intel Xeon-Platinum 8256 (3.8GHz/4-core/105W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P12007-L21
Intel Xeon-Platinum 8253 (2.2GHz/16-core/125W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P12006-L21
2 <sup>nd</sup> Generation Intel Xeon-Gold	
Intel Xeon-Gold 6252 (2.1GHz/24-core/150W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11161-L21
Intel Xeon-Gold 6248 (2.5GHz/20-core/150W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11160-L21
Intel Xeon-Gold 6244 (3.6GHz/8-core/150W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11159-L21
Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11158-L21
Intel Xeon-Gold 6240 (2.6GHz/18-core/150W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11157-L21
Intel Xeon-Gold 6238 (2.1GHz/22-core/140W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11167-L21
Intel Xeon-Gold 6234 (3.3GHz/8-core/130W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11166-L21
Intel Xeon-Gold 6230R (2.1GHz/26-core/150W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P24214-L21
Intel Xeon-Gold 6230 (2.1GHz/20-core/125W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11156-L21
Intel Xeon-Gold 6226R (2.9GHz/16-core/150W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P21201-L21

Configuration Information	
Intel Xeon-Gold 6226 (2.7GHz/12-core/125W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11165-L21
Intel Xeon-Gold 6210U (2.5GHz/20-core/150W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11163-L21
Notes: Only supported in single socket configurations	
Intel Xeon-Gold 6209U (2.1GHz/20-core/125W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11162-L21
Notes: Only supported in single socket configurations	
Intel Xeon-Gold 6208U (2.9GHz/16-core/150W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P21197-L21
Notes: Only supported in single socket configurations	
Intel Xeon-Gold 5222 (3.8GHz/4-core/105W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11164-L21
Intel Xeon-Gold 5220R (2.2GHz/24-core/150W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P21202-L21
Intel Xeon-Gold 5220 (2.2GHz/18-core/125W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11155-L21
Intel Xeon-Gold 5218R (2.1GHz/20-core/125W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P24213-L21
Intel Xeon-Gold 5218 (2.3GHz/16-core/125W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11154-L21
Intel Xeon-Gold 5217 (3.0GHz/8-core/115W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11153-L21
Intel Xeon-Gold 5215 (2.5GHz/10-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11152-L21
1 <sup>st</sup> Generation Intel Xeon-Gold	
Intel Xeon-Gold 6152 (2.1GHz/22-core/140W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879749-L21
Intel Xeon-Gold 6148 (2.4GHz/20-core/150W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879748-L21
Intel Xeon-Gold 6142 (2.6GHz/16-core/150W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879747-L21
Intel Xeon-Gold 6140 (2.3GHz/18-core/140W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879746-L21
Intel Xeon-Gold 6138 (2.0GHz/20-core/125W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879745-L21
Intel Xeon-Gold 6136 (3.0GHz/12-core/150W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879744-L21
Intel Xeon-Gold 6134 (3.2GHz/8-core/130W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879743-L21
Intel Xeon-Gold 6132 (2.6GHz/14-core/140W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879742-L21
Intel Xeon-Gold 6130 (2.1GHz/16-core/125W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879741-L21
Intel Xeon-Gold 6128 (3.4GHz/6-core/115W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879740-L21

Configuration Information	
Intel Xeon-Gold 6126 (2.6GHz/12-core/125W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879739-L21
Intel Xeon-Gold 5122 (3.6GHz/4-core/105W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879738-L21
Intel Xeon-Gold 5120 (2.2GHz/14-core/105W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879737-L21
Intel Xeon-Gold 5118 (2.3GHz/12-core/105W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879736-L21
Intel Xeon-Gold 5115 (2.4GHz/10-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879735-L21
2 <sup>nd</sup> Generation Intel Xeon- Silver	
Intel Xeon-Silver 4216 (2.1GHz/16-core/100W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11151-L21
Intel Xeon-Silver 4215R (3.2GHz/8-core/130W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P24215-L21
Intel Xeon-Silver 4215 (2.5GHz/8-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11150-L21
Intel Xeon-Silver 4214R (2.4GHz/12-core/100W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P21199-L21
Intel Xeon-Silver 4214 (2.2GHz/12-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11149-L21
Intel Xeon-Silver 4210R (2.4GHz/10-core/100W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P21198-L21
Intel Xeon-Silver 4210 (2.2GHz/10-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11148-L21
Intel Xeon-Silver 4208 (2.1GHz/8-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11147-L21
1 <sup>st</sup> Generation Intel Xeon-Silver	
Intel Xeon-Silver 4116 (2.1GHz/12-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879734-L21
Intel Xeon-Silver 4114 (2.2GHz/10-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879733-L21
Intel Xeon-Silver 4112 (2.6GHz/4-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879732-L21
Intel Xeon-Silver 4110 (2.1GHz/8-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879731-L21
Intel Xeon-Silver 4108 (1.8GHz/8-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879730-L21
2 <sup>nd</sup> Generation Intel Xeon- Bronze	
Intel Xeon-Bronze 3206R (1.9GHz/8-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P21196-L21
Intel Xeon-Bronze 3204 (1.9GHz/6-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	P11146-L21
1 <sup>st</sup> Generation Intel Xeon- Bronze	
Intel Xeon-Bronze 3106 (1.7GHz/8-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10	879729-L21

## **Configuration Information**

Intel Xeon-Bronze 3104 (1.7GHz/6-core/85W) FIO Processor Kit for HPE ProLiant DL180 Gen10

Registered DIMMs (RDIMMs) for 2<sup>nd</sup> Generation Intel Xeon Scalable

HPE 64GB (1x64GB) Quad Rank x4 DDR4-2666 CAS-19-19-19 Load

879728-L21

#### **Step 2b: Choose Memory Options**

Please select one or more memory from below.

