HPE Cloudline CL2600 Gen10 Server - Product Information Reference

HPE Cloudline CL2600 Gen10 Server - Product Information Reference

© Copyright ,

Notices

The information contained herein is subject to change without notice. The only warranties for Hewlett Packard Enterprise products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

Confidential computer software. Valid license from Hewlett Packard Enterprise required for possession, use, or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Links to third-party websites take you outside the Hewlett Packard Enterprise website. Hewlett Packard Enterprise has no control over and is not responsible for information outside the Hewlett Packard Enterprise website.

Acknowledgments

Intel®, Itanium®, Optane™, Pentium®, Xeon®, Intel Inside®, and the Intel Inside logo are trademarks of Intel Corporation in the U.S. and other countries.

AMD and the AMD EPYC™ and combinations thereof are trademarks of Advanced Micro Devices, Inc.

Microsoft® and Windows® are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Adobe® and Acrobat® are trademarks of Adobe Systems Incorporated.

Java® and Oracle® are registered trademarks of Oracle and/or its affiliates.

UNIX® is a registered trademark of The Open Group.

All third-party marks are property of their respective owners.

Revision history

Part number	Publication date	Edition	Summary of changes

Table of contents

Overview

- Summary 5
  - Product description 5
  - What's new 5
- Standard Models 6
  - New RoHS compliant part numbers 6
  - Standard models 6
- Product features 7

Specifications

- Specifications 19
  - System specifications 19
  - Physical specifications 19
  - Environmental specifications 20
  - Electrical specifications 22

Compatibility/Supportability

- Spare Parts 23
  - New model specific parts lists 24
  - Mechanical components 24
  - System components 27
  - Server options 34
- Option Parts 39
  - New model specific parts lists 39
  - Processors 40
  - Memory 43
  - Power supplies 44
  - Additional factory integrated options 45
  - HPE Unique options 46
  - Drives 46
  - Networking 49
  - Storage controllers 51
  - Rail kits 52
  - Support services 52
- OS Compatibility 53

Summary

Product description



The HPE Cloudline CL2600 Gen10 Server is the standard of open systems in a 1U Hewlett Packard Enterprise flagship design. From quality controls and rigor in the manufacturing and design, to security controls in the supply chain, this server represents peace of mind. The HPE Cloudline CL2600 Gen10 server supports the first and second generation Intel Xeon scalable processors, six memory channels per CPU, an AMI BIOS for open systems management, and industry standard options all in a 1U standard-depth chassis with options for power supplies to support AC and DC power. In addition, the server supports up to eight Small Form Factor (SFF) SAS/SATA Hard Disk Drive (HDD)/Solid State Drive (SSD) + two SFF Non-Volatile Memory Express (NVMe) or up to ten SFF NVMe SSDs

What's new

- European Union (EU) Lot 9 regulation, please visit: **Click here to view the Environmental Declarations for more inromation**.
- Network Choice (NC) Configure To Order (CTO) models featuring no embedded LOM
- 2nd Generation Intel Xeon scalable processor family
- 16/32/64GB 2933 MT/s Dual In-Line Memory Modules (DIMMs)
- Intel Virtual RAID on CPU (VROC) software license
- 480/960GB & 2.4TB Secure Encrypted Drives (SED)
- 375GB Write Intensive (WI) SFF SSD

- HPE CL LSI CVM02 CacheVault module kit
- HPE CL SAS MegaRAID SafeStore software license and physical key Factory Installation Option (FIO) kit

Standard Models

New RoHS compliant part numbers

To find the latest RoHS compliance information, please use the HPE PartSurfer (**Click here to visit HPE PartSurfer website**) and click on one of the linked model numbers. When locating RoHS information in PartSurfer, you can use the Option part number for the components, the sales order number for a system that the component is used in, or the Spare part number for a specific part. You can find the sales order numbers and Option part numbers in the Product QuickSpecs.

Standard models

Description	Model Number
Models with embedded LOM	
HPE Cloudline CL2600 Gen10 8-Small Form Factor (SFF) Configure-To-Order (CTO) server	P04359-B21 **Click here to obtain parts list for this model**.
HPE Cloudline CL2600 Gen10 premium 10-SFF CTO server	P09678-B21 **Click here to obtain parts list for this model**.
Network Choice (NC) models	
HPE Cloudline CL2600 Gen10 8-SFF NC CTO server	P20550-B21 **Click here to obtain parts list for this model**.
HPE Cloudline CL2600 Gen10 premium 10-SFF NC CTO server	P20551-B21 **Click here to obtain parts list for this model**.

Product features

Feature	Description
Standardize all workloads	• The HPE Cloudline CL2600 Gen10 server runs everything from the most basic to the most resource-intensive workloads • Workloads include virtualization, container-based services, cloud computing, high performance computing, collaboration, hosting, and file and print sharing • Applications include VMware, Kubernetes, Zimbra, HPC applications, Cassandra, MongoDB, Hadoop
Open management and commonality across the data center	• Simplify system management across different vendors with the HPE Cloudline CL2600 Gen10 server. AMI BIOS and open systems management provides the same look and feel of the management across vendors. Expect compliance to Industry-standard interface specifications, including Redfish and IPMI • Reduce the number of OEM-Specific components and simplify procurement, servicing, and spares with open, industry-standard options
Hewlett Packard Enterprise-Designed and engineered	• Designed for durability, the HPE Cloudline CL2600 Gen10 server maintains strict quality controls for resilience • Reduce downtime and maintenance expenses with tool-less drive carriers • Drastically reduce airflow obstruction and clutter for better efficiency and serviceability with the cable management arm (Optional)
Global industry-leading supply chain, service and support	• The HPE Cloudline CL2600 Gen10 server leverages Hewlett Packard Enterprise supply chain, providing simplification, speed, and global reach • HPE Pointnext service packages provide options for service and support, above and beyond the 3/0/0 base warranty, to fit user needs worldwide
Platform information	**Form factor:**1U rack
	Chassis types:

Feature	Description
	• 8 SFF Chassis supporting SAS/SATA HDD/SSD with optional 2 NVMe or dual (2x) M.2 22 80 SATA cartridges • 10 SFF Premium chassis supporting 2 NVMe and up to 8 SFF SAS/SATA/NVME with opti onal dual (2x) M.2 2280 SATA cartridges
	System fans: Single rotor hot plug fans will be included
	For 8 SFF chassis: • 1 CPU - Includes 5 standard fans • 2 CPUs - Includes 7 standard fans
	For 10 NVMe Premium chassis: • 2 CPUs - Includes 7 high performance fans as standard
Processors	Up to 2 of the following depending on model

Table 1: 1st Generation Intel Xeon scalable processor family

Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	UPI	DDR4	Memory per socket
Gold processors [1]							
Gold 6152 processor	2.1 GHz	22	30.25MB	140 W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6148 processor	2.4 GHz	20	27.50MB	150 W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6144 processor	3.5 GHz	8	24.75MB	150 W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6142 processor	2.6 GHz	16	22.00MB	150 W	3 @ 10.4 GT/s	2666 MT/s	768GB

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

Feature	Description							
	Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
	Silver processors [2]							
	Silver 4116 processor	2.1 GHz	12	16.50MB	85 W	2 @ 9.6 GT/s	2400 MT/s	768GB
	Silver 4114 processor	2.2 GHz	10	13.75MB	85 W	2 @ 9.6 GT/s	2400 MT/s	768GB
	Silver 4112 processor	2.6 GHz	4	8.25MB	85 W	2 @ 9.6 GT/s	2400 MT/s	768GB
	Silver 4110 processor	2.1 GHz	8	11.00MB	85 W	2 @ 9.6 GT/s	2400 MT/s	768GB
	Silver 4108 processor	1.8 GHz	8	11.00MB	85 W	2 @ 9.6 GT/s	2400 MT/s	768GB
	Bronze processors [3]							
	Bronze 3106 processor	1.7 GHz	8	11.00MB	85 W	2 @ 9.6 GT/s	2133 MT/s	768GB
	Bronze 3104 processor	1.7 GHz	6	8.25MB	85 W	2 @ 9.6 GT/s	2133 MT/s	768GB

Table 2: 2nd Generation Intel Xeon scalable processor family

Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	UPI	DDR4	Memory per socket
Platinum processors [4]							
Platinum 8280M processor	2.7 GHz	28	38.50MB	205 W	3 @ 10.4 GT/s	2933 MT/s	2TB
Platinum 8276M processor	2.2 GHz	28	38.50MB	165 W	3 @ 10.4 GT/s	2933 MT/s	2TB
Platinum 8276 processor	2.2 GHz	28	38.50MB	165 W	3 @ 10.4 GT/s	2933 MT/s	1TB
Platinum 8270 processor	2.7 GHz	26	35.75MB	205 W	3 @ 10.4 GT/s	2933 MT/s	1TB
Platinum 8268 processor	2.9 GHz	24	35.75MB	205 W	3 @ 10.4 GT/s	2933 MT/s	1TB
Platinum 8260M processor	2.4 GHz	24	35.75MB	165 W	3 @ 10.4 GT/s	2933 MT/s	2TB
Platinum 8260 processor	2.4 GHz	24	35.75MB	165 W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold processors [5]							
Gold 6254 processor	3.1 GHz	18	24.75MB	200 W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6248 processor	2.5 GHz	20	27.50MB	150 W	3 @ 10.4 GT/s	2933 MT/s	1TB

