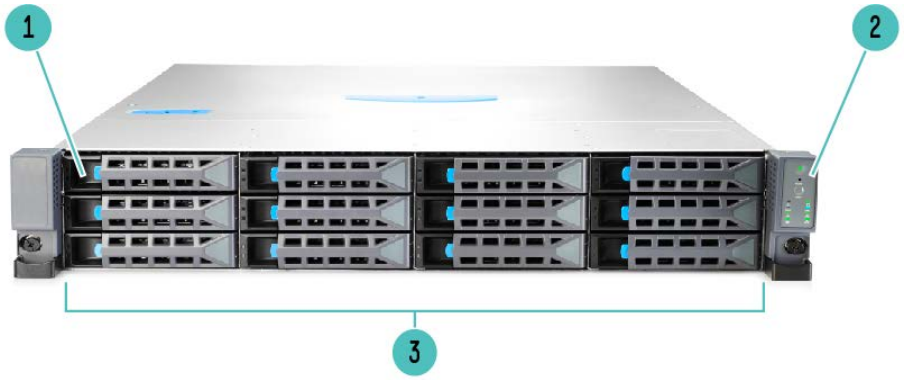
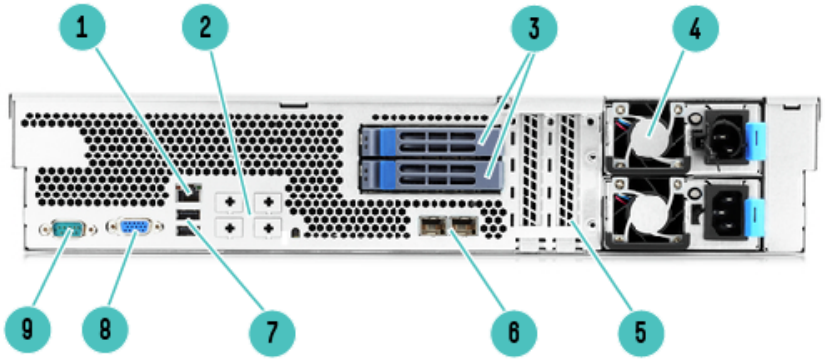
HPE Cloudline CL2200 G3 1211R Server

The HPE Cloudline CL2200 Server delivers Big Data and Cloud storage functionality for web-scale service providers in a package that uses basic hardware and no frills mechanical designs to lower acquisition costs, the Cloudline CL2200 is a 2U, 2P server featuring the latest Intel® Xeon® E5-2600v4 series processors.



Front View

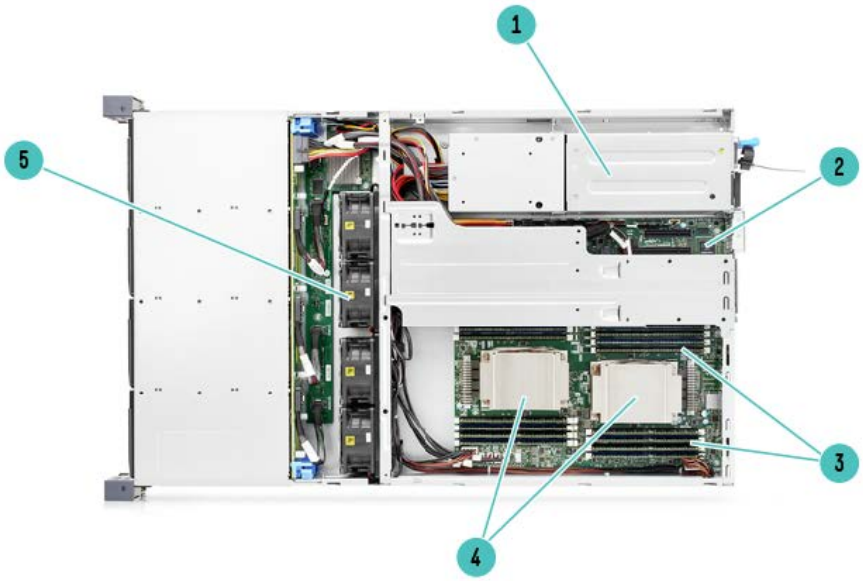
1. (12) LFF Drive Cage Bay
2. Front Control Panel w/ LED Status indicators
3. (12) LFF or SFF (via conversion tray) Drives