For new Gen10 memory population rule whitepaper and optimal memory performance guidelines, please go to:

## https://www.hpe.com/docs/memory-population-rules

For Gen10 memory speed table, please go to: <a href="https://www.hpe.com/docs/memory-speed-table">https://www.hpe.com/docs/memory-speed-table</a>

For memory Reliability, Accessibility, Serviceability (RAS) features whitepaper like Gen10 Fast Fault Tolerance and legacy mirrored memory feature etc. please go to: <a href="http://www.hpe.com/docs/memory-ras-feature">http://www.hpe.com/docs/memory-ras-feature</a>

#### Notes:

Scalable Series

Reduced Smart Memory Kit Step 2c: Choose Power Supplies

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

Series	
HPE 64GB (1x64GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00930-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21	P00924-B21
Registered Smart Memory Kit	
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21	P00922-B21
Registered Smart Memory Kit	
HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00920-B21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21	P00918-B21
Registered Smart Memory Kit	
Registered DIMMs (RDIMMs) for 1 <sup>st</sup> Generation Intel Xeon Scalable	
Series	
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19	815100-B21
Registered Smart Memory Kit	
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19	835955-B21
Registered Smart Memory Kit	045000 504
HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815098-B21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19	815097-B21
Registered Smart Memory Kit	
Load Reduced DIMMs (LRDIMMs) for 2 <sup>nd</sup> Generation Intel Xeon	
Scalable Series	
HPE 64GB (1x64GB) Quad Rank x4 DDR4-2933 CAS-21-21 Load	P00926-B21
Reduced Smart Memory Kit	
Load Reduced DIMMs (LRDIMMs) for 1 <sup>st</sup> Generation Intel Xeon	

815101-B21

## **Configuration Information**

Please select one or two power supplies from below.

## **Notes:**

power supply

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

<b>HPE Flex</b>	<b>Slot Power</b>	Supplies
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HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21
HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit	865438-B21
HPE 800W Flex Slot Universal Hot Plug Low Halogen Power Supply Kit	865428-B21
HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21
HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	830272-B21
HPE DL160/180 Gen10 Redundant Power Supply Enablement Kit	866442-B21
Notes: This enablement kit is required with the selection of a Flex Slot	

## **Step 3: Choose Additional Factory Integratable Options**

One of the following from each list may be selected if desired at time of factory integration	
HPE Legacy FIO Mode Setting	758959-B22
HPE FIO Enable Smart Array SW RAID	784308-B21
HPE Gen10 TPM 1.2 FIO Setting	872108-B21
Cable Kits (factory integrated only)	
HPE DL180 Gen10 8 to 16SFF Smart Array S100i/E208i-p/P408i-p FIO Cable Kit	875154-B21
<b>Notes:</b> This will be used to connect Box2 to Smart Array S100i/E208i-p/P408i-p	
HPE DL180 Gen10 8 to 16SFF Smart Array E208i-a/P408i-a SAS FIO Cable Kit	875156-B21
Notes: This will be used to connect Box2 to Smart Array E208i-a/P408i-a	
HPE DL180 Gen10 16 to 24SFF Smart Array S100i/E208i-p/P408i-p FIO Cable Kit	875160-B21
<b>Notes:</b> This will be used to connect Box1 to Smart Array S100i/E208i-p/P408i-p	
HPE DL180 Gen10 16 to 24SFF Smart Array E208i-a/P408i-a SAS FIO Cable Kit	875162-B21
Notes: This will be used to connect Box1 to Smart Array E208i-a/P408i-a	
HPE DL180 Gen10 LFF Smart Array S100i/E208i-p/P408i-p FIO Cable Kit	875170-B21
<b>Notes:</b> This will be used to connect to Smart Array S100i/E208i-p/P408i-p	
HPE DL180 Gen10 LFF Smart Array E208i-a/P408i-a SAS FIO Cable Kit	875172-B21
Notes: This will be used to connect to Smart Array E208i-a/P408i-a	

Configuration Information	
HPE DL180 Gen10 Rear 2SFF to Smart Array S100i/E208i-p/P408i-p FIO Cable Kit	879410-B21
<b>Notes:</b> This will be used to connect the rear 2SFF to Smart Array E208i-p/P408i-p	
HPE DL180 Gen10 Rear 2SFF to Smart Array E208i-a/P408i-a SAS FIO Cable Kit	875181-B21
<b>Notes:</b> This will be used to connect the rear 2SFF to Smart Array E208i-a/P408i-a	
HPE DL180 Gen10 Rear 2SFF to Smart Array S100i SATA FIO Cable Kit	875183-B21
Notes: This will be used to connect the rear 2SFF to Smart Array S100i	
HPE DL180 Gen10 Rear 2SFF to SAS Expander FIO Cable Kit	875179-B21
Notes: Connects SAS Expander to the rear 2SFF drive cage	
HPE DL180 Gen10 SFF Box3 to Smart Array S100i/E208i-p/P408i-p FIO Cable Kit	879752-B21
<b>Notes:</b> This will be used to connect the default Box3 in 8SFF Chassis to Smart Array S100i/E208i-p/P408i-p	
HPE DL180 Gen10 SFF Box3 to Smart Array E208i-a/P408i-a SAS FIO Cable Kit	879754-B21
<b>Notes:</b> This will be used to connect the default Box3 in 8SFF Chassis to Smart Array E208i-a/P408i-a	
HPE Unique Options (factory integrated only)	
HPE DL180 Gen10 8 to 16SFF FIO Upgrade Kit	875151-B21
HPE DL180 Gen10 16 to 24SFF FIO Upgrade Kit	875158-B21
HPE DL180 Gen10 Rear 2SFF FIO Enablement Kit	875176-B21

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

## **Core Options**

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

HPE OneView for ProLiant DL Server including 3yr 24x7 Support FIO Bundle Physical 1-

E5Y43A

server LTU

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

P8B31A

## **Risers**

**Notes:** This server does not have a default primary riser. A primary riser must be selected from CPU1 riser options below.

HPE DL180 Gen10 CPU1 x8x8x8 PCIe Riser Kit	878484-B21
HPE DL180 Gen10 CPU1 FlexibleLOM Riser Kit	866941-B21
Notes: This right is required to use Flevible! OM adenters	

**Notes:** This riser is required to use FlexibleLOM adapters

HPE DL180 Gen10 CPU1 x16/x8 PCIe Riser Kit	866939-B21
HPE DL180 Gen10 CPU2 x8/x8/x8 PCIe Riser Kit	866945-B21
HPE DL180 Gen10 CPU2 x16/x8 PCIe Riser and GPU Enablement Kit	866943-B21

Notes: Includes GPU cable kit

## Cable Kits

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

## **Cooling Options**

HPE DL180 Gen10 Redundant Fan Kit 866947-B21

Notes: This kit contains one additional fan.