Feature	Description							
	Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
	Gold 6242 processor	2.8 GHz	16	22.00MB	150 W	3 @ 10.4 GT/s	2933 MT/s	1TB
	Gold 6240 processor	2.6 GHz	18	24.75MB	150 W	3 @ 10.4 GT/s	2933 MT/s	1TB
	Gold 6230 processor	2.1 GHz	20	27.50MB	125 W	3 @ 10.4 GT/s	2933 MT/s	1TB
	Gold 5220 processor	2.2 GH	18	24.75MB	125 W	2 @ 10.4 GT/s	2666 MT/s	1TB
	Gold 5218 processor	2.3 GHz	16	22.00MB	125 W	2 @ 10.4 GT/s	2666 MT/s	1TB
	Gold 5217 processor	3.0 GHz	8	11.00MB	115 W	2 @ 10.4 GT/s	2666 MT/s	1TB
	Gold 5215M processor	2.5 GHz	10	13.75MB	85 W	2 @ 10.4 GT/s	2666 MT/s	2TB
	Gold 5215 processor	2.5 GHz	10	13.75MB	85 W	2 @ 10.4 GT/s	2666 MT/s	1TB
	Silver processors [6]							
	Silver 4216 processor	2.1 GHz	16	22.00MB	100 W	2 @ 9.6 GT/s	2400 MT/s	1TB
	Silver 4215 processor	2.5 GHz	8	11.00MB	85 W	2 @ 9.6 GT/s	2400 MT/s	1TB

Feature	Description

Intel Xeon Models	CPU Frequency	Cores	L3 Cache	Power	UPI	DDR4	Memory per socket
Silver 4214 processor	2.2 GHz	12	16.50MB	85 W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4210 processor	2.2 GHz	10	13.75MB	85 W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4208 processor	2.1 GHz	8	11.00MB	85 W	2 @ 9.6 GT/s	2400 MT/s	1TB

Click here to view more information regarding Intel Xeon processors.

Chipset

Intel C621 Chipset

Click here to view more information regarding Intel chipsets.

On system management chipset

HPE BMC – Remote server management processor embedded on the system board of the server

Memory [7]

Type	DIMM Slots available	Maximum capacity (LRDIMM)	Maximum capacity (RDIMM)
Industry standard DDR4 Registered (RDIMM) and Load Reduced (LRDIMM)	24 (12 DIMM Slots per processor, 6 channels per processor, 2 DIMMs per channel)	1.5TB (24 x 64GB LRDIMM @ 2933 MHz)	1.5TB (24 x 64GB RDIMM @ 2933 MHz)

Click here to view General Server Memory Population Rules and Guidelines for Gen10.

Memory protection

- Advanced Error-Correcting Code (ECC) uses single device data correction to detect and correct single and all multibit error that occurs within a single DRAM chip.

<table>
<tr><th>Feature</th><th>Description</th></tr>
<tr><td></td><td>• Memory online spare mode detects a rank that is degrading and switches operation to th e spare rank.</td></tr>
<tr><td>Expansion slots</td><td>
<table>
<tr><th>Riser</th><th>Expansion slots #</th><th>Technology</th><th>Bus width</th><th>Connector width</th><th>Processor</th><th>Slot form factor</th></tr>
<tr><td>Primary riser</td><td>1</td><td>PCIe 3.0</td><td>x16</td><td>x16</td><td>CPU1</td><td>Full-Height, 3/4 length (Up to 9.5 in)</td></tr>
<tr><td></td><td>2</td><td>PCIe 3.0</td><td>x8</td><td>x8</td><td>CPU1</td><td>Low profile</td></tr>
<tr><td>Primary SATA M.2 riser</td><td>1</td><td>PCIe 3.0</td><td>x16</td><td>x16</td><td>CPU1</td><td>Full-Height, 3/4 length (Up to 9.5 in)</td></tr>
<tr><td></td><td>2</td><td>PCIe 3.0</td><td>x16</td><td>x16</td><td>CPU1</td><td>Low profile</td></tr>
<tr><td>Primary NVMe riser</td><td>1</td><td>PCIe 3.0</td><td>x16</td><td>x16</td><td>CPU1</td><td>Full-Height, 3/4 length (Up to 9.5 in)</td></tr>
<tr><td></td><td>2</td><td>PCIe 3.0</td><td>x8</td><td>x8</td><td>CPU1</td><td>Low profile</td></tr>
<tr><td>Secondary Riser</td><td>3</td><td>PCIe 3.0</td><td>x16</td><td>x16</td><td>CPU2</td><td>Low profile</td></tr>
</table>
</td></tr>
<tr><td>Storage controllers</td><td>Software RAID
• Intel C621 AHCI SATA RAID with 8 SATA ports (Embedded)
• Intel VROC</td></tr>
<tr><td>RAID Controllers</td><td>• Broadcom 9460-8i RAID controller
• LSI 9361-8i RAID controller</td></tr>
<tr><td>Host Bus Adapter (HB</td><td>LSI 9300-8i SAS HBA card</td></tr>
</table>

Feature	Description
A) controllers	
Internal storage devices	Hard drives (None ship standard)
Maximum storage	**Storage** / **Capacity** / **Configuration** Hot-Plug SFF SAS HDD / 19.2TB / 8 x 2.4TB Hot-Plug SFF SATA SSD / 61.44TB / 8 x 7.68TB Hot-Plug SFF NVMe PCIe SSD / 80TB / 10 x 8TB NVMe
Power supply	• HPE 500 W Flex slot platinum hot-plug low halogen power supply kit • HPE 800 W Flex slot platinum hot-plug low halogen power supply kit [8] • HPE 1600 W Flex slot platinum hot-plug low halogen power supply kit [9]
Interfaces	Serial: 1 Port with cable - Optional Video: 1 Rear - VGA port (Standard on all chassis types) Network ports: 4x 1 GbE embedded NIC (If equipped /depending on model) BMC remote management port: 1Gb Dedicated USB 3.0: Up to 5: 1 front, 2 rear, 2 internal (Standard on all chassis types)
Industry compliance	• AMI Aptio 5.12 • UEFI 2.5 Support • UEFI Shell 2.1 Support • UEFI PI 1.4 Support

Feature	Description
	• ACPI 6.1 Compliant • PCIe 3.0 Compliant • SMBIOS 3.0 • PXE Support • WOL Support • USB 3.0 Compliant • USB 2.0 Compliant • Redfish version 1.0 • IPMI 2.0 • Data Center Management Interface (DCMI), version 1.5 • SPS 3.0 • SMBUS 2.0 • 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 pow er thresholds for idle state, as well as efficiency and performance in active state which var y among configurations.
Graphics	Integrated video standard • Video modes up to 1920 x 1200 @ 60Hz (32 b/p)
AMI Unifie d Extensibl e Firmware Interface (UEFI) BIOS	UEFI is an industry standard for better manageability and secured configuration than the lega cy ROM at boot time. HPE Cloudline Gen10 servers have a UEFI Class 2 implementation and s upport both UEFI mode (Default) and legacy BIOS mode. Please reference the CL2600 user a nd maintenance guide UEFI Enables numerous new capabilities specific to HPE servers such as: • Secure Boot and Secure Start enable for enhanced security • Operating system specific functionality • Support for > 2.2TB (Using GPT) boot drives • USB 3.0 Stack • Embedded UEFI Shell • PXE Boot support for IPv6 networks

Feature	Description
	• UEFI Boot mode only • TPM 2.0 Support • NVMe Boot support • iSCSI Software initiator support • HTTP Boot support • Boot support for option cards that only support a UEFI option ROM
Security	• UEFI Secure boot and secure start support • SECURE FLASH • SSL (HTTPS) For secured sessions • Trusted Platform Module (TPM) 2.0 option • Bezel locking kit
Embedded management	Industry standard Baseboard Management Controller (BMC) for effective remote management with IPMI / Redfish, and DCMI/PXE boot standard interfaces allowing simple/scripted integration into an application infrastructure. A user can access the BMC firmware (FW), via a web browser, or scripting for server status configurations, user(s) privilege setup, FW updates, power control, event logging, BMC network, serial port management, and SOL configuration. • Redfish API • Open systems BMC

NOTE:

