

Overview

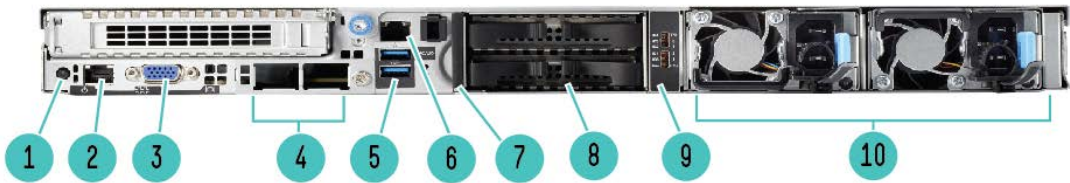
HPE Cloudline CL3100 G3 Server

The HPE Cloudline CL3100 G3 is a new 1U 2P dense storage server for Cloud Service Providers that Features the latest Intel Xeon E5-2600v3 / v4 processors, choice of 12LFF, 24SFF or 4 SSD hard drives. Without any extras, this server is ideal for Hadoop/Cassandra workloads to meet the storage needs of Service Providers.



Front View

(8) Hot-plug fans



Rear View

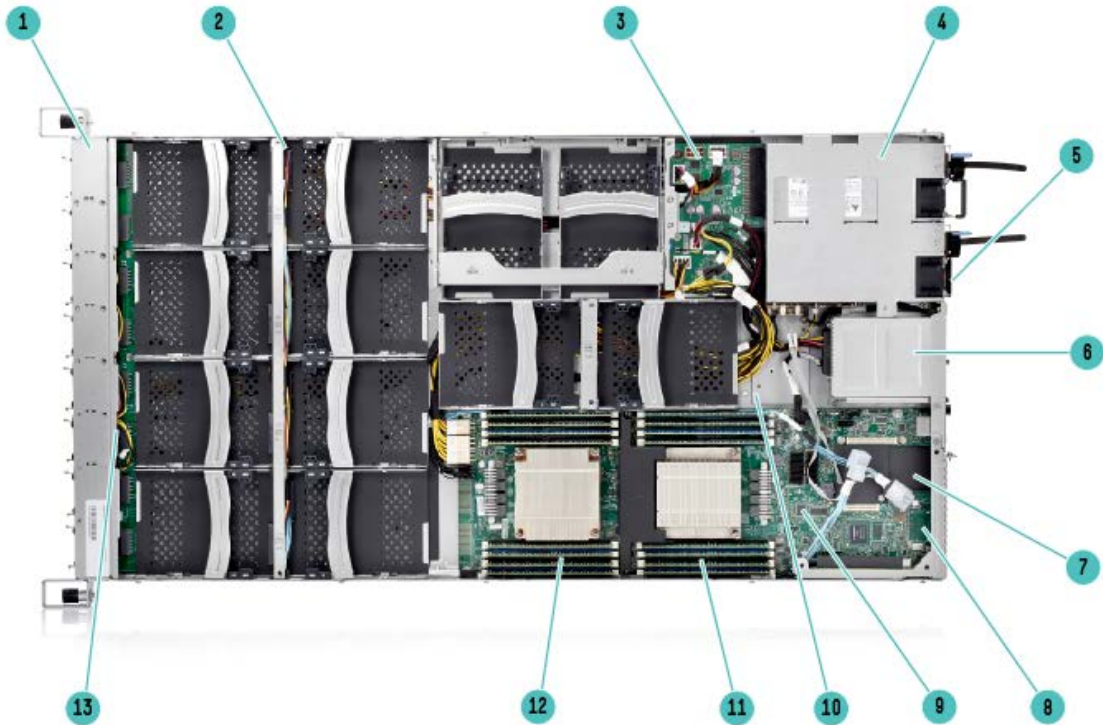
Item	Description	Item	Description
1.	Power button with LED	6.	RJ45
2.	RJ45 for serial console	7.	Service Tag
3.	VGA port	8.	(2) 2.5" HDD or (4) SSD/SFF
4.	OCP mezzanine card	9.	LED panel
5.	(2) USB 3.0 Ports	10.	(2) Redundant PSUs