## **Optical Drive Options**

HPE 9.5mm SATA DVD-ROM Optical Drive	726536-B21
Notes: The ODD Enablement kit (866951-B21) is required for this option on a SFF	

model.

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

Notes: The ODD Enablement kit (866951-B21) is required for this option on a SFF

model.

HPE DL180 Gen10 SFF Optical Drive Enablement Kit 866951-B21

**Notes:** Cannot be seleced with 24SFF configuration

HPE Mobile USB DVD-RW Optical Drive 701498-B21

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

## **Security**

Core Options	
HPE Gen10 Chassis Intrusion Detection Kit	867824-B21
HPE Bezel Lock Kit	875519-B21
HPE Gen10 2U Bezel Kit	867809-B21
HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21
Field Upgrade Kits	
HPE DL180 Gen10 8 to 16SFF Upgrade Kit	866957-B21
Notes: Includes cables needed to connect to S100i or Smart Array controller	
HPE DL180 Gen10 16 to 24SFF Upgrade Kit	875144-B21
Notes: Includes cables needed to connect to S100i or Smart Array controller	
HPE DL180 Gen10 8 to 12LFF Upgrade Kit	866963-B21
Notes: Includes cables needed to connect to S100i or Smart Array controller	
HPE DL180 Gen10 Rear 2SFF Enablement Kit	866961-B21
Notes: Includes cables needed to connect to S100i, Smart Array controller, or expander.	0000E4 D04
HPE DL180 Gen10 SFF Optical Drive Enablement Kit	866951-B21
Cable Field Upgrade Kits	
HPE DL180 Gen10 SFF Box3 to Smart Array E208i-a/P408i-a Cable Kit	882011-B21
Notes: Includes cables to connect 8 SFF drive bays to Flexible Smart Array controller (P408i-a/E208i-a)	
HPE DL180 Gen10 LFF to Smart Array E208i-a/P408i-a Cable Kit	882015-B21
Notes: Includes cables to connect 8 LFF drive bays to Flexible Smart Array controller (P408i-a/E208i-a)	

## **HPE Processors**

Please select one -L21 processor required above.

For second processor, please select the same processor model with -B21 from Core Options - HPE Processors section below.

For example: first processor, select P11161-L21 then for second processor, select P11161-B21.

#### Notes:

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

2<sup>nd</sup> Generation Intel Xeon- Platinum

Core Options	
Intel Xeon-Platinum 8256 (3.8GHz/4-core/105W) Processor Kit for HPE ProLiant DL180 Gen10.	P12007-B21
Intel Xeon-Platinum 8253 (2.2GHz/16-core/125W) Processor Kit for HPE ProLiant DL180 Gen10.	P12006-B21
2 <sup>nd</sup> Generation Intel Xeon-Gold	
Intel Xeon-Gold 6252 (2.1GHz/24-core/150W) Processor Kit for HPE ProLiant DL180 Gen10.	P11161-B21
Intel Xeon-Gold 6248 (2.5GHz/20-core/150W) Processor Kit for HPE ProLiant DL180 Gen10.	P11160-B21
Intel Xeon-Gold 6244 (3.6GHz/8-core/150W) Processor Kit for HPE ProLiant DL180 Gen10	P11159-B21
Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) Processor Kit for HPE ProLiant DL180 Gen10	P11158-B21
Intel Xeon-Gold 6240 (2.6GHz/18-core/150W) Processor Kit for HPE ProLiant DL180 Gen10.	P11157-B21
Intel Xeon-Gold 6238 (2.1GHz/22-core/140W) Processor Kit for HPE ProLiant DL180 Gen10	P11167-B21
Intel Xeon-Gold 6234 (3.3GHz/8-core/130W) Processor Kit for HPE ProLiant DL180 Gen10.	P11166-B21
Intel Xeon-Gold 6230R (2.1GHz/26-core/150W) Processor Kit for HPE ProLiant DL180 Gen10	P24214-B21
Intel Xeon-Gold 6230 (2.1GHz/20-core/125W) Processor Kit for HPE ProLiant DL180 Gen10	P11156-B21
Intel Xeon-Gold 6226R (2.9GHz/16-core/150W) Processor Kit for HPE ProLiant DL180 Gen10	P21201-B21
Intel Xeon-Gold 6226 (2.7GHz/12-core/125W) Processor Kit for HPE ProLiant DL180 Gen10.	P11165-B21
Intel Xeon-Gold 5222 (3.8GHz/4-core/105W) Processor Kit for HPE ProLiant DL180 Gen10.	P11164-B21
Intel Xeon-Gold 5220R (2.2GHz/24-core/150W) Processor Kit for HPE ProLiant DL180 Gen10	P21202-B21
Intel Xeon-Gold 5220 (2.2GHz/18-core/125W) Processor Kit for HPE ProLiant DL180 Gen10.	P11155-B21
Intel Xeon-Gold 5218R (2.1GHz/20-core/125W) Processor Kit for HPE ProLiant DL180 Gen10	P24213-B21
Intel Xeon-Gold 5218 (2.3GHz/16-core/125W) Processor Kit for HPE ProLiant DL180 Gen10.	P11154-B21
Intel Xeon-Gold 5217 (3.0GHz/8-core/115W) Processor Kit for HPE ProLiant DL180 Gen10.	P11153-B21
Intel Xeon-Gold 5215 (2.5GHz/10-core/85W) Processor Kit for HPE ProLiant DL180 Gen10.	P11152-B21
1 <sup>st</sup> Generation Intel Xeon-Gold	
Intel Xeon-Gold 6152 (2.1GHz/22-core/140W) Processor Kit for HPE ProLiant DL180 Gen10.	879749-B21
Intel Xeon-Gold 6148 (2.4GHz/20-core/150W) Processor Kit for HPE ProLiant DL180 Gen10.	879748-B21
Intel Xeon-Gold 6142 (2.6GHz/16-core/150W) Processor Kit for HPE ProLiant DL180 Gen10.	879747-B21
Intel Xeon-Gold 6140 (2.3GHz/18-core/140W) Processor Kit for HPE ProLiant DL180 Gen10.	879746-B21