1. Gold processors (1st Generation)
   - 6-Channel 1DPC DDR4 @ 2400 MT/s (SKU 5122 - supports 2666 MT/s)
   - 768GB Max memory capacity (1.5TB on select skus)
   - 2 and 4 Socket capable, 2S - 2UPI, 4S - 3UPI @ 10.4 GT/s
   - Intel turbo boost technology, Intel hyper-threading technology, Intel AVX-512 (1 x 512 bit FMA) (SKU 5122 - supports 2 x 512 bit FMA)
   - 48 Lanes PCIe 3.0, advanced Reliability, Availability and Serviceability (RAS)
2. Silver processors (1st Generation)
   - 6-Channel DDR4 @ 2400 MT/s, 768GB max memory capacity
   - 2 Socket capable, 2S - 2UPI @ 9.6 GT/s
   - Intel turbo boost technology, Intel hyper-threading technology, Intel AVX-512 (1 x 512 bit FMA)

Feature	Description

- 48 Lanes PCIe 3.0, standard RAS

3. Bronze processors (1st Generation)

   - 6-Channel DDR4 @ 2133 MT/s, 768GB max memory capacity
   - 2 Socket capable, 2S - 2UPI @ 9.6 GT/s
   - Intel AVX-512 (1 x 512 bit FMA)
   - 48 Lanes PCIe 3.0, standard RAS

4. Platinum processors (2nd Generation)

   - 6-Channel DDR4 @ 2933 MT/s
   - Support for: Vector Neural Network Instructions (VNNI) for inference acceleration
   - 2 & 4 Socket capable, 2S - 2UPI, 2S - 3UPI, 4S - 3UPI @ 10.4 GT/s
   - Intel turbo boost technology, Intel hyper-threading technology Intel AVX-512 (2 x 512 bit FMA)
   - 48 Lanes PCIe 3.0, advanced RAS

5. Gold processors (2nd Generation)

   - 6-Channel DDR4 @ 2933 MT/s (Gold 6200 skus only), 2666 MT/s on all Gold 5200 skus
   - Support for: VNNI for inference acceleration
   - 2 & 4 Socket capable, 2S - 2UPI, 2S - 3UPI, 4S - 3UPI @ 10.4 GT/s
   - Intel turbo boost technology, Intel hyper-threading technology Intel AVX-512 (2 x 512 bit FMA)
   - 48 Lanes PCIe 3.0, advanced RAS

6. Silver processors (2nd Generation)

   - 6-Channel DDR4 @ 2400 MT/s, 2TB max RAM
   - Support for: Intel VNNI for inference acceleration
   - 2 & 4 Socket capable, 2S - 2UPI, 2S - 3UPI, 4S - 3UPI @ 9.6 GT/s
   - Intel turbo boost technology, Intel hyper-threading technology Intel AVX-512 (2 x 512 bit FMA)
   - 48 Lanes PCIe 3.0, standard RAS

7.

   - Maximum memory per socket is dependent on processor selection. 2nd generation processors supporting 2TB per CPU are indicated by the “M” in the processor mod el names (i.e. 8260M)
   - Mixing of RDIMM and LRDIMM memory is not supported

8. Also available in (-48) V dc and 227 V ac/380 V dc power inputs

Feature	Description
	9. 1600 W Power supplies only support high line voltage (200 to 240 V ac)

Specifications

System specifications

Specifications	Description
Interfaces	
Serial	1 Port with cable (Optional)
Video	1 Rear - VGA port (Standard on all chassis types)
Network ports	4 x 1 GbE Embedded NIC (If equipped/depending on model)
BMC Remote management port	1Gb Dedicated
USB 3.0	Up to 5: 1 front, 2 rear, 2 internal (Standard on all ch assis types)

Physical specifications

Specifications	Description
Dimensions (H x W x D)	**Small Form Factor (SFF) drives:**

Specifications	Description
	4.29 x 43.46 x 70.7 cm (1.69 x 17.11 x 27.83 in)
Weight (Approximate)	• **SFF minimum: One drive, one processor, one power supply, two heatsinks, one storage controller, and five fans minimum:** 13.04 kg (28.74 lb) • **SFF maximum: 10 drives, two processors, two power supplies, two heatsinks, one storage controller and seven fans maximum:** 16.27 kg (35.86 lb)

Environmental specifications

Specifications	Description
Standard operating support	• 10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight • Maximum rate of change is 20°C/hr (36°F/hr) • The upper limit and rate of change may be limited by the type and number of options installed • System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F) • 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) • Check the below link for approved hardware configurations: **Click here to access the page for Hewlett Packard Enterprise Information Library**.

Specifications	Description
Extended ambient operating support	• 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 de rating 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) • Check the below link for approved hardware configurations: **Click here to access the page for Hewlett Packard Enterprise Information Library**. • System performance may be reduced if operating in the extended ambient operating range or with a fan fault
Relative humidity (Rh) (Non-Condensing)	• **Operating:** 8% to 90% - Rh, 28°C (82.4°F) maximum wet bulb temperature, Non-Condensing • **Non-Operating:** 5% to 95% Rh, 38.7°C (101.7°F) maximum wet bulb temperature, Non-Condensing
Altitude	• **Operating:** 3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min) • **Non-Operating:** 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min)
Acoustic noise	Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have users HPE representative provide information from the HPE EMESC website for further technical details regarding the configurations listed below.

Example configuration	8-SFF Entry-Level configuration	Premium 10-SFF performance configuration
Idle		
LWAd	5.1 B	5.2 B

Specifications	Description		
	Example configuration	**8-SFF Entry-Level configuration**	**Premium 10-SFF performance configuration**
	LpAm	35 dBA	36 dBA
	Operating		
	LWAd	5.3 B	5.9 B
	LpAm	36 dBA	45 dBA

NOTE:

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

Electrical specifications

Specifications	Description
Rated line voltage	• 100 to 120 V ac • 200 to 240 V ac
BTU Rating	**For 800 W power supply:** • 3207 BTU/hr (At 100 V ac) • 3071 BTU/hr (At 200 V ac) • 3112 BTU/hr (At 240 V dc) For China only **For 500 W power supply:**

Specifications	Description
	• 1979 BTU/hr (At 100 V ac) • 1911 BTU/hr (At 200 V ac) • 1965 BTU/hr (At 240 V dc) For China only
Power supply output	**Rated Steady-State power** • **For 1600 W power supply:** ◦ 1600 W (At 240 V ac) ◦ 1600 W (At 240 V dc) For China only • **For 800 W power supply:** ◦ 800 W (At 100 V ac) ◦ 800 W (At 240 V ac) ◦ 800 W (At 240 V dc) Input for China only • **For 500 W power supply:** ◦ 500 W (At 100 V ac) ◦ 500 W (At 240 V ac) ◦ 500 W (At 240 V dc) input for China only **Maximum peak power** • **For 1600 W power supply:** ◦ 1600 W (At 200 to 240 V ac) ◦ 1600 W (At 240 V dc) Input for China only

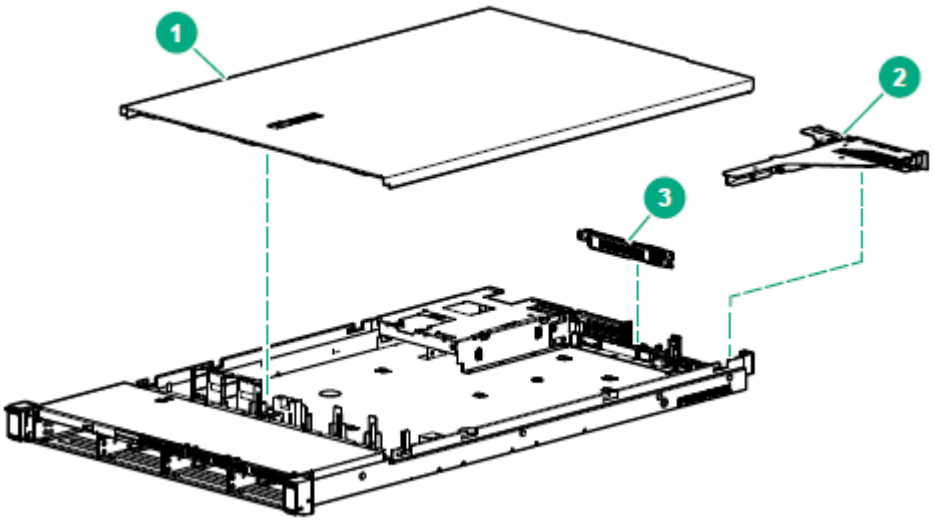
Spare Parts

New model specific parts lists

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

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

Mechanical components



Item	Description
1	Access panel
2	PCIe Riser cage
3	PCIe Riser blank
4	Miscellaneous blank [1]

Item	Description
5	Server ear and front bezel [1]
6	Rack mounting hardware [1]
7	Cable management arm [1]

NOTE:

1. Not shown in the image

Access panel

Description	Spare Part Number
Hood, CL2600 Gen10, Small Form Factor (SFF)	P05115-001