Overview



Rear View

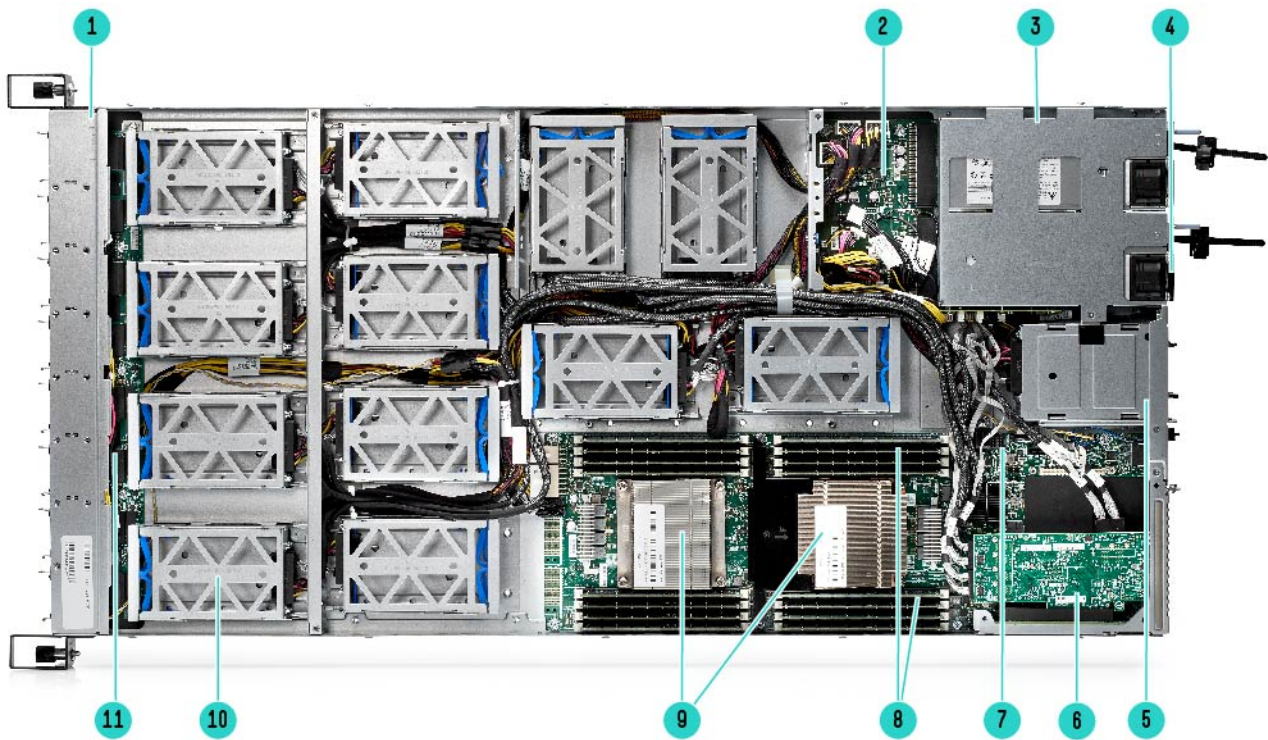
12x LFF Hot Pluggable Hard Drive Bays



Internal View – 12 LFF

Item	Description	Item	Description
1.	(8) Hot-plug fans	8.	(1) PCIE Add-on Card
2.	(1) HDD Backplane optional	9.	(12) 3.5" LFF HDD
3.	(1) Power Interposer Board	10.	(1) Super Cap for HBA card
4.	(2) Redundant PSUs	11.	(16) DIMM slot
5.	(1) LED Board	12.	(2) CPU/ CPU Heat sink
6.	(4) SSD or (2) 2.5" SFF	13.	(1) Fan Control Board
7.	(1) OCP Mezzanine Card		

Overview



Internal View – 24 SFF

Item	Description	Item	Description
1.	Hot-swappable fan (8)	7.	System Board (1)
2.	Power Interposer Board (1)	8.	DIMM slot (16)
3.	Redundant PSUs (2)	9.	CPU/ CPU Heat sink (2)
4.	LED Board (1)	10.	2.5" SFF (24)
5.	(4) SSD or (2) 2.5" SFF	11.	Fan Control Board (1)
6.	PCIe Add-on Card (1)		

Standard Features

Processor

NOTE: For more information regarding Intel Xeon processors, please see the following <http://www.intel.com/xeon>

NOTE: Up to 2 processors supported. Mixing different processor models is not supported.