Rear View

1. (1) BMC Management Port 10/100Base-TX
2. (2, 4 or none) 1GbE LAN ports, depends on the motherboard
3. (2) Hot Plug SFF SSDs
4. (2) 500W or 800W Redundant Power Supply / (1) 650W Fixed Power Supply (not showing)
5. (1) OCP Mezzanine Card, showing 2 Port 10GbE SFP+
6. (2) PCIe Slots HH/HL
7. (2) USB 2.0 Ports
8. (1) VGA Port
9. (1) Serial Port

Overview



Internal View

1. (2) Hot Plug Redundant Power Supplies
2. (1) BMC
3. (16) DDR4 DIMMs populated and showing
4. (2) Processors with Heat Sinks
5. (4) None hot plug System Fans

What's New

New updated part numbers

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	15MB	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 (40 Cores)

Up to 16 DIMM slots available for higher Memory capacity

OCP Mezzanine connector for 10 Gigabit networking options

12 LFF or SFF (via conversion tray) Drive Cage Bay

Redundant Power Supply

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 1024GB(16 x 64GB RDIMM) 16GB/32GB/64GB 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 depending on model

Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
Slot6	PCIe 3.0	x8	x8	internal	CPU 0,
OCP Mezz	PCIe 3.0	x8	x8	OCP	CPU 0, depends on the motherboard
Slot1	PCIe 3.0	x8	x8	HH/HL	CPU 0
Slot2	PCIe 3.0	x16	x16	HH/HL	CPU 1

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

Standard Features

Internal Storage Devices depending on model	Optical Drive	None
	Hard Drives	None ship standard
	Drive Bays	Front 12 LFF/SFF (via conversion tray) Rear 2 SFF

Maximum Internal Storage	Hot Plug LFF SATA	120 TB	12 x 10 TB
	Hot Plug SFF SAS	16.8 TB	14 x 1.2 TB
	Hot Plug LFF / SFF SAS	122.4 TB	12 x 10 TB + 2 x 1 .2TB
	Hot Plug SFF SATA SSD	22.4 TB	14 x 1.6TB

Power Supply **One of the following depending on model**	HPE CL 650W Platinum at 220V, Gold at 110V, Fixed PSU HPE CL 500W Platinum HVDC-PSU, Redundant HPE CL 800W Platinum HVDC-PSU, Redundant

System Fans	4 Fans, none hot-swap

Interfaces	Serial	1
	Video	1
	Network ports	None, 2x 1GbE, 4x 1GbE ports - depending on model
	OCP NIC ports	2x SFP+ ports (for OCP NIC Mezzanine card) - depending on model
	IPMI management port	dedicated 10/100M LAN port and shared 1GbE/10GbE LAN port
	USB 2.0 Ports	Up to 2 total: 2 rear

Operating Systems Test for CL Servers with E5-2600v4	RHEL 7.0 (latest version) CentOS 7.0 (latest version) Windows Server 2012 R2 (Datacenter, Standard, Essentials, Foundation, HyperV, Storage) VMware ESXi 5.5.0 U2d VMware ESXi 6.0 U1

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, 1600 x 1200 @ 60Hz (32 bpp)

Form Factor	2U Rack form factor 3.43 (8.7cm) Height x 17.58" (44.6 cm) Width x 28" (71.1 cm) Length

Standard Features

Security

Power-on password
Administrator's password
UEFI

Warranty

This product is covered by a global limited warranty and supported by Hewlett Packard Enterprise Services. The Limited Warranty Period for a Hewlett Packard Enterprise hardware Product is a specified, fixed period commencing on the date of purchase. Your HPE Limited Warranty may include a parts only warranty service. Under the terms of parts only service, Hewlett Packard Enterprise will provide replacement parts free of charge. If Hewlett Packard Enterprise carries out the repair, labor and logistics costs are at your expense.

NOTE: CL2100/CL2200 based on E5-2600v4 have the following Warranty
Hardware support is available for 3 year from date of purchase.
Support for software and initial setup is available for 90 days from date of purchase.
NOTE: Server Warranty includes 3-Years Parts, 0-Years Labor, 0-Years Onsite support.