PCIe Riser cage

Description	Spare Part Number
Secondary riser and cage x16 Low Profile (LP)	875539-001
Secondary riser board, 8 x 4/2 x 4 Non-Volatile Memory express (NVMe) ports	875549-001

PCIe Riser blank

Description	Spare Part Number
Blank slotted PCI riser	875537-001

Miscellaneous blank

Description	Spare Part Number
DL560/DL360 Gen9 Blank cover kit - Contains pow er supply blank cover, Flexible LOM blank cover, fan slot blank, and heatsink blank	775423-001

Server ear and front bezel

Description	Spare Part Number
Ear left plus labels	875541-001
Right ear, CL2600 Gen10	P05116-001
1U Bezel	875561-001

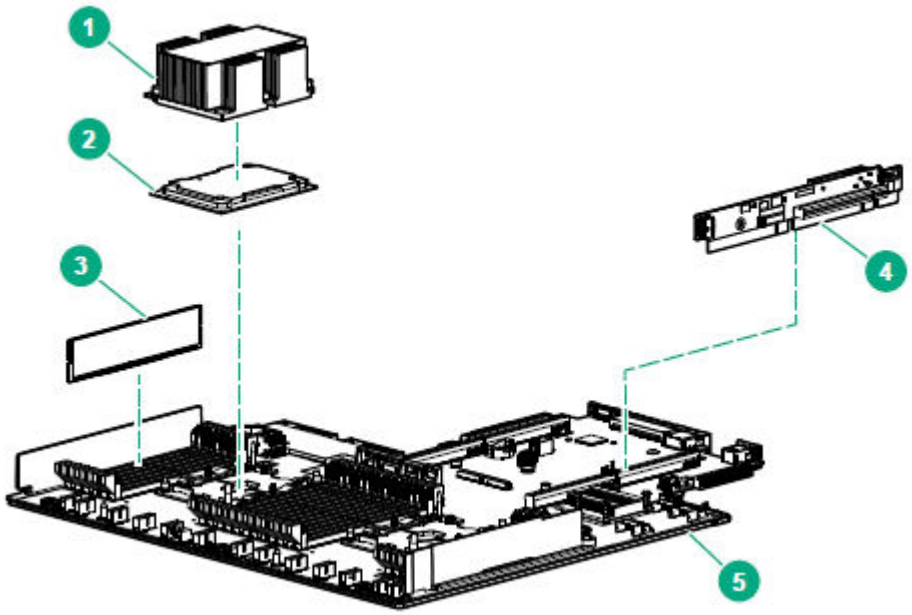
Rack mounting hardware

Description	Spare Part Number
Rack mounting easy install kit 1U - For 1U server m odels with SFF drives - Includes left and right frictio n type slide rails	875544-001
SFF Ball bearing rail kit	875543-001

Cable management arm

Description	Spare Part Number
Cable management arm easy install kit - Guides the power and interface cables to prevent binding when the server is slid in and out of the rack - Mounts to t he rear of the rack	744113-001

System components



Item	Description
1	
2	
3	
4	
5	

Heatsink

Description	Spare Part Number
Standard 1U heatsink	872452-001
1U High performance heatsink	872453-001

Processor

Description	Spare Part Number
Intel Xeon-Bronze 3104 Six-Core 64-bit processor - 1.70 GHz (Skylake), 8.25MB Level-3 cache, 85 W T hermal Design Power (TDP), socket FCLGA3647	875709-001
Intel Xeon-Bronze 3106 Eight-Core 64-bit processor - 1.70 GHz (Skylake), 11MB Level-3 cache, 85 W TD P, socket FCLGA3647	875710-001
Intel Xeon-Silver 4108 Eight-Core 64-bit processor - 1.80 GHz (Skylake), 11MB Level-3 cache, 85 W TDP, socket FCLGA3647	875712-001
Intel Xeon-Silver 4110 Eight-Core 64-bit processor - 2.10 GHz (Skylake), 11MB Level-3 cache, 85 W TDP, socket FCLGA3647	875711-001
Intel Xeon-Silver 4112 Four-Core 64-bit processor - 2.60 GHz (Skylake), 8.25MB Level-3 cache, 85 W T DP, socket FCLGA3647	875714-001
Intel Xeon-Silver 4114 Ten-Core 64-bit processor - 2 .20 GHz (Skylake), 13.75MB Level-3 cache, 85 W T DP, socket FCLGA3647	875713-001
Intel Xeon-Silver 4116 Twelve-Core 64-bit processo r - 2.10 GHz (Skylake), 16.5MB Level-3 cache, 85 W TDP, socket FCLGA3647	875716-001
Intel Xeon Silver 4208 v4 Eight-Core 64-bit process or - 2.10 GHz (Cascade Lake, 11MB cache, 85 W TD P, socket FCLGA3647)	P11605-001
Intel Xeon Silver 4210 v4 Ten-Core 64-bit processor - 2.20 GHz (Cascade Lake, 13.75MB cache, 85 W T DP, socket FCLGA3647)	P11606-001
Intel Xeon Silver 4214 v4 Twelve-Core 64-bit proces sor - 2.20 GHz (Cascade Lake, 16.5MB cache, 85 W TDP, socket FCLGA3647)	P11607-001
Intel Xeon Silver 4215 v4 Eight-Core 64-bit process or - 2.50 GHz (Cascade Lake, 11MB cache, 85 W TD P)	P11608-001

Description	Spare Part Number
Intel Xeon Silver 4216 Sixteen-Core 64-bit processor - 2.10 GHz (Cascade Lake, 22MB cache, 100 W TDP, socket FCLGA3647)	P11609-001
Intel Xeon-Gold 5115 Ten-Core 64-bit processor - 2.40 GHz (Skylake) 13.75MB Level-3 cache, 85 W TDP, socket FCLGA3647)	875715-001
Intel Xeon-Gold 5118 Twelve-Core 64-bit processor - 2.30 GHz (Skylake) 16.5MB Level-3 cache, 105 W TDP, socket FCLGA3647)	875717-001
Intel Xeon-Gold 5120 Fourteen-Core 64-bit processor - 2.20 GHz (Skylake) 19.25MB Level-3 cache, 105 W TDP, socket FCLGA3647	875718-001
Intel Xeon-Gold 5122 Four-Core 64-bit processor - 3.60 GHz (Skylake) 16.5MB Level-3 cache, 105 W TDP, socket FCLGA3647 [1]	875719-001
Intel Xeon Gold 5215 v4 Ten-Core 64-bit processor - 2.60 GHz (Cascade Lake, 20MB cache, 85 W TDP, socket LGA-3647)	P11610-001
Intel Xeon Gold 5215M v4 Ten-Core 64-bit processor - 2.50 GHz (Cascade Lake, 38.5MB cache, 85 W TDP, socket FCLGA3647)	P11626-001
Intel Xeon Gold 5217 v4 Eight-Core 64-bit processor - 3.00 GHz (Cascade Lake, 11MB cache, 115 W TDP, socket FCLGA3647)	P11611-001
Intel Xeon Gold 5218 v4 Sixteen-Core 64-bit processor - 2.30 GHz (Cascade Lake, 22MB cache, 125 W TDP, socket FCLGA3647)	P11612-001
Intel Xeon Gold 5220 v4 Eighteen-Core 64-bit processor - 2.20 GHz (Cascade Lake, 24.75MB cache, 125 W TDP, socket FCLGA2011-3)	P11613-001
Intel Xeon-Gold 6126 Twelve-Core 64-bit processor - 2.60 GHz (Skylake) 19.25MB Level-3 cache, 125 W TDP, socket FCLGA3647	875720-001
Intel Xeon-Gold 6128 Six-Core 64-bit processor - 3.40 GHz (Skylake), 19.25MB Level-3 cache, 115 W TDP, socket FCLGA3647 [1]	875721-001