Intel® Xeon® processor E5-2600 v4 product family

Model	CPU frequency	Cores	L3 Cache	TDP	QPI	DDR4 Maximum Speed
E5-2695v4	2.1GHz	18	45MB	120W	9.6GT/s	2400 MHz
E5-2690v4	2.6GHz	14	35MB	135W	9.6GT/s	2400 MHz
E5-2680v4	2.4GHz	14	35MB	120W	9.6GT/s	2400 MHz
E5-2660v4	2.0GHz	14	35MB	105W	9.6GT/s	2400 MHz
E5-2650v4	2.2GHz	12	30MB	105W	9.6GT/s	2400 MHz
E5-2640v4	2.4GHz	10	25MB	90W	8.0GT/s	2133 MHz
E5-2630v4	2.2GHz	10	25MB	85W	8.0GT/s	2133 MHz
E5-2620v4	2.1GHz	8	20MB	85W	8.0GT/s	2133 MHz
E5-2609v4	1.7GHz	8	20MB	85W	6.4GT/s	1866 MHz
E5-2603v4	1.7GHz	6	20MB	85W	6.4GT/s	1866 MHz

Chipset

Intel® C610 Series Chipset

NOTE: For more information regarding Intel chipsets, please see the following URL:

<http://www.intel.com/products/server/chipsets/>

Upgradeability

Upgradeable to 2 processors (36 Cores)

Up to 16 DIMM slots available for higher Memory capacity

OCP Mezzanine connector for 10 Gigabit networking options

12LFF + 2 x 2,5"HDD, 24SFF or 4 SSD Drive Cage Bay

On System Management Processor

iBMC ASPEED AST2400 with KVM Support

Memory

Industry Standard DDR4 Registered (RDIMM)

DIMM Slots Available 16 (8 DIMM slots per processor, 4 channels per processor, 2 DIMMs per channel)

Maximum Capacity 512GB (16 x 32GB RDIMM) 16GB/32GB DDR4 up to 2400MT/s

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.

Expansion Slots One of the following depending on model

Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
Slot 1	PCIe 3.0	X16	X16	Low profile	RAID/HBA
OCP Mezz	PCIe 3.0	X16	X16	OCP Mezz	Networking

NOTE: Bus Width data indicates the number of physical electrical lanes running to the connector.

Standard Features

Internal Storage Devices

One of the following depending on model

Optical Drive None

Hard Drives None ship standard

Drive Bays 12 LFF or 4 SSD

Maximum Internal Storage

LFF SATA	96 TB	12 x 8 TB
SFF SATA	48 TB	24 x 2TB
SFF SAS	28.8 TB	24 x 1.2TB
SFF SATA SSD	3.84 TB	4 x 960 GB

Power Supply

HPE CL 550W Redundant Platinum PSU

HPE CL 800W Redundant Platinum PSU

System Fans

(8) 4028 Hot Plug fans, Front to Back, N+0 redundant (135W CPU), N+1 redundant (up to 120W CPU)

Interfaces

Serial 1

Video 1

OCP NIC ports 2x SFP+ ports (for OCP NIC Mezzanine card) - depending on model

IPMI management port dedicated 10/100M LAN port

USB 3.0 Ports Up to 2

Operating Systems Test for CL3100 Server

RHEL 7.0

CentOS 6.6

Windows Server 2012 R2

SLES 12

Ubuntu 12.04.5

Standard Features

Industry Standard Compliance

ACPI 2.0b Complaint
PCIe 3.0 Complaint
PXE Support
WOL Support
USB 2.0 Support

Graphics

Integrated PCIe VGA/2D Controller via ASPEED 2400 BMC, 1920 x 1200 @ 60Hz (32 bpp)

Form Factor

1.69" x 17.18" x 36" (43.00 mm x 436.50mm x 914.40mm)
1U Rack form factor

Security

Power-on password
Administrator's password
UEFI

Warranty

Hardware support is available for 3 years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Hard drives have either a one year or three year warranty; refer to the HPE Cloudline Servers and Options Global Limited Warranty and Technical Support for details.