Core Options	_
Intel Xeon-Gold 6138 (2.0GHz/20-core/125W) Processor Kit for HPE ProLiant DL180 Gen10.	879745-B21
Intel Xeon-Gold 6136 (3.0GHz/12-core/150W) Processor Kit for HPE ProLiant DL180 Gen10.	879744-B21
Intel Xeon-Gold 6134 (3.2GHz/8-core/130W) Processor Kit for HPE ProLiant DL180 Gen10.	879743-B21
Intel Xeon-Gold 6132 (2.6GHz/14-core/140W) Processor Kit for HPE ProLiant DL180 Gen10.	879742-B21
Intel Xeon-Gold 6130 (2.1GHz/16-core/125W) Processor Kit for HPE ProLiant DL180 Gen10.	879741-B21
Intel Xeon-Gold 6128 (3.4GHz/6-core/115W) Processor Kit for HPE ProLiant DL180 Gen10.	879740-B21
Intel Xeon-Gold 6126 (2.6GHz/12-core/125W) Processor Kit for HPE ProLiant DL180 Gen10.	879739-B21
Intel Xeon-Gold 5122 (3.6GHz/4-core/105W) Processor Kit for HPE ProLiant DL180 Gen10.	879738-B21
Intel Xeon-Gold 5120 (2.2GHz/14-core/105W) Processor Kit for HPE ProLiant DL180 Gen10.	879737-B21
Intel Xeon-Gold 5118 (2.3GHz/12-core/105W) Processor Kit for HPE ProLiant DL180 Gen10.	879736-B21
Intel Xeon-Gold 5115 (2.4GHz/10-core/85W) Processor Kit for HPE ProLiant DL180 Gen10.	879735-B21
2 <sup>nd</sup> Generation Intel Xeon- Silver	
Intel Xeon-Silver 4216 (2.1GHz/16-core/100W) Processor Kit for HPE ProLiant DL180 Gen10.	P11151-B21
Intel Xeon-Silver 4215R (3.2GHz/8-core/130W) Processor Kit for HPE ProLiant DL180 Gen10	P24215-B21
Intel Xeon-Silver 4215 (2.5GHz/8-core/85W) Processor Kit for HPE ProLiant DL180 Gen10	P11150-B21
Intel Xeon-Silver 4214R (2.4GHz/12-core/100W) Processor Kit for HPE ProLiant DL180 Gen10	P21199-B21
Intel Xeon-Silver 4214 (2.2GHz/12-core/85W) Processor Kit for HPE ProLiant DL180 Gen10.	P11149-B21
Intel Xeon-Silver 4210R (2.4GHz/10-core/100W) Processor Kit for HPE ProLiant DL180 Gen10	P21198-B21
Intel Xeon-Silver 4210 (2.2GHz/10-core/85W) Processor Kit for HPE ProLiant DL180 Gen10.	P11148-B21
Intel Xeon-Silver 4208 (2.1GHz/8-core/85W) Processor Kit for HPE ProLiant DL180 Gen10 1st Generation Intel Xeon-Silver	P11147-B21
Intel Xeon-Silver 4116 (2.1GHz/12-core/85W) Processor Kit for HPE ProLiant DL180 Gen10.	879734-B21
Intel Xeon-Silver 4114 (2.2GHz/10-core/85W) Processor Kit for HPE ProLiant DL180 Gen10.	879733-B21
Intel Xeon-Silver 4112 (2.6GHz/4-core/85W) Processor Kit for HPE ProLiant DL180 Gen10.	879732-B21
Intel Xeon-Silver 4110 (2.1GHz/8-core/85W) Processor Kit for HPE ProLiant DL180 Gen10	879731-B21
Intel Xeon-Silver 4108 (1.8GHz/8-core/85W) Processor Kit for HPE ProLiant DL180 Gen10	879730-B21
2 <sup>nd</sup> Generation Intel Xeon- Bronze	
Intel Xeon-Bronze 3206R (1.9GHz/8-core/85W) Processor Kit for HPE ProLiant DL180 Gen10	P21196-B21
Intel Xeon-Bronze 3204 (1.9GHz/6-core/85W) Processor Kit for HPE ProLiant DL180 Gen10.	P11146-B21
1 <sup>st</sup> Generation Intel Xeon- Bronze	
Intel Xeon-Bronze 3106 (1.7GHz/8-core/85W) Processor Kit for HPE ProLiant DL180 Gen10	879729-B21

### **Core Options**

Intel Xeon-Bronze 3104 (1.7GHz/6-core/85W) Processor Kit for HPE ProLiant DL180 Gen10

879728-B21

## **HPE Memory**

For new Gen10 memory population rule whitepaper and optimal memory performance guidelines, please go to:

### https://www.hpe.com/docs/memory-population-rules

For Gen10 memory speed table, please go to: https://www.hpe.com/docs/memory-speed-table

For memory Reliability, Accessibility, Serviceability (RAS) features whitepaper like Gen10 Fast Fault Tolerance and legacy mirrored memory feature etc. please go to: <a href="http://www.hpe.com/docs/memory-ras-feature">http://www.hpe.com/docs/memory-ras-feature</a>

#### Notes:

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

## **HPE DDR4 Memory**

**Scalable Series** 

Registered DIMMs (RDIMMs) for 2 <sup>nd</sup> Generation Intel Xeon Scalable Series	
HPE 64GB (1x64GB) Dual Rank x4 DDR4-2933 CAS-21-21-21	P00930-B21
Registered Smart Memory Kit	F00930-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21	P00924-B21
Registered Smart Memory Kit	. 00021 221
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21	P00922-B21
Registered Smart Memory Kit	
HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21	P00920-B21
Registered Smart Memory Kit	
HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21	P00918-B21
Registered Smart Memory Kit	
Registered DIMMs (RDIMMs) for 1 <sup>st</sup> Generation Intel Xeon Scalable	
Series	000 Bo.
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
•	005055 D04
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19	815098-B21
Registered Smart Memory Kit	013090-021
HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19	815097-B21
Registered Smart Memory Kit	013097-021
Load Reduced DIMMs (LRDIMMs) for 2 <sup>nd</sup> Generation Intel Xeon	

### **Core Options**

HPE 64GB (1x64GB) Quad Rank x4 DDR4-2933 CAS-21-21-21 P00926-B21

Load Reduced Smart Memory Kit

Load Reduced DIMMs (LRDIMMs) for 1st Generation Intel Xeon **Scalable Series** 

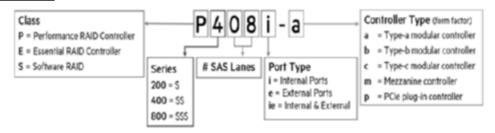
HPE 64GB (1x64GB) Quad Rank x4 DDR4-2666 CAS-19-19-19 815101-B21

Load Reduced Smart Memory Kit

Notes: The maximum memory speed is a function of the memory type, memory configuration, and processor model.