Enhancements to warranty services are available through HPE Services or customized service agreements. 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: Addition information regarding worldwide limited warranty and technical support is available at **http://www.hp.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.

Warranty

HPE Support Services	HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.
Protect your business beyond warranty with HPE Support Services	HPE Support Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.
Standard Support recommendation	Connect to Hewlett Packard Enterprise for faster problem resolution. Cloudline Support Services provides hardware onsite response. Simplify your support experience and make Hewlett Packard Enterprise your first call for hardware or software questions.
Parts and Materials	Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements. Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services. The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

Configuration Information - Factory Integrated Models for E5-2600v4

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)

Chassis	HPE CL2200 G3 12G 1211R 12 LFF+2 SFF Redundant PSU Configure-to-order Server	
SKU Number	855422-B21	
Processor	2 (optional) up to 135W	
DIMM Slots	16 DIMM slots for RDIMM DDR4 Memory	
Storage Controller	HPE CL LSI-9305-16i SAS Host Bus Adapter HPE CL LSI Mega RAID SAS 9341-8i Kit (optional) HPE CL LSI MegaRAID SAS 1G 9361-8i Kit (optional) HPE CL LSI 9361-16i W Cache CVPM02 Kit (optional)	
PCIe	(1) PCIe x16 Gen3 slot for 1x HHHL add-on card (1) PCIe x8 Gen3 slot for 1x HHHL add-on card (1) PCIe x8 Gen3 slot through PCIe slot riser for 1x FHHL internal add-on card (1) PCIe x8 Gen3 OCP NIC Mezzanine slot for OCP NIC card (optional)	
Drive Cage	12LFF Hot Plug + 2SFF Hot Plug	
Network Controller	HPE CL2200 1211RJ – 2 x GbE ports + 1 x OCP mezzanine slot	
Fans	4 non-hot swap fans	
Management	ASPEED 2400, IPMI v2.0 compliant, on board "KVM over IP" support	
Power Supply	2 Redundant hot plug power supplies	Fixed power supply
USB	2 USB 2.0 Ports; 2 rear	

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

HPE Motherboard	HPE CL2200 1211RJ OCP 2GbE 2x16 1x8 Motherboard	857689-B21
HPE Processors	**NOTE:** Select up to two (2) Processors, Processor one and two have a different heatsinks	
	Segmented Optimized - E5-2600v4 series Processors	
	HPE CL G3 Intel® Xeon® E5-2695v4 (2.1GHz/18-core/45MB/120W) FIO Processor Kit	857635-L21
	Advanced - E5-2600v4 series Processors	
	HPE CL G3 Intel® Xeon® E5-2690v4 (2.6GHz/14-core/35MB/135W) FIO Processor Kit	847786-L21
	HPE CL G3 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) FIO Processor Kit	847792-L21
	HPE CL G3Intel® Xeon® E5-2660v4 (2.0GHz/14-core/35MB/105W) FIO Processor Kit	847798-L21
	HPE CL G3 Intel® Xeon® E5-2650v4 (2.2GHz/12-core/30MB/105W) FIO Processor Kit	847810-L21
	Standard - E5-2600v4 series Processors	
	HPE CL G3 Intel® Xeon® E5-2640v4 (2.4GHz/10-core/25MB/90W) FIO Processor Kit	847812-L21
	HPE CL G3 Intel® Xeon® E5-2630v4 (2.2GHz/10-core/25MB/85W) FIO Processor Kit	847822-L21
	HPE CL G3 Intel® Xeon® E5-2620v4 (2.1GHz/8-core/20MB/85W) FIO Processor Kit	848499-L21
	Basic - E5-2600v4 series Processors	
	HPE CL G3 Intel® Xeon® E5-2609v4 (1.7GHz/8-core/20MB/85W) FIO Processor Kit	857634-L21

Configuration Information - Factory Integrated Models for E5-2600v4

	HPE CL G3 Intel® Xeon® E5-2603v4 (1.7GHz/6-core/15MB/85W) FIO Processor Kit	847824-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.	
HPE Heatsink	**NOTE:** Each processor needs a dedicated heatsink	
	HPE CL2200 G3 Processor 1 Heat Sink Kit	857145-B21
	HPE CL2200 G3 Processor 2 Heat Sink Kit	857683-B21
HPE Memory DDR4-2400	**NOTE:