NOTE: Server Warranty includes 3 Years Parts with five (5) days response time, 0 Years Labor, and 0 Years Onsite Support. Additional information regarding worldwide limited warranty and technical support is available at

http://www.hpe.com/support/cloudline_warranty_en

Response time: Response times are based on local standard business days and working hours. Unless otherwise stated, all responses are measured from the time the customer calls until Hewlett Packard Enterprise has either established a mutually acceptable time for support to be performed, or Hewlett Packard Enterprise has begun to provide support or remote diagnostics. Response time is based on commercially reasonable effort. In some countries and under certain supplier constraints, response time may vary. If your location is outside the customary service zone, response time may be longer or there may be an additional charge. Contact your local Hewlett Packard Enterprise service organization for response time availability in your area.

Service and Support

Protect your business beyond warranty with HPE Pointnext operational services

HPE Cloudline Support Services provide remote diagnosis and support, scheduled onsite hardware repair/troubleshooting, and coverage for replacement components, including defective media retention (DMR). With HPE Cloudline Support Services, you can purchase the services that meet your specific needs.

- HPE 5800 Parts + Remote Technical Support + Defective Media Retention
- HPE 5800 Parts + Remote Technical Support + Onsite Labor
- HPE 5800 Parts + Remote Technical Support + Onsite Labor + Defective Media Retention

Additional information regarding HPE packaged support services for Cloudline servers is available at:

<https://h20195.www2.hpe.com/v2/GetPDF.aspx/4AA5-9207ENN.pdf>

Standard Support recommendation

Connect to Hewlett Packard Enterprise for faster problem resolution. Cloudline Carepack Services provides hardware onsite response. Simplify your support experience and make Hewlett Packard Enterprise your first call for hardware or software questions.

Datacenter Care for Hyperscale

DC for Hyperscale is available for Service Providers and HPC customers who use a scale out approach to computing with a high volume homogenous infrastructure and resilient architecture. Customers can take advantage of this environment support tailored to their operating model. More information at <https://h20195.www2.hpe.com/v2/GetPDF.aspx/4AA6-3460ENW.pdf>.

Spares Management Service

Provides customers with spare parts inventory for onsite stocking, and access to the HPE Spares Management Tool – an automated inventory management tool that helps enable real-time inventory management. More information at

<https://h20195.www2.hpe.com/v2/GetPDF.aspx/4AA1-3116ENW.pdf>.

Advisory & Transformational Services

Design, strategy, road map, and other services to help enable the digital transformation journey, tuned to IT and business needs. Advisory Services helps customers on their journey to Hybrid IT, Big Data, and the Intelligent Edge. More information at

<https://www.hpe.com/us/en/services/consulting.html>.

Lifecycle Event Services

Operational offerings to improve performance and securely handle retirement of customers' IT environments. More information at

<https://h20195.www2.hpe.com/v2/GetPDF.aspx/5981-8521ENE.pdf>.

- Operate & Improve performance, minimize risk of downtime, and reduce security risks.
 - Retire & Sanitize to safely and securely dispose of retired IT, and ensuring customer data cannot be compromised.
-

Professional Services

Integrate the new solution with project management, installation and startup, relocation services, and more. We help mitigate risk to the business so there is no interruption when new technology is being integrated in the existing IT environment. More information at

<https://www.hpe.com/us/en/services/professional.html>.

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.

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 a Hewlett Packard Enterprise approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

1. Factory Integrated Models must start with a CTO Server.
2. FIO indicates that this option is only available as a factory installable option.
3. All Factory Integrated Models will be populated with sufficient hard drive blanks
4. Some options may not be integrated at the factory. Contact your local sales representative for additional information.

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

SKU Number	855087-B21	855088-B21	855089-B21
Drive Cage	12LFF Hot Plug without HDD Backplane	12LFF Hot Plug with HDD Backplane	24SFF Non Hot Plug
Processor	2 (optional)		
DIMMSlots	16 DIMM slots for RDIMM DDR4 Memory		
Storage Controller	Embedded SATA 3.0 controller via Intel PCH (standard) HPE CL LSI-2308 SAS Host Bus Adaptor Mezzanine Card (optional) HPE CL LSI 9271-8i RAID PCIe Card (optional)		
PCIe	1 Full height half-length PCIe 3.0 slot, 1 OCP Mezz Slot PCIe Riser Kit		
Fans	8 hot plug fans, redundant		
Management	ASPEED AST2400 with a dedicated 10/100M management LAN port and share 1GbE/10GbE LAN port, IPMI v2.0 compliant, on board "KVM over IP" support		
USB	2 USB 3.0 Ports rear		