## **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.



#### **Essential RAID Controllers**

Notes: E208i-p and E208e-p PCIe plug-in controllers use a PCIe

HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No

Cache) 12G SAS PCIe Plug-in Controller

HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No 804398-B21

Cache) 12G SAS PCIe Plug-in Controller

HPE Smart Array E208i-a SR Gen10 (8 Internal Lanes/No 804326-B21

Cache) 12G SAS Modular Controller

Notes: SFF Box3 to Smart Array E208i-a/P408i-a Cable Kit' (882011-B21) is required for the installation of the controllers E208i-a or P408i-a

#### **Performance RAID Controller**

HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB 804331-B21

Cache) 12G SAS Modular Controller

HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB 804405-B21

Cache) 12G SAS PCIe Plug-in Controller

HPE Smart Array P408i-p SR Gen10 (8 Internal Lanes/2GB 830824-B21

Cache) 12G SAS PCIe Plug-in Controller

Notes: 'SFF Box3 to Smart Array E208i-a/P408i-a Cable Kit' (882011-B21) is required for the installation of the controllers

E208i-a or P408i-a

## SAS Expander

HPE DL180 Gen10 12Gb SFF SAS Expander Card FIO Kit with Cables

875132-B21

804394-B21

### **Core Options**

#### **Notes:**

- -Connects more than 8 drives to a single controller
- This option comes with the necessary cables to connect to the corresponding controller and to the drive backplane
- -This option can only be used in Slot 1 on 8SFF CTO model (879517-B21)

<b>HPE</b>	<b>Cable</b>	<b>Options</b>
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HPE Smart Storage Hybrid Capacitor with 145mm Cable Kit	P02377-B21
Notes: Supports up to 3 P-class Smart Array controllers	
HPE 96W Smart Storage Lithium-ion Battery with 145mm	P01366-B21
Cable Kit	
Notes: Supports up to 6 P-class Smart Array controllers	
HPE DL180 Gen10 SFF Box3 to Smart Array E208i-a/P408i-a	882011-B21
Cable Kit	
Graphics Cable Kits	

#### Graphics Cable Kits

# **Optional Software**

HPE Smart Array SR Secure Encryption (Data at Rest Encryption/per Server Entitlement) E-LTU	Q2F26AAE
HPE Smart Array SR SmartCache (Single Key/Single Server) LTU	D7S26A
HPE Smart Array SR SmartCache (Single Key/Multiple Servers) LTU	D7S27A
HPE Smart Array SR SmartCache (Single Key/Multiple Servers) E-LTU	D7S27AAE

**Notes:** Smart Cache is offered on HPE Smart Array performance RAID controllers

#### **HPE Drives**

Enterprise -	12G	SAS -	SFF	Drives
--------------	-----	-------	-----	--------

Digitally Signed Firmware HDD

HPE 2.4TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	881457-B21
HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	872481-B21
HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872479-B21
HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872477-B21
HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty	
Digitally Signed Firmware HDD	872475-B21
HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty	870759-B21

Core Options	_
HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870757-B21
HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870753-B21
Midline - 12G SAS- SFF Drives	
HPE 2TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD	765466-B21
HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD	832514-B21
Midline - 12G SAS - LFF Drives	
HPE 12TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	881781-B21
HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e	001701-021
Digitally Signed Firmware HDD	834031-B21
HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e	
HDD	861746-B21
HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty	000000 504
Digitally Signed Firmware HDD	833928-B21
HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	833926-B21
Midline - 6G SATA- SFF Drives	000020 52 1
HPE 2TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty	
512e Digitally Signed Firmware HDD	765455-B21
HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty	
Digitally Signed Firmware HDD	655710-B21
Midline - 6G SATA - LFF Drives	
HPE 12TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty	
Helium 512e Digitally Signed Firmware HDD	881787-B21
HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty	
512e Digitally Signed Firmware HDD	834028-B21
HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e HDD	061740 D01
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty	861742-B21
Digitally Signed Firmware HDD	861683-B21
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty	
Digitally Signed Firmware HDD	861681-B21
HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty	
Digitally Signed Firmware HDD	861686-B21
SSD Selection	
For SSD selection guidance, please visit https://ssd.hpe.com/	
Read Intensive - 12G SAS - SFF - Solid State Drives	
HPE 3.84TB SAS 12G Read Intensive SFF SC SS540	P21143-B21
SSD	
HPE 3.84TB SAS 12G Read Intensive SFF SC Value	P10444-B21
SAS RM5 SSD	