Description	Spare Part Number
Intel Xeon-Gold 6130 Sixteen-Cores, processor - 2.10 GHz,(Skylake), 22MB Level-3 cache, 125 W TDP, socket FCLGA3647	874736-001
Intel Xeon-Gold 6134 Eight-Core 64-bit processor - 3.20 GHz (Skylake) 24.75MB Level-3 cache, 130 W TDP, socket FCLGA3647 [1]	875723-001
Intel Xeon-Gold 6136 Twelve-Core 64-bit processor - 3.0 GHz (Skylake), 24.75MB Level-3 cache, 150 W TDP, socket FCLGA3647 [1]	875724-001
Intel Xeon-Gold 6138 Twenty-Core 64-bit processor - 2.0 GHz (Skylake) 27.5MB Level-3 cache, 125 W TDP power, socket FCLGA3647	874735-001
Intel Xeon-G 6140 Eighteen-Core 64-bit processor - 2.30 GHz (Skylake), 24.75MB Level-3 cache, 140 W TDP, socket FCLGA3647 [1]	874734-001
Intel Xeon-Gold 6142 Sixteen-Cores, processor - 2.60 GHz, (Skylake) 22MB Level-3 cache, 150 W TDP, socket FCLGA3647 [1]	874733-001
Intel Xeon-Gold 6144 Eight-Cores, processor - 3.50 GHz (Skylake), 24.75MB Level-3 cache, 150 W TDP, socket FCLGA3647 [1]	875725-001
Intel Xeon-Gold 6148 Twenty-Cores, processor - 2.40 GHz (Skylake), 27.5MB Level-3 cache, 150 W TDP, socket FCLGA3647 [1]	874732-001
Intel Xeon-Gold 6152 Twenty-Two-Cores 64-bit processor - 2.10 GHz, (Skylake) 30.25MB Level-3 cache, 140 W TDP, socket FCLGA3647 [1]	874730-001
Intel Xeon Gold CLX 6230 Twenty-Core 64-bit processor - 2.10 GHz (Cascade Lake , 27.5MB cache, Intel QuickPath interconnect (QPI) speed 8.0 GT/s, 125 W TDP, socket FCLGA3647)	P11614-001
Intel Xeon Gold CLX 6240 v4 Eighteen-Core 64-bit processor - 2.60 GHz (Cascade Lake, 24.75MB cache, 150 W TDP, socket LGA-3647)	P11615-001

Description	Spare Part Number
Intel Xeon Gold 6242 v4 Sixteen-Core 64-bit processor - 2.80 GHz (Cascade Lake, 22MB cache, 150 W TDP, socket LGA-3647)	P11616-001
Intel Xeon Gold 6248 v4 Twenty-Core 64-bit processor - 2.50 GHz (Cascade Lake, 27.5MB cache, 150 W TDP, socket FCLGA3647)	P11618-001
Intel Xeon Gold 6254 v4 Eighteen-Core 64-bit processor - 3.10 GHz (Cascade Lake, 24.75MB cache, 200 W TDP, socket FCLGA3647)	P11620-001
Intel Xeon Platinum 8260 v4 Twenty Four-Core 64-bit processor - 2.40 GHz (Cascade Lake, 35.75MB cache, 165 W TDP, socket FCLGA3647)	P11621-001
Intel Xeon Platinum 8260M v4 Twenty Four-Core 64-bit processor - 2.40 GHz (Cascade Lake, 36MB cache, 165 W TDP, socket FCLGA3647)	P11628-001
Intel Xeon Platinum 8268 v4 Twenty Four-Core 64-bit processor - 2.90 GHz (Cascade Lake, 35.75MB cache, 205 W TDP, socket FCLGA-3647)	P11622-001
Intel Xeon Platinum 8270 v4 Twenty Six-Core 64-bit processor - 2.70 GHz (Cascade Lake, 35.75MB cache, 205 W TDP, socket FCLGA3647)	P11623-001
Intel Xeon CLX 8276 Twenty Eight-Core 64-bit processor - 2.20 GHz (Cascade Lake, 38.5MB cache, 165 W TDP, socket FCLGA3647)	P11624-001
Intel Xeon Platinum CLX 8276M Twenty Eight-Core 64-bit processor - 2.20 GHz (Cascade Lake, 38.5MB cache, 165 W TDP)	P11629-001
Intel Xeon Platinum 8280M Twenty Eight-Core 64-bit processor - 2.70 GHz (Cascade Lake, 38.5MB cache, Intel QPI speed 8.0 GT/s, 205 W TDP)	P11630-001

NOTE:

1. Require high performance heatsink. Processors 6128, 8156, 5122 and 130 W processors or higher require the high-performance heatsink.

DIMM

Description	Spare Part Number
DIMM Cloudline 16GB PC4-2933Y-R, 2Gx4	P14633-001
DIMM Cloudline 16GB PC4-2933Y-R,1Gx8	P14634-001
DIMM Cloudline 16GB PC4-2666V-R, 2GX4	P14423-001
DIMM Cloudline 16GB PC4-2666-R, 2Rx8	P08274-001
DIMM Cloudline 32GB PC4-2933Y-R,.2Rx4	P14635-001
DIMM Cloudline 32GB PC4-2666V-R, 2G x 4	882448-001
DIMM Cloudline 64GB PC4-2933Y-R, 4Gx4	P14636-001
DIMM Cloudline 64GB PC4-2933Y-L, 2Gx4	P14637-001
DIMM Cloudline 64GB PC4-2666V-R, 2G x 4	882449-001

Controller

Description	Spare Part Number
Raid controller-9460-8i	P02181-001
Super capacitor (9460 / CVPM05)	P03112-001
Cloudline SAS 9300-8i/SAS Host Bus Adapter (HBA)	871488-001
MegaRaid SAS 1G/9361-8i card	871490-001
CL SAS MegaRAID SafeStore	P10919-001

Network adapter

Description	Spare Part Number
Ethernet (2 x 10GB-T) X550 PCIe3 card	P02183-001
Ethernet (2 x 10Gb)X710 PCIe3 card	P02184-001
Ethernet (1 x 25Gb) XXV710 PCIe3 card	P02185-001
Cloudline Ethernet 2 x 10Gb/Q41132/PCIe3 card	P03951-001
Cloudline Ethernet 2 x 25Gb Q41212 PCIe3 card	P04247-001
Cloudline Ethernet 2 x 25Gb/MLX4S/PCIe3 card [1]	P03952-001
Ethernet (2 x 50Gb) MLX5 PCIe3 card [1]	P02186-001
Cloudline 50G 1P Small Form Factor Pluggable (SFP 28), CX4 OCP-Mellanox card	882450-001
Cloudline Ethernet 2 x 10GB-T Q41112 PCIe3 card	P09216-001
Cloudline Ethernet 10Gb 4P X710-DA4 PCIe3 card	P11766-001
Cloudline Ethernet 10Gb 4P X710-T4 PCIe3 card	P11769-001

NOTE:

1. Mellanox MLX4S and MLX5 cards do not support Unified Extensible Firmware Interface (UEFI) Pre-Boot Execution Environment (PXE) boot. To use UEFI PXE boot with mellanox cards, the system must change to legacy mode.

PCIe Riser board

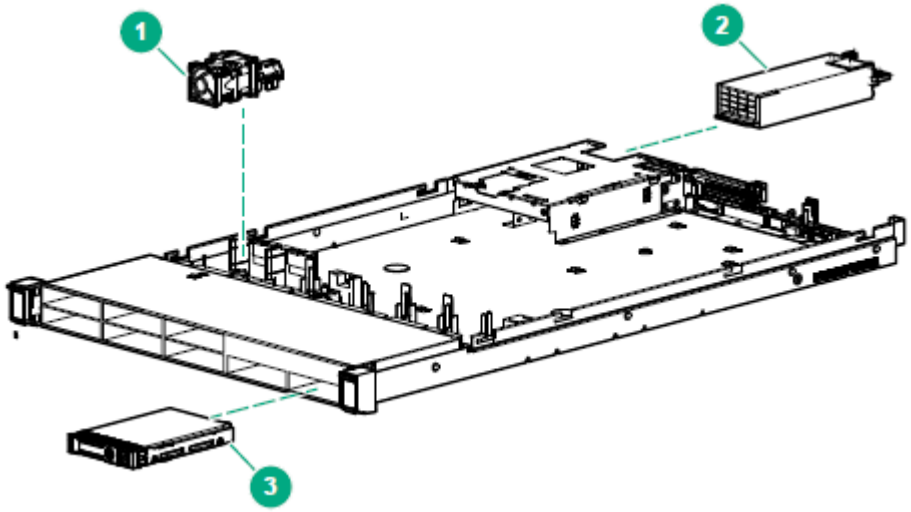
Description	Spare Part Number
Riser x16 x8 Graphics Processing unit (GPU) primary 1U	875545-001
Riser x16 x16 SATA M.2 primary 1U	875547-001

Description	Spare Part Number
Primary riser board, x16 x8, GPU, 2 x 4 PCIe NVMe interface ports	875548-001

System board assembly

Description	Spare Part Number
CL2600 Gen10 Motherboard	P05113-001
CL2600 CLX Gen10 Motherboard	P12272-001

Server options



Item	Description
1	Fan
2	Power supply

Item	Description
3	Drive
4	Drive backplanes [1]
5	Cable kit [1]
6	Battery [1]

NOTE:

1. Not shown in the image

Fan

Description	Spare Part Number
Standard fan module	875283-001
High performance fan module	875284-001

Power supply

Description	Spare Part Number
800 W Flex slot universal hot-plug low halogen power supply kit - 277 V ac / 380 V dc power input - 94 % efficiency	866727-001
HPE 800 W Flex Slot (-48) V dc hot-plug low halogen power supply kit - 94% efficiency	866728-001
500 W Flex slot platinum hot-plug low halogen power supply kit, 94% efficiency	866729-001
800 W ac Flex slot platinum plus hot-plug low halogen power supply - Supports power discovery services (Blue plug) - 96% efficiency	866730-001

Description	Spare Part Number
800 W Flex slot titanium hot-plug low halogen power supply - 200 - 240 V ac power input - 96% efficiency	866793-001
1600 W Flex slot platinum plus hot-plug low halogen power supply - Supports power discovery services (Blue plug) - 96% efficiency	863373-001

NOTE:

Mixing of power supplies in the same server is not supported, must be the same spare part number.