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

HPE Processors

Segmented Optimized - E5-2600v4 series Processor

HPE CL G3 Intel Xeon E5-2695 v4 (2.1GHz/18-core/120W) FIO Processor Kit 857635-L21

Advanced - E5-2600v4 series Processors

HPE CL G3 Intel Xeon E5-2690 v4 (2.6GHz/14-core/35MB/135W) FIO Processor Kit 847786-L21

HPE CL G3 Intel Xeon E5-2680 v4 (2.4GHz/14-core/35MB/120W) FIO Processor Kit 847792-L21

HPE CL G3 Intel Xeon E5-2660 v4 (2.0GHz/14-core/105W) FIO Processor Kit 847798-L21

HPE CL G3 Intel Xeon E5-2650 v4 (2.2GHz/12-core/105W) FIO Processor Kit 847810-L21

Standard - E5-2600v4 series Processors

HPE CL G3 Intel Xeon E5-2620 v4 (2.1GHz/8-core/85W) FIO Processor Kit 848499-L21

HPE CL G3 Intel Xeon E5-2630 v4 (2.2GHz/10-core/85W) FIO Processor Kit 847822-L21

HPE CL G3 Intel Xeon E5-2640 v4 (2.4GHz/10-core/90W) FIO Processor Kit 847812-L21

Basic - E5-2600v4 series Processors

HPE CL G3 Intel Xeon E5-2603 v4 (1.7GHz/6-core/85W) FIO Processor Kit 847824-L21

HPE CL G3 Intel Xeon E5-2609 v4 (1.7GHz/8-core/85W) FIO Processor Kit 857634-L21

NOTE: If two processors are desired, select one xxxxxx-L21 and one xxxxxx-B21.

NOTE: Up to 2 processors supported. Mixing different processor models is not supported.

NOTE: DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

Configuration Information - Factory Integrated Models

NOTE: If 12 or more Hard Drives are selected along with this Processor then Qty 2 of 800W Power Supply must be selected

NOTE: Must select 847545-B21 (HPE CL3100 G3 P1 HS Kit) with every -L21 Processor

HPE Heatsink

NOTE: Each processor needs a dedicated heatsink

HPE CL3100 Gen9 P1 HS Kit	847545-B21
HPE CL3100 Gen9 P2 HS Kit	847487-B21

HPE Memory

HPE CL 16GB (1x16GB) Dual Rank x4 DDR4-2400 CAS-15-15-15 Registered Memory Kit	851005-B21
HPE CL 32GB (1x32GB) Dual Rank x4 DDR4-2400 CAS-15-15-15 Registered Memory Kit	851007-B21
HPE CL 64GB (1x64GB) Quad Rank x4 DDR4-2400 CAS-17-17-17 Load Reduced Memory Kit	859992-B21

NOTE: Select one or more memory. A minimum of two memory kits are required if server is configured with two processors.

NOTE: If only one processor is installed, only half of the total DIMM slots are available. When populating with two processors, all DIMM slots are available.

NOTE: Depending on the memory configuration and processor model, the memory speed may run at 2133MHz, 1866MHz, or 1600MHz.

HPE Power Supply

HPE CL2100 806R 550W Redundant Power Supply Unit	847548-B21
HPE CL 800W ARC HVDC Platinum Redundant Power Supply Kit	847551-B21

Step 3: Choose Additional Options (From the bellow section)

NOTE: 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.

Additional Options

HPE Chassis Option

HPE CL LFF to SFF Converter Kit	847565-B21
---------------------------------	------------

HPE Drive Cage

HPE CL3100 Gen9 2x SFF Drive Cage FIO Kit	847584-B21
---	------------

HPE Storage Controllers

SAS Array Controllers 12Gb/s LSI Kit

HPE CL LSI 9361-16i W Cache CVPM02 Adapter	857143-B21
--	------------

HPE CL LSI Mega RAID SAS 9361-8i Adapter	859912-B21
--	------------

SAS Host Bus Adapters 12Gb/s Adapter Kit

HPE CL LSI SAS 9305-16i 12Gb Host Bus Adapter Kit	862627-B21
---	------------

HPE CL PMC-AFM-700 Super Capacitor Flash Module Device for 8885e RAID Adapter	860046-B21
---	------------

HPE CL PMC-ASR-8885 RAID Adapter Kit	860004-B21
--------------------------------------	------------