Core Options	
HPE 1.92TB SAS 12G Read Intensive SFF SC SS540 SSD	P21141-B21
HPE 1.92TB SAS 12G Read Intensive SFF SC PM1643a SSD	P19905-B21
HPE 1.92TB SAS 12G Read Intensive SFF SC PM5 SSD	P04519-B21
HPE 1.92TB SAS 12G Read Intensive SFF SC Value SAS RM5 SSD	P10442-B21
HPE 960GB SAS 12G Read Intensive SFF SC SS540 SSD	P21139-B21
HPE 960GB SAS 12G Read Intensive SFF SC PM1643a SSD	P19903-B21
HPE 960GB SAS 12G Read Intensive SFF SC PM5 SSD	P04517-B21
HPE 960GB SAS 12G Read Intensive SFF SC Value SAS RM5 SSD	P10440-B21
Mixed Use - 12G SAS - SFF - Solid State Drives	
HPE 3.84TB SAS 12G Mixed Use SFF SC Value SAS RM5 SSD	P10460-B21
HPE 3.2TB SAS 12G Mixed Use SFF SC SS540 SSD	P21135-B21
HPE 1.92TB SAS 12G Mixed Use SFF SC Value SAS RM5 SSD	P10454-B21
HPE 1.6TB SAS 12G Mixed Use SFF SC SS540 SSD	P21133-B21
HPE 1.6TB SAS 12G Mixed Use SFF SC PM1645a SSD	P19915-B21
HPE 960GB SAS 12G Mixed Use SFF SC Value SAS RM5 SSD	P10448-B21
HPE 800GB SAS 12G Mixed Use SFF SC SS540 SSD	P21131-B21
HPE 800GB SAS 12G Mixed Use SFF SC PM1645a SSD	P19913-B21
HPE 800GB SAS 12G Mixed Use SFF SC PM5 SSD	P04527-B21
HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P04525-B21
Write Intensive - 12G SAS - SFF - Solid State Drives	
HPE 1.6TB SAS 12G Write Intensive SFF SC SS540 SSD	P21129-B21
HPE 800GB SAS 12G Write Intensive SFF SC SS540 SSD	P21127-B21
HPE 800GB SAS 12G Write Intensive SFF SC PM5 SSD	P04543-B21
HPE 400GB SAS 12G Write Intensive SFF SC SS540 SSD	P21125-B21
HPE 400GB SAS 12G Write Intensive SFF SC PM5 SSD	P04541-B21
Mixed Use - 12G SAS - LFF - Solid State Drives	
HPE 3.84TB SAS 12G Mixed Use LFF LPC Value SAS RM5 SSD	P10462-B21
HPE 1.92TB SAS 12G Mixed Use LFF LPC Value SAS RM5 SSD	P10458-B21
HPE 1.6TB SAS 12G Mixed Use LFF LPC PM5 SSD	P04535-B21
HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS RM5 SSD	P10452-B21
HPE 800GB SAS 12G Mixed Use LFF LPC PM5 SSD	P04531-B21
Read Intensive - SATA - SFF - Solid State Drives	

Core Options	
HPE 7.68TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Multi Vendor	P18430-B21
HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18428-B21
HPE 3.84TB SATA 6G Read Intensive SFF SC 5300P SSD	P19943-B21
HPE 3.84TB SATA 6G Read Intensive SFF SC S4510 SSD	P05946-B21
HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18426-B21
HPE 1.92TB SATA 6G Read Intensive SFF SC 5300P SSD	P19941-B21
HPE 1.92TB SATA 6G Read Intensive SFF SC S4510 SSD	P05938-B21
HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18424-B21
HPE 960GB SATA 6G Read Intensive SFF SC 5300P SSD	P19939-B21
HPE 960GB SATA 6G Read Intensive SFF SC S4510 SSD	P05932-B21
HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18422-B21
HPE 480GB SATA 6G Read Intensive SFF SC 5300P SSD	P19937-B21
HPE 480GB SATA 6G Read Intensive SFF SC S4510 SSD	P05928-B21
HPE 480GB SATA 6G Read Intensive SFF SC PM883 SSD	P04560-B21
HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18420-B21
HPE 240GB SATA 6G Read Intensive SFF SC 5300P SSD	P19935-B21
HPE 240GB SATA 6G Read Intensive SFF SC S4510 SSD	P05924-B21
Very Read Optimized- SATA - SFF - Solid State Drives	
HPE 3.84TB SATA 6G Very Read Optimized SFF SC 5210 SSD	P23489-B21
HPE 1.92TB SATA 6G Very Read Optimized SFF SC 5210 SSD	P23487-B21
Mixed Use - SATA - SFF - Solid State Drives	
HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18438-B21
HPE 3.84TB SATA 6G Mixed Use SFF SC 5300M SSD	P19953-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18436-B21
HPE 1.92TB SATA 6G Mixed Use SFF SC 5300M SSD	P19951-B21
HPE 1.92TB SATA 6G Mixed Use SFF SC SM883 SSD	P09722-B21
HPE 1.92TB SATA 6G Mixed Use SFF SC S4610 SSD	P05986-B21
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty	P07930-B21
Digitally Signed Firmware SSD	

Core Options	
HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Multi Vendor SSD	P18434-B21
HPE 960GB SATA 6G Mixed Use SFF SC 5300M SSD	P19949-B21
HPE 960GB SATA 6G Mixed Use SFF SC SM883 SSD	P09716-B21
HPE 960GB SATA 6G Mixed Use SFF SC S4610 SSD	P05980-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty	P18432-B21
Multi Vendor SSD	
HPE 480GB SATA 6G Mixed Use SFF SC 5300M SSD	P19947-B21
HPE 480GB SATA 6G Mixed Use SFF SC SM883 SSD	P09712-B21
HPE 480GB SATA 6G Mixed Use SFF SC S4610 SSD	P05976-B21
HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty	P07922-B21
Digitally Signed Firmware SSD	
Read Intensive - SATA - LFF - Solid State Drives	
HPE 1.92TB SATA 6G Read Intensive LFF LPC 5300P	
SSD	P19976-B21
HPE 960GB SATA 6G Read Intensive LFF LPC PM883	B00004 B04
SSD	P09691-B21
HPE 480GB SATA 6G Read Intensive LFF LPC 5300P SSD	P19974-B21
Very Read Optimized- SATA - LFF - Solid State Drives	F 19974-D21
HPE 7.68TB SATA 6G Very Read Optimized LFF LPC	
5210 SSD	P23495-B21
HPE 3.84TB SATA 6G Very Read Optimized LFF LPC	
5210 SSD	P23491-B21
Mixed Use - SATA - LFF - Solid State Drives	
HPE 1.92TB SATA 6G Mixed Use LFF LPC SM883 SSD	P09726-B21
HPE 1.92TB SATA 6G Mixed Use LFF LPC 5300M SSD	P19984-B21
HPE 960GB SATA 6G Mixed Use LFF LPC 5300M SSD	P19980-B21
Internal Dual M.2 Kit	
HPE Universal SATA 6G AIC HHHL M.2 SSD Enablement Kit	878783-B21
Notes: The Universal SATA M.2 Kit above will require a PCIe slot and support up to two	070703-021
of the same M.2 cards below.	
Read Intensive - M.2 - Solid State Drives (2280 type)	
HPE 960GB SATA 6G Read Intensive M.2 2280 5300P SSD	P19892-B21
HPE 480GB SATA 6G Read Intensive M.2 2280 5300P SSD	P19890-B21
HPE 240GB SATA 6G Read Intensive M.2 2280 5300B SSD	P19888-B21
M.2 Cable Kit	
HPE DL160 Gen10 SATA M.2 Cable Kit	866456-B21
Notes: Must be selected along with "HPE Universal SATA HHHL 3yr Wty M.2 Kit-	
878783-B21"	
Hard Drive Blank Kits	
HPE Small Form Factor Hard Drive Blank Kit	666987-B21
HPE Gen9 LFF HDD Spade Blank Kit	807878-B21