Drive

Description	Spare Part Number
300GB 12G 15K SFF SAS Hard Disk Drive (HDD)	P02271-001
600GB 12G 10K SFF SAS Enterprise HDD	849520-001
1.2TB 12G 10K SFF SAS Enterprise HDD	849517-001
2.4TB 12G 10K SFF SAS Enterprise HDD	P10688-001
2.4TB 12G 10K SFF SAS Enterprise HDD	P02270-001
240GB SFF SATA RI Solid State Drive (SSD)	P09007-001
480GB SATA SSD - 2.5 in SFF, 6 Gb/s transfer rate, Read Intensive (RI)	P02277-001
480GB SFF SATA RI SSD	P12320-001
480GB SFF SATA RI SSD	P09008-001
960GB SFF SATA RI SSD	P02278-001
960GB SFF SATA RI SSD	P09009-001
1.92TB SFF SATA RI SSD	P05824-001

Description	Spare Part Number
1.92TB SFF SATA RI SSD	P09010-001
3.84TB SFF SATA RI SSD	P09011-001
3.84TB SFF SATA RI SSD	P02279-001
3.84TB SFF SATA RI SSD	P03899-001
3.84TB SFF SATA SSD	P00217-001
7.68TB SFF SATA RI SSD	P05825-001
240GB SFF SATA Mixed Use (MU) SSD	P09004-001
960GB SFF SATA MU SSD	P03902-001
960GB SFF SATA MU SSD	P03903-001
960GB SFF SATA MU SSD	P12319-001
960GB SFF SATA MU SSD	P09012-001
1.9TB SFF SATA MU SSD	P07819-001
1.92TB SFF SATA MU SSD	P09013-001
1.92TB SFF SATA MU SSD	P02280-001
3.84TB SFF SATA MU SSD	P05827-001
375GB SFF NVMe Write Intensive (WI) SSD	P11179-001
1.92TB SFF NVMe RI SSD	P06982-001
2TB SFF NVMe RI SSD	P05829-001
3.84TB SFF NVMe RI SSD	P06983-001
4TB SFF NVMe RI SSD	P06981-001
8TB SFF NVMe RI SSD	P05828-001
1.6T SSD PCIe NVMe Half-Height, Half-Length (HH HL) PM1725a	P04244-001
3.2TB SFF NVMe MU SSD	P06980-001

Description	Spare Part Number
3.2TB SFF NVMe MU SSD	P06984-001

Power switch

Description	Spare Part Number
USB SFF Power/Unit Identification (UID) module	875565-001

Drive backplanes

Description	Spare Part Number
CL2600 8-SFF HDD Backplane	P05114-001
2-SFF NVMe drive backplane	P10803-001
10-SFF NVMe drive backplane	P10802-001

Cable kit

Description	Spare Part Number
2 and 8 Cage SFF backplane cable kit	875566-001
Serial port cable 2 x 5p/9p	875571-001
Cable kit - Mini-SAS High Density (HD) 8/2/10SFF SAS/SATA	P03217-001
Cable kit - For use with Ten 2.5 in SFF drive cage	875567-001
SAS Cable kit - For use with 10-SFF NVMe	875574-001

Battery

Description	Spare Part Number
Battery for Real-Time Clock (RTC) - 3.0 V, 220 mAh , lithium coin cell, 20 mm diameter, 3.2 mm height (C R2032)	319603-001

HPE Trusted Platform Module (TPM) 2.0

Description	Spare Part Number
TPM - Compatible with HPE Gen10 servers running Microsoft Windows Server 2012 R2 or newer, suppo rts TPM 1.2 (UEFI and legacy mode) and 2.0 (UEFI mode)	872159-001

Option Parts

New model specific parts lists

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

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

Processors

Description	Option Part Number
1st Generation Intel Xeon-Gold	
HPE CL Intel Xeon-Gold 5115 (2.4 GHz/10-core/10 5 W) Factory Installation Option (FIO) processor kit	P01795-L21
HPE CL Intel Xeon-Gold 5118 (2.3 GHz/12-core/10 5 W) FIO processor kit	P01900-L21
HPE CL Intel Xeon-Gold 5120 (2.2 GHz/14-core/10 5 W) FIO processor kit	P01901-L21
HPE CL Intel Xeon-Gold 5122 (3.6 GHz/4-core/105 W) FIO processor kit [1]	P01741-L21
HPE CL Intel Xeon-Gold 6126 (2.6 GHz/12-core/12 5 W) FIO processor kit [1]	P01744-L21
HPE CL Intel Xeon-Gold 6128 (3.4 GHz/6-core/115 W) FIO processor kit [1]	P01742-L21
HPE CL Intel Xeon-Gold 6130 (2.1 GHz/16-core/12 5 W) FIO processor kit [1]	P01902-L21
HPE CL Intel Xeon-Gold 6134 (3.2 GHz/8-core/130 W) FIO processor kit [1]	P01906-L21
HPE CL Intel Xeon-Gold 6136 (3.0 GHz/12-core/15 0 W) FIO processor kit [1]	P01745-L21
HPE CL Intel Xeon-Gold 6138 (2.0 GHz/20-core/12 5 W) FIO processor kit	P01903-L21
HPE CL Intel Xeon-Gold 6140 (2.3 GHz/18-core/14 0 W) FIO processor kit [1]	P01904-L21
HPE CL Intel Xeon-Gold 6142 (2.6 GHz/16-core/15 0 W) FIO processor kit [1]	P01746-L21
HPE CL Intel Xeon-Gold 6144 (3.5 GHz/8-core/150 W) FIO processor kit [1]	P01743-L21
HPE CL Intel Xeon-Gold 6148 (2.4 GHz/20-core/15 0 W) FIO processor kit [1]	P01747-L21

Description	Option Part Number
HPE CL Intel Xeon-Gold 6152 (2.1 GHz/22-core/140 W) FIO processor kit [1]	P01905-L21
1st Generation Intel Xeon-Silver	
HPE CL Intel Xeon-Silver 4108 (1.8 GHz/8-core/85 W) FIO processor kit	P01896-L21
HPE CL Intel Xeon-Silver 4110 (2.1 GHz/8-core/85 W) FIO processor kit	P01897-L21
HPE CL Intel Xeon-Silver 4112 (2.6 GHz/4-core/85 W) FIO processor kit	P01794-L21
HPE CL Intel Xeon-Silver 4114 (2.2 GHz/10-core/85 W) FIO processor kit	P01898-L21
HPE CL Intel Xeon-Silver 4116 (2.1 GHz/12-core/85 W) FIO processor kit	P01899-L21
1st Generation Intel Xeon-Bronze	
HPE CL Intel Xeon-Bronze 3104 (1.7 GHz/6-core/85 W) FIO processor kit	P01894-L21
HPE CL Intel Xeon-Bronze 3106 (1.7 GHz/8-core/85 W) FIO processor kit	P01895-L21
2nd Generation Intel Xeon-Platinum	
HPE CL2600 Gen10 Intel Xeon-Platinum 8280M (2.7 GHz/28-core/205 W) FIO processor kit [1]	P12097-L21
HPE CL2600 Gen10 Intel Xeon-Platinum 8276M (2.2 GHz/28-core/165 W) FIO processor kit [1]	P12094-L21
HPE CL2600 Gen10 Intel Xeon-Platinum 8276 (2.2 GHz/28-core/165 W) FIO processor kit [1]	P12093-L21
HPE CL2600 Gen10 Intel Xeon-Platinum 8270 (2.7 GHz/26-core/205 W) FIO processor kit [1]	P12092-L21
HPE CL2600 Gen10 Intel Xeon-Platinum 8268 (2.9 GHz/24-core/205 W) FIO processor kit [1]	P12091-L21
HPE CL2600 Gen10 Intel Xeon-Platinum 8260M (2.4 GHz/24-core/165 W) FIO processor kit [1]	P12089-L21