HPE CL LSI MegaRAID SAS 9300-8i Host Bus Adapter Kit	859916-B21
--	------------

HPE Processors

Advanced - E5-2600v4 series Processors

HPE CL G3 Intel Xeon E5-2695 v4 (2.1GHz/18-core/120W) FIO Processor Kit	857635-L21
---	------------

HPE CL G3 Intel Xeon E5-2690 v4 (2.6GHz/14-core/35MB/135W) FIO Processor Kit	847786-L21
--	------------

HPE CL G3 Intel Xeon E5-2680 v4 (2.4GHz/14-core/35MB/120W) FIO Processor Kit	847792-L21
--	------------

HPE CL G3 Intel Xeon E5-2660 v4 (2.0GHz/14-core/105W) FIO Processor Kit	847798-L21
---	------------

HPE CL G3 Intel Xeon E5-2650 v4 (2.2GHz/12-core/105W) FIO Processor Kit	847810-L21
---	------------

Standard - E5-2600v4 series Processors

HPE CL G3 Intel Xeon E5-2620 v4 (2.1GHz/8-core/85W) FIO Processor Kit	848499-L21
---	------------

HPE CL G3 Intel Xeon E5-2630 v4 (2.2GHz/10-core/85W) FIO Processor Kit	847822-L21
--	------------

HPE CL G3 Intel Xeon E5-2640 v4 (2.4GHz/10-core/90W) FIO Processor Kit	847812-L21
--	------------

Basic - E5-2600v4 series Processors

HPE CL G3 Intel Xeon E5-2603 v4 (1.7GHz/6-core/85W) FIO Processor Kit	847824-L21
---	------------

HPE CL G3 Intel Xeon E5-2609 v4 (1.7GHz/8-core/85W) Processor Kit	857634-B21
---	------------

HPE Memory

HPE CL 16GB (1x16GB) Dual Rank x4 DDR4-2400 CAS-15-15-15 Registered Memory Kit	851005-B21
--	------------

HPE CL 32GB (1x32GB) Dual Rank x4 DDR4-2400 CAS-15-15-15 Registered Memory Kit	851007-B21
--	------------

HPE CL 64GB (1x64GB) Quad Rank x4 DDR4-2400 CAS-17-17-17 Load Reduced Memory Kit	859992-B21
--	------------

HPE HDD

Hot Plug LFF (3.5-inch) SATA HDD – 6Gb/s

HPE CL 6TB 6G SATA 7.2K rpm LFF (3.5in) Seagate Midline Hard Drive	847820-B21
--	------------

HPE CL 8TB 6G SATA 7.2K rpm LFF (3.5in) 512e Seagate Midline Hard Drive	848539-B21
---	------------

Additional Options

HPE CL 6TB 6G SATA 7.2K rpm LFF (3.5in) Hitachi Midline Hard Drive	851232-B21
HPE CL 10TB 6GB SATA 7.2K rpm LFF (3.5in) Seagate Midline Hard Drive Kit	860038-B21
HPE CL 10TB 6GB SATA 7.2K rpm LFF (3.5in) HGST Midline Hard Drive Kit	860036-B21

Hot Plug SFF (2.5-inch) SAS SFF – 12Gb/s

HPE CL 1.6TB 6G SATA Read Intensive-2 SFF (2.5in) Intel S3520 3yr Wty Solid State Drive	872624-B21
HPE CL 600GB 12G SAS 10K rpm SFF (2.5in) Enterprise Hard Drive	848513-B21

Hot Plug SFF (2.5-inch) SATA SSD – 6Gb/s

HPE CL 960GB 6G SATA Value Endurance SFF Enterprise Value Samsung PM863 Solid State Drive Kit	858337-B21
---	------------

HPE Networking

10 Gigabit Ethernet OCP mezzanine Adapters

HPE CL Ethernet 10Gb 2-port SFP+ Intel X520 OCP Mezzanine Adapter	851279-B21
HPE CL Ethernet Intel X540 2-port 10GBASE-T OCP Mezzanine Adapter	847932-B21

25 Gigabit Ethernet OCP mezzanine Card

HPE CL Ethernet 25Gb 2-port SFP28 Mellanox ConnectX-4 Lx OCP Mezzanine Adapter	847936-B21
--	------------

40 Gigabit Ethernet OCP mezzanine Kit

HPE CL 40GbE QSFP28 Dual Port Mellanox OCP Mezzanine Adapter	847934-B21
--	------------