### **Core Options**

## **HPE Networking**

25 Gigabit Ethernet adapters	
HPE Ethernet 10/25Gb 2-port SFP28 QL41401-A2G Adapter	867328-B21
HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter	817718-B21
HPE Ethernet 10/25Gb 2-port SFP28 MCX4121A-ACUT Adapter	817753-B21
10 Gigabit Ethernet adapters	
HPE Ethernet 10Gb 2-port BASE-T QL41401-A2G Adapter	867707-B21
Notes: Max 1 per system	
HPE Ethernet 10Gb 2-port BASE-T 57810S Adapter	656596-B21
HPE Ethernet 10Gb 2-port SFP+ 57810S Adapter	652503-B21
HPE Ethernet 10Gb 2-port BASE-T BCM57416 Adapter	813661-B21
HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter	727055-B21
HPE Ethernet 10Gb 2-port BASE-T X550-AT2 Adapter	817738-B21
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
Notes: Max 1 per system. Can only be installed in Slot 1	
HPE Ethernet 1Gb 2-port BASE-T I350-T2V2 Adapter	652497-B21
HPE Ethernet 1Gb 2-port BASE-T BCM5720 Adapter	615732-B21
FlexibleLOM adapters	
HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter	764285-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
HPE Ethernet 10/25Gb 2-port FLR-SFP28 QL41401-A2G Converged Network Adapter	867334-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 FlexFabric 10Gb 4-port FLR-T 57840S Adapter	764302-B21
HPE Ethernet 10Gb 2-port FLR-T BCM57416 Adapter	817721-B21
HPE FlexFabric 10Gb 2-port FLR-SFP+ 57810S Adapter	700751-B21
HPE FlexFabric 10Gb 2-port FLR-T 57810S Adapter	700759-B21
HPE Ethernet 1Gb 4-port FLR-T BCM5719 Adapter	629135-B22
HPE Ethernet 1Gb 4-port FLR-T I350-T4V2 Adapter	665240-B21
Notes	

- The DL180 Gen10 ships with 2x 1 Gb Embedded Network controller.
- Only one FlexibleLOM can be added to the server. These options are upgradeable and can be changed from the original configuration after the server is shipped.
- FlexibleLOM Enablement Kit (866941-B21) is required to install these adapters
- 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/adapters/pip.models.hpe-storefabric-converged-network-adapters.4118472.html

#### **Media Module adapters**

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

### **Core Options**

#### Notes:

- -The DL180 Gen10 chassis ships with 2x 1 Gb embedded.
- Only one Media Module can be added to the server. These options are upgradeable and can be changed from the original configuration after the server is shipped
- -These adapters should be installed in the Media Module connector slot on the system board only.
- Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.

#### **HPE InfiniBand**

HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter	764284-B21
HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter	764285-B21

## **HPE Power Supplies**

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

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

#### **HPE Flex Slot Power Supplies**

HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21
HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit	865438-B21
HPE 800W Flex Slot Universal Hot Plug Low Halogen Power Supply Kit	865428-B21
HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21
HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	830272-B21
HPE DL160/180 Gen10 Redundant Power Supply Enablement Kit	866442-B21

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



### **Additional Options**

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

## **Embedded Management**

#### **HPE iLO Advanced**

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

## **HPE iLO Common Password Setting**

HPE iLO Common Password FIO Setting

P08040-B21

### Notes:

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

#### **HPE Converged Infrastructure Management Software**

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

#### **HPE OneView Advanced (without HPE iLO Advanced)**

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

#### Notes:

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

https://www.hpe.com/us/en/integrated-systems/software.html

# **HPE Storage Options**

### **Additional Options**

Emulex Fibre Channel HBAs	
HPE SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter	Q0L13A
HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	Q0L14A
HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter	Q0L11A
HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	Q0L12A
QLogic Fibre Channel HBAs	
HPE SN1100Q 16Gb Single Port Fibre Channel Host Bus Adapter	P9D93A
HPE SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter	P9D94A
HPE SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter	P9M75A
HPE SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter	P9M76A
Converged Network Adapters	
HPE CN1100R Dual Port Converged Network Adapter	QW990A
HPE CN1100R 10GBASE-T Dual Port Converged Network Adapter	N3U52A
HPE CN1200E 10GBASE-T Dual Port Converged Network Adapter	N3U51A

## **HPE Rack Options**

#### Rail Kits

Rail Kits	
HPE 2U Small Form Factor Easy Install Rail Kit	733660-B21
Notes: This (733660-B21) Rail kit can alos be used for LFF chassis.	
HPE 2U Cable Management Arm for Easy Install Rail Kit	733664-B21

#### **HPE Racks**

Please see the <u>HPE Advanced Series Racks QuickSpecs</u> for information on additional racks options and rack specifications.

Please see the <u>HPE Enterprise Series Racks QuickSpecs</u> for information on additional racks options and rack specifications.

## **HPE Power Distribution Units (PDUs)**

Please see the <u>HPE Basic Power Distribution Units (PDU) QuickSpecs</u> for information on these products and their specifications.

Please see the <u>HPE Metered Power Distribution Units (PDU) QuickSpecs</u> for information on these products and their specifications.

Please see the <u>HPE Intelligent Power Distribution Unit (PDU) QuickSpecs</u> for information on these products and their specifications.

Please see the <u>HPE Metered and Switched Power Distribution Units (PDU) QuickSpecs</u> for information on these products and their specifications.



### **Additional Options**

## **HPE Uninterruptible Power Systems (UPS)**

To learn more, please visit the HPE Uninterruptible Power Systems (UPS) web page.

Please see the <u>HPE DirectFlow Three Phase Uninterruptible Power System QuickSpecs</u> 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 IT Access and Control** for information on these products and their specifications.