Description	Option Part Number
HPE CL2600 Gen10 Intel Xeon-Platinum 8260 (2.4 GHz/24-core/165 W) FIO processor kit [1]	P12087-L21
2nd Generation Intel Xeon-Gold	
HPE CL2600 Gen10 Intel Xeon-Gold 6254 (3.1 GHz/18-core/200 W) FIO processor kit [1]	P12086-L21
HPE CL2600 Gen10 Intel Xeon-Gold 6248 (2.5 GHz/20-core/150 W) FIO processor kit [1]	P12084-L21
HPE CL2600 Gen10 Intel Xeon-Gold 6242 (2.8 GHz/16-core/150 W) FIO processor kit [1]	P12082-L21
HPE CL2600 Gen10 Intel Xeon-Gold 6240 (2.6 GHz/18-core/150 W) FIO processor kit [1]	P12080-L21
HPE CL2600 Gen10 Intel Xeon-Gold 6230 (2.1 GHz/20-core/125 W) FIO processor kit	P12078-L21
HPE CL2600 Gen10 Intel Xeon-Gold 5220 (2.2 GHz/18-core/125 W) FIO processor kit	P12077-L21
HPE CL2600 Gen10 Intel Xeon-Gold 5218 (2.3 GHz/16-core/125 W) FIO processor kit	P12075-L21
HPE CL2600 Gen10 Intel Xeon-Gold 5217 (3.0 GHz/8-core/115 W) FIO processor kit	P12073-L21
HPE CL2600 Gen10 Intel Xeon-Gold 5215M (2.5 GHz/10-core/85 W) FIO processor kit	P12072-L21
HPE CL2600 Gen10 Intel Xeon-Gold 5215 (2.5 GHz/10-core/85 W) FIO processor kit	P12071-L21
2nd Generation Intel Xeon-Silver	
HPE CL2600 Gen10 Intel Xeon-Silver 4216 (2.1 GHz/16-core/100 W) FIO processor kit	P12070-L21
HPE CL2600 Gen10 Intel Xeon-Silver 4215 (2.5 GHz/8-core/85 W) FIO processor kit	P12069-L21
HPE CL2600 Gen10 Intel Xeon-Silver 4214 (2.2 GHz/12-core/85 W) FIO processor kit	P12067-L21

Description	Option Part Number
HPE CL2600 Gen10 Intel Xeon-Silver 4210 (2.2 GHz/10-core/85 W) FIO processor kit	P12066-L21
HPE CL2600 Gen10 Intel Xeon-Silver 4208 (2.1 GHz/8-core/85 W) FIO processor kit	P12064-L21

NOTE:

1. Ships with performance heatsink.

- 8- Small Form Factor (SFF) CTO 1P models ship with 4 standard fans. The second processor option kit contains 2 additional fans. 12 LFF and 24 SFF CTO servers ship with 6 high performance fans included; 12LFF CTO servers ship with 6 standard fans included. High performance fan kit is available to meet ambient temperature environments and are required for rear drives or Non-Volatile Memory express (NVMe) configurations.
- Maximum memory capacity per processor is dependent on processor models. All processors support up to 768 GBE max memory per processor except ?M? model processors will support up to 1.5TB max memory per processor.
- Mixing of 2 different processor models are not allowed.
- DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.
- Processors with 130 W or higher will ship with the High Performance heat sink plus SKUs 6128, 5122 as noted below. All other will processors will ship with the Standard heat sink.

Memory

Description	Option Part Number
Registered Dual In-Line Memory Modules (RDIMMs) for 1st generation Intel Xeon scalable series	
HPE CL 32GB (1 x 32GB) dual rank x4 DDR4-2666 CAS-19-19-19 registered memory FIO kit	880841-B21
HPE CL 16 GBE 2R x 8 DDR4-2666-R FIO kit	P07029-B21

Description	Option Part Number
HPE CL 16 GBE 1R x 4 DDR4-2666-R FIO kit	881067-B21
Load Reduced DIMMs (LRDIMMs) for 1st generation Intel Xeon scalable series	
HPE CL 64GB (1 x 64GB) quad rank x4 DDR4-2666 CAS-19-19-19 load reduced memory FIO kit	880842-B21
Registered DIMMs (RDIMMs) for 2nd generation Intel Xeon scalable series	
HPE CL 64GB (1 x 64GB) dual rank x4 DDR4-2933 CAS-21-21-21 registered memory FIO kit	P14492-B21
HPE CL 32GB (1 x 32GB) dual rank x4 DDR4-2933 CAS-21-21-21 registered memory FIO kit	P10660-B21
HPE CL 16GB (1 x 16GB) dual rank x8 DDR4-2933 CAS-21-21-21 registered memory FIO kit	P14119-B21
HPE CL 16GB (1 x 16GB) single rank x4 DDR4-293 3 CAS-21-21-21 registered memory FIO kit	P14117-B21
Load Reduced DIMMs (LRDIMMs) for 2nd generation Intel Xeon scalable series	
HPE CL 64GB (1 x 64GB) quad rank x4 DDR4-2933 CAS-21-21-21 load reduced memory FIO kit	P14121-B21

Power supplies

Description	Option Part Number
HPE 500 W Flex slot platinum hot-plug low halogen power supply kit	865408-B21
HPE 800 W Flex slot titanium hot-plug low halogen power supply kit	865438-B21
HPE 800 W Flex slot platinum hot-plug low halogen power supply kit	865414-B21

Description	Option Part Number
HPE 800 W Flex slot -48 V dc hot-plug low halogen power supply kit	865434-B21
HPE 1600 W Flex slot platinum hot-plug low halogen power supply kit	830272-B21
HPE 800 W Flex slot universal hot-plug low halogen power supply kit	865428-B21

NOTE:

- Mixing of 2 different power supplies is not allowed
- 1600 W power supplies only support high line voltage (200 to 240 V ac).

Additional factory integrated options

Description	Option Part Number
HPE Trusted Platform Module (TPM) 2.0 Gen10 option	864279-B21

NOTE:

- HPE TPM 2.0 option works with Gen10 servers with Unified Extensible Firmware Interface (UEFI) mode, not legacy mode
- HPE server systems can have a TPM module installed only once. It cannot be replaced with any other TPM module

HPE Unique options

Description	Option Part Number
Risers	
HPE CL2600 Gen10 low profile FIO riser kit	P05476-B21
HPE CL2600 Gen10 SATA M.2 FIO kit	P10572-B21
Performance cooling options	
HPE CL2600 Gen10 high performance FIO fan kit	P10544-B21
Universal media bay options	
HPE CL2600 Gen10 2NVMe FIO backplane kit [1]	P09679-B21
Security	
HPE TPM 2.0 Gen10 option	864279-B21
HPE 1U Gen10 bezel kit	867998-B21
HPE Bezel lock kit [2]	875519-B21
Cable kits	
HPE CL2600/2800 Gen10 rear serial cable FIO	P07013-B21

NOTE:

1. Only supported on 8(SFF) chassis P04359-B21
2. HPE Bezel lock kit (875519-B21) requires selecting HPE 1U Gen10 bezel kit (867998 -B21).

Drives

Description	Option Part Number
12G SAS - SFF - Hard Disk Drive (HDD)	
HPE Cloudline 300GB 12G SAS 15K rpm SFF (2.5 in) Seagate HDD	P01660-B21
HPE Cloudline 600GB 12G SAS 10K rpm SFF (2.5 in) Enterprise HDD	848513-B21
HPE Cloudline 1.2TB 12G SAS 10K rpm SFF (2.5 in) Enterprise HDD	848505-B21
HPE Cloudline 2.4TB 12G SAS 10K rpm SFF (2.5 in) Seagate Enterprise HDD	880853-B21
HPE CL 2.4TB SAS 12G Enterprise 10K SFF (2.5 in) Seagate Secure Encrypted Drives (SED) FIO HDD	P10335-B21
Mixed Use (MU) - 6G SATA - SFF - Solid State Drives (SSD)	
HPE Cloudline 240GB SATA 6G MU SFF (2.5 in) Mic ron 5200 FIO SSD	P08787-B21
HPE CL 240GB SATA MU SFF (2.5 in) Micron 5300 MAX FIO SSD	P23924-B21
HPE Cloudline 960GB SATA 6G MU SFF (2.5 in) Inte l S4610 FIO SSD	P08811-B21
HPE CL 960GB SATA MU SFF (2.5 in) Micron 5300S ED FIO SSD	P23927-B21
HPE Cloudline 1.92TB SATA 6G MU SFF (2.5 in) In tel S4610 FIO SSD	P08814-B21
HPE Cloudline 3.84TB SATA 6G MU SFF (2.5 in) In tel S4610 FIO SSD	P04597-B21
Read Intensive (RI) - 6G SATA - SFF - SSD	
HPE Cloudline 240GB SATA 6G RI SFF (2.5 in) Intel S4510 FIO SSD	P08796-B21
HPE Cloudline 480GB SATA 6G RI SFF (2.5 in) Intel S4510 FIO SSD	P08799-B21
HPE CL 480GB SATA RI SFF (2.5 in) Micron 5300 S ED FIO SSD	P23921-B21