Networking-Upgrades

HPE CL3100 G3 Bundle Bracket Kit	
----------------------------------	--

NOTE: This kit is for field upgrad only

HPE Rack Options

HPE CL3100 Gen9 Tool Less Friction Rail Kit	847588-B21
HPE CL3100 Gen9 Sliding Rail Kit	847592-B21
HPE CL3100 Gen9 Cable Management Adapter Kit	847594-B21

HPE Cloudline Support Services

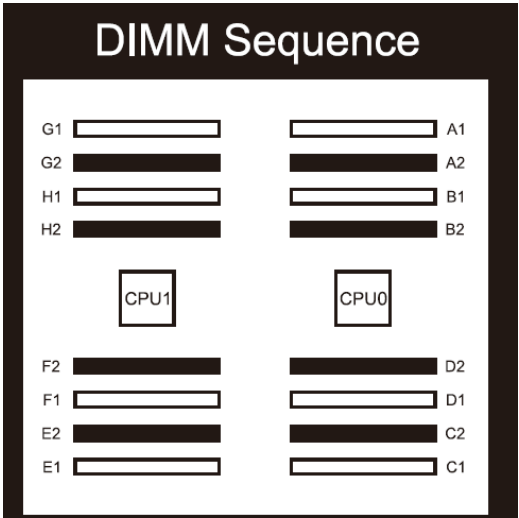
HPE Cloudline Parts + Remote Technical Support with DMR	H2NA8A3#WGE
HPE Cloudline Parts + Onsite Labor + Remote Technical Support	H0HF0A3#WGE
HPE Cloudline Parts + Onsite Labor + Remote Technical Support with DMR	H2NA9A3#WGE

Memory

Memory Subsystem Architecture

Each Intel® Xeon® E5-2600v3/v4 family processor socket contains four memory channels per installed processor with two DIMM per channel for a total of eight (8) DIMMs or a grand total of sixteen (16) DIMMs for the server.

Memory Population guidelines



General Memory Population Rules and Guidelines

Install DIMMs only if the corresponding processor is installed.

If only one processor is installed in a two processor system, only half of the DIMM slots are available.

To maximize performance, it is recommended to balance the total memory capacity between all installed processors and load the channels similarly whenever possible.

When two processors are installed, balance the DIMMs across the two processors.

Quad rank RDIMMs are not supported in CL 3100 G3 Servers

DIMMs of different speeds may be mixed in any order; the server will select a common optimal speed. 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 memory type and number of installed processors.

Memory Bandwidth and Capacity

[DIMM Type]	Registered Dimms (RDIMMs)			
DIMM Rank	Single Rank	Dual Rank		
DIMM Capacity	8GB	8GB	16GB	32GB
Maximum Capacity (GB)	128	128	256	512
Voltage	Standard Voltage 1.2V			
16 slot servers	16			

Memory Speed by Processor Model E5-2600v4

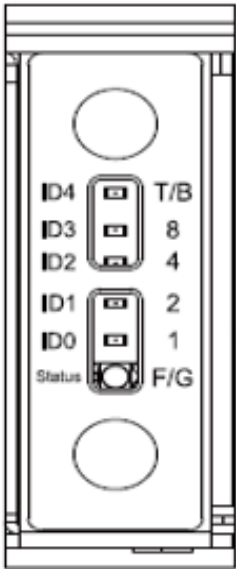
Processor Models	Supported Memory Speeds
E5-2603v4, e5-2609V4	1866MHz
E5-2620v4, E5-2630v4, E5-2640v4	2133MHz
E5-2650v4, E5-2660v4, E5-2680v4, E5-2690v4, E5-2695v4	2400MHz

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

- 2GB = 2,048MB
 - 4GB = 4,096MB
 - 8GB = 8,192MB
- 16GB = 16,384MB
 - 32GB = 32,768MB
 - 64GB = 65,536MB

Hard Drives

HDD ID LEDs		
ID LED	Behavior	Description
ID (4)	OFF	Bay Locates in bottom layer
	ON	Bay locates in top layer
ID (3:0)	All OFF	No Bay number being denoted.
	Any Bit ON	Bay number of a RAID rebuilding drive when Status LE show steadt red. If more than one bay number need to be displayed, then each number will be shown for 5 seconds duration and loops repeatedly.