HPE USB and SD Options

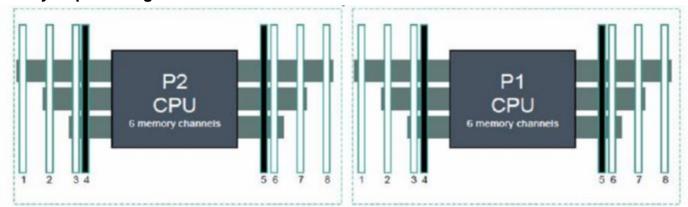
#### **HPE Enterprise Mainstream Flash Media Kits for Memory Cards**

HPE 32GB microSD Flash Memory Card	700139-B21
HPE 32GB microSD RAID 1 USB Boot Drive	P21868-B21
HPE 8GB Dual microSD Flash USB Drive	741279-B21



Memory

# **Memory Population guidelines**



#### HPE DL160/DL180 Gen 10 Servers Front Server

(2+1+1 slots per channel)

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

#### HPE ProLiant Gen10 8 slot per CPU DIMM population order

Notes:\*Unbalanced, not recommended

#### **General Memory Population Rules and Guidelines:**

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

**Notes:** The maximum memory speed is a function of the memory type, memory configuration, and processor model

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

Storage



**8 SFF Drives** 



**8LFF Drives** 



**12LFF Drives** 



## **Technical Specifications**

## System Unit

**Dimensions** (Height X Width X Depth)

• 8.75 x 44.54 x 63.47 cm

3.44 x 17.54 x 24.99 in (Dimensions for 12LFF) **Weight** (approximate)

Minimum

8 SFF/LFF chassis with 1x SFF/LFF HDD and 7 HDD blanks, 2x Drive Bay blanks, 1x processor including standard heatsink, 1x power supply (plus blank), 1x Smart Array, 1x Riser installed, cables for the above)

-13.0 kg--26.0 kg

Input Requirements(per power supply)

28.0lb--58.0 lb

## Rated Line Voltage

- 100 to 120 VAC
- 200 to 240 VAC

### **BTU Rating**

Maximum

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

### Power Supply Output(per power supply)

Rated Steady-State Power

For 500W Power Supply: 500W (at 100 VAC), 500W (at 240 VAC), 500W (at 240 VAC) input for China only

## System Inlet Temperature

• Standard Operating Temperature

10° to 35°C (50° to 95°F)at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed.

System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).

Extended Ambient Operating Temperature

### **Technical Specifications**

For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL:http://www.hpe.com/servers/ashrae

For approved hardware configurations, the supported system inlet range is extended to be: 40° to 45°C (104° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL:http://www.hpe.com/servers/ashrae

System performance may be reduced if operating in the extended ambient operating range or with a fan fault.

### Non-operating

-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).

## **Relative Humidity**

### Operating

8% to 90% - Relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.

• Non-operating (Non-condensing)

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 ( $L_{WAd}$ ) and declared average bystander position A-Weighted sound pressure levels ( $L_{pAm}$ ) 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.



### **Technical Specifications**

Configuration SKU	Entry(LFF )/ (SFF)	Base(LFF)/ SFF)	Performance(LFF)/ (SFF)
Idle			
L <sub>WAd</sub>	4.2 B	4.3 B	4.7 B
L <sub>pAm</sub>	26.6 dBA	27.0 dBA	28.5 dBA
Operating			
L <sub>WAd</sub>	5.2 B	5.4 B	5.7 B
L <sub>pAm</sub>	35.4 dBA	37.2 dBA	39.7 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.
- Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.
- The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.

## **Emissions Classification (EMC) - Regulatory Information**

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

http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts

## **HPE Smart Array**

For information on the HPE Smart Array E208i-p SR Gen10 Controller please refer to their QuickSpecs.

For information on the HPE Smart Array E208e-p SR Gen10 Controller please refer to their QuickSpecs.

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

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

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

# **Summary of Changes**

Date	Version History	Action	Description of Change	
05-Oct-2020	Version 17	Changed	Pre- Configured Models, Configuration Information, Core Options and Additional Options sections were updated.	
			Obsolete SKUs were removed.	
08-Sep-2020	Version 16	Changed	Overview, Standard Features, Pre- Configured Models, Configuration Information, Core Options and Additional Options sections were updated.	
			Obsolete SKUs were removed.	
01-Jun-2020	Version 15	Changed	Overview, Configuration Information, Core Options and Additional Options sections were updated.	
06-Apr-2020	Version 14	Changed	Core Options section was updated.	
16-Mar-2020	Version 13	Changed	Service and Support, Pre- Configured Models, Core Options and Additional Options sections were updated.	
03-Feb-2020	Version 12	Changed	Overview, Standard Features, Configuration Information, Pre- Configured Models, Core Options, Additional Options and Memory sections were updated.	
02-Dec-2019	Version 11	Changed	Configuration Information, Core Options, and Additional Options were updated.	
18-Nov-2019	Version 10	Changed	Overview, Standard Features, Configuration Information, Core Options, and Additional Options were updated.	
04-Nov-2019	Version 9	Changed	Standard Features and Additional Options section were updated.	
07-Oct-2019	Version 8	Changed	Overview, Standard Features, Pre-configured Models, Core Options, Additional Options, Memory and Technical Specifications sections were updated.	
			Obsolete SKUs were removed.	
12-Aug-2019	Version 7	Changed	Overview, Standard Features and Additional Options sections were updated.	
30-Jul-2019	Version 6	Changed	Additional Options section was updated.	
01-Jul-2019	Version 5	Changed	Overview, Standard Features, Service and Support, Configuration Information and Additional Options sections were updated.	
03-Jun-2019	Version 4	Changed	Overview, Standard Features, Service and Support, Configuration Information, Additional Options, Memory, Storage and Technical Specifications sections were updated.	
02-Apr-2019	Version 3	Changed	Standard Features and Additional Options sections were updated.	
04-Mar-2019	Version 2	Changed	Internal View image has been updated	
04-Feb-2019	Version 1	New	New QuickSpecs.	

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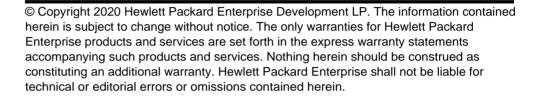


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