Description	Option Part Number
HPE Cloudline 960GB SATA 6G RI SFF (2.5 in) Intel S4510 FIO SSD	P08802-B21
HPE Cloudline 1.92TB SATA 6G RI SFF (2.5 in) Intel S4510 FIO SSD	P08805-B21
HPE Cloudline 1.92TB SATA 6G RI SFF (2.5 in) Samsung PM883 FIO SSD	P01680-B21
HPE Cloudline 3.84TB SATA 6G RI SFF (2.5 in) Samsung PM883 FIO SSD	879720-B21
HPE CL 3.84TB SATA RI SFF (2.5 in) Micron 5300PRO FIO SSD	P23917-B21
HPE Cloudline 3.84TB SATA 6G RI SFF (2.5 in) Intel S4510 FIO SSD	P08808-B21
HPE Cloudline 7.68TB SATA 6G RI SFF (2.5 in) Samsung PM883 FIO SSD	P01684-B21
HPE CL 7.6TB SATA RI SFF (2.5 in) Micron 5300PRO FIO SSD	P23915-B21
RI - PCIe/NVMe - SFF - SSD	
HPE Cloudline 960GB NVMe x4 lanes RI SFF (2.5 in) Samsung PM983 FIO SSD	P10536-B21
HPE Cloudline 1.92TB NVMe x4 lanes RI SFF (2.5 in) Samsung PM983 FIO SSD	P06710-B21
HPE Cloudline 2TB NVMe x4 Lanes RI SFF (2.5 in) Intel P4510 FIO SSD	P04600-B21
HPE Cloudline 2TB NVMe RI SFF (2.5 in) x 7 mm Intel P4511 SSD FIO kit	P04602-B21
HPE Cloudline 3.2TB NVMe x4 lanes MU SFF (2.5 in) Intel P4610 FIO SSD	P06660-B21
HPE Cloudline 3.84TB NVMe x4 lanes RI SFF (2.5 in) Samsung PM983 FIO SSD	P06713-B21
HPE Cloudline 4TB NVMe x4 lanes RI SFF (2.5 in) Intel P4510 FIO SSD	P06663-B21

Description	Option Part Number
HPE Cloudline 8TB NVMe x4 lanes RI SFF (2.5 in) Intel P4510 FIO SSD	P04599-B21
MU - PCIe/NVMe - SFF - SSD	
HPE Cloudline 3.2TB NVMe x4 lanes MU SFF (2.5 in) Intel P4610 FIO SSD	P06660-B21
HPE Cloudline 3.2TB NVMe x4 lanes MU SFF (2.5 in) Samsung PM1725b FIO SSD	P06726-B21
Write Intensive (WI) - PCIe/NVMe - SFF - SSD	
HPE CL 375GB NVMe x4 lanes WI SFF (2.5 in) Intel P4800X FIO SSD	P10984-B21
MU - PCIe/NVMe - Add-in-Card - SSD	
HPE Cloudline 1.6TB NVMe x4 lanes MU Half-Height, Half-Length (HHHL) Samsung PM1725b FIO SSD	P01676-B21
MU - 6G SATA - M.2 - SSD	
HPE Cloudline 240GB SATA 6G MU M.2 - Micro Form Factor (uFF) to SFF Micron 5100 FIO SSD	P08784-B21
HPE CL 240GB SATA RI M.2 Micron 5300 BOT FIO SSD	P18854-B21
SED - SSD	
HPE CL 960GB SATA 6G MU SFF (2.5 in) Micron 5200 MAX FIO SSD	P11734-B21
HPE CL 480GB SATA 6G RI SFF (2.5 in) Micron 5200 ECO FIO SSD	P11737-B21

Networking

Description	Option Part Number
100 GbE Adapters	
HPE Cloudline Ethernet 100Gb 1-port QSFP28 mellanox connectX-5 EN PCIe3 FIO card [1]	880150-B21
50 GbE Adapters	
HPE Cloudline Ethernet 50Gb 2-port Small Form-factor Pluggable (SFP28) mellanox connectX-5 single host PCIe 3.0 card [1]	P01671-B21
25 GbE Adapters	
HPE Cloudline Ethernet 25Gb 1-port SFP28 Intel XXV710 PCIe 3.0 card	P01667-B21
HPE Cloudline Ethernet 25Gb 2-port SFP28 Q41212 PCIe 3.0 card	P01669-B21
HPE Cloudline Ethernet 25Gb 2-port SFP+ mellanox connectX-4 PCIe 3.0 card [1]	P01670-B21
10 GbE Adapters	
HPE Cloudline ethernet 10Gb 4-port Intel X710-T4 PCIe3 FIO adapter	P10662-B21
HPE CL Ethernet 10Gb 4-port Intel X710-DA4 PCIe 3 FIO adapter	P10664-B21
HPE Cloudline ethernet 10GBASE-T 2-port Q41112 PCIe FIO adapter	P08550-B21
HPE Cloudline ethernet 10GBASE-T 2-port Intel X550 PCIe 3.0 card	P01665-B21
HPE CL Ethernet 10Gb 2-port SFP+ Intel X710 PCIe 3.0 card	P01666-B21
HPE Cloudline ethernet 10Gb 2-port SFP+ QLogic Q41132 PCIe 3.0 card	P01668-B21

NOTE:

Description	Option Part Number

1. Mellanox ethernet adapters require Legacy BIOS mode setting (P11219-B22).

Storage controllers

Description	Option Part Number
Software RAID	
HPE CL2600/2800 Gen10 Intel VROC FIO enablement kit	P12568-B22
RAID array controllers	
HPE Cloudline Broadcom 9460-8i 2G with CVPM05 Tri-Mode RAID controller [1]	P01726-B21
HPE Cloudline LSI Mega RAID SAS 9361-8i adapter [2]	859912-B21
Host Bus Adapter (HBA) controllers	
HPE Cloudline LSI MegaRAID SAS 9300-8i HBA kit	859916-B21
Cache module/SafeStore options	
HPE CL LSI CVM02 CacheVault module for 9300 RAID adapter	860048-B21
HPE CL SAS MegaRAID SafeStore software license and physical key FIO kit	P10017-B21

NOTE:

1. Does not support hardware RAID with SFF NVMe SSD.
2. A super capacitor/battery clip comes standard with the 8-SFF chassis and the premium 10-SFF chassis to avoid blocking PCIe expansion slots.

Rail kits

Description	Option Part Number
HPE 1U Gen10 SFF easy install rail kit	874543-B21
HPE 1U Gen10 SFF ball bearing rail kit [1]	872252-B21
HPE 1U Cable management arm for rail kit [2]	734811-B21

NOTE:

1.
   - HPE rail kits contain telescoping rails which allow for In-Rack serviceability.
   - Hewlett Packard Enterprise recommends that a minimum of two people are require d for all rack server installations. Please refer to the installation instructions for pro per tools and number of people to use for any installation.
2. Supports both the easy install and ball bearing rail kits.

Support services

Description	Option Part Number
HPE Cloudline support services	
HPE 3-year Cloudline parts plus remote technical wi th Defective Media Retention (DMR) CL2600 Gen10 support	HF8N4E
HPE 3-year Cloudline parts plus remote technical wit h Comprehensive Defective Media Retention (CDMR) CL2600 Gen10 support	HF8N5E

Description	Option Part Number
HPE Foundation care 3-year next business day services	
HPE 3-year foundation care next business day Cloud line 2600 Gen10 service	HF8N6E
HPE 3-year foundation care next business day with DMR Cloudline 2600 Gen10 service	HF8N7E
HPE 3-year foundation care next business day with CDMR Cloudline 2600 Gen10 service	HF8N8E
HPE Foundation care 4-year next business day services	
HPE 4-year foundation care next business day Cloud line 2600 Gen10 service	HF8N9E
HPE 4-year foundation care next business day with DMR Cloudline 2600 Gen10 service	HF8P0E
HPE 4-year foundation care next business day with CDMR Cloudline 2600 Gen10 service	HF8P1E
HPE Foundation care 5-year next business day services	
HPE 5-year foundation care next business day Cloud line 2600 Gen10 service	HF8P2E
HPE 5-year foundation care next business day with DMR Cloudline 2600 Gen10 service	HF8P3E
HPE 5-year foundation care next business day with CDMR Cloudline 2600 Gen10 service	HF8P4E
Click here to access the Support Services Central for more information.	

OS Compatibility

Feature	Description
Operating Systems (OS) and virtualization software support for Cloudline servers	**2nd Generation Intel Xeon scalable processor family** • Microsoft Windows Server 2012 R2 • Microsoft Windows Server 2016 • SLES 12 SP3 & 15 (64 bit) w/ Xen and KVM • Red Hat Enterprise Linux 7.6 (64 bit) (Includes KVM) • VMware vSphere 6.5 U3, 6.7 U1 • CentOS 7.6 • Ubuntu LTS 18.04 **1st Generation Intel Xeon scalable processor family** • Microsoft Windows Server 2012 R2 • Microsoft Windows Server 2016 • Red Hat Enterprise Linux (64 bit) w/KVM 6.9, 6.10, 7.4, 7.5 • SLES 12 SP3 (64 bit) w/ Xen and KVM • VMware vSphere 6.5 U1 • CentOS 7.5 • Ubuntu LTS 18.04
Click here to access Server Operating Systems and Virtualization Software for more information.	