HDD Status LED	
Behavior	Description
OFF	No signal input. Drive is not detected.
Blinking Green	Drive is being accessed. No RAID rebuild, drive is active.
Steady Green	No drive being accessed. No RAID rebuild, drive is good and no active.

Technical Specifications

System Unit

Dimensions (H x W x D)	1.69"(3.4cm) x 17.185"(43.65cm) x 36.0"(91.44cm)	
Weight (approximate)	Maximum: (all hard drives, power supplies, and processors installed)	12LFF 80.52 lb (26.3 kg) 24SFF 68.28 lb (22.3 kg)
Input Requirements	Rated Line Voltage	AC input: 100~240V
	Rated Input Current	For 550W Power Supply: 7.1 A (at 100 VAC) 3.4 A (at 200 VAC) For 800W Power Supply: 9.4A (at 100 VAC) 4.72A (at 200 VAC)
	Rated Input Frequency	47/63Hz
	Rated Input Power	For 550W Power Supply: < 710 W (at 100 VAC), < 680 W (at 200 VAC), For 800W Power Supply: < 940 W (at 100 VAC), < 944 W (at 200 VAC),
BTU Rating	Maximum	For 550 W Power Supply: 2423 BTU/hr (at 100 VAC), 2321 BTU/hr (at 200 VAC) For 800 W Power Supply: 3208 BTU/hr (at 100 VAC), 3222 BTU/hr (at 200 VAC)
Power Supply Output	Rated Steady- State Power	For 550 W Power Supply: 550 W (at 100 VAC), 550 W (at 200 VAC), For 800 W Power Supply: 800 W (at 100 VAC), 800 W (at 200 VAC),
	Maximum Peak Power	For 550 W Power Supply: 612 W (at 100 VAC), 612 W (at 200 VAC), For 800 W Power Supply: 912 W/15ms (at 100 VAC) 912 W/15ms (at 200 VAC),

Technical Specifications

System Inlet Temperature	Standard	5° to 35°C (45° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1,000 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 35°C (95°F).
	Operating Support	(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 35°C (95°F).
	Non-operating	-40° to 70°C (-40° to 158°F). Maximum rate of change is 25°C/hr (36°F/hr).
Relative Humidity	Operating	Minimum to be the higher (more moisture) of -12°C (10.4°F) dew point or 8% relative humidity. Maximum to be the lower (less moisture) of 24°C (75.2°F) dew point or 90% relative humidity.
	Non-operating	5% to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
Altitude	Operating	3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 304.8 m/min (1000 ft/min).
	Non-operating	10668 m (35,000 ft). Maximum allowable altitude change rate is 304.8 m/min (1000 ft/min).
Emissions Classification (EMC)	FCC Rating	Class A
	Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; EN 61000-3-2; EN 61000-3-3;
NOTE: 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.		
NOTE: The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.		

PCH SATA controller

Storage protocol support	SATA
SAS/SATA peak data transfer rate	6 Gb/s
Number of SAS/SATA links	9 links
SAS/SATA connectivity	2xMiniSAS4i connectors(option model); 1xSATA connectors
Drives supported (max)	Up to 9 Internal Drives
RAID support	0, 1, 10, 5 SATA
Warranty	Server warranty
HPE Secure Encryption license	Not Supported
Storage protocol support	SATA
SAS/SATA peak data transfer rate	6 Gb/s

Summary of Changes

Date	Version History	Action	Description of Change
04-Sep-2018	Version 7	Changed	Standard Features, Service and Support and Configuration Information sections were updated. Obsolete SKUs were removed.
27-Mar-2017	Version 6	Updated	Update Standard Features and Configuration information
13-Feb-2017	Version 5	Updated	Add HPE CL 1.6TB 6G SATA Read Intensive solid state drive
09-Dec-2016	Version 4	Changed	Remove some SKUS
02-Sep-2016	Version 3	Changed	Change information throughout the QuickSpecs
15-Aug-2016	Version 2	Updated	Update information in Standard Features section and Configuration Information
06-Jun-2016	Version 1	New	New QuickSpecs



© Copyright 2018 Hewlett Packard Enterprise Development LP. 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.

Intel® and Xeon® are registered trademarks of Intel Corporation in the U.S. and other countries.
Microsoft®, Windows®, and Windows Server® are U.S. registered trademarks of the Microsoft group of companies.

For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less

c05065961 - 15590 - WorldWide - V7 - 04-September-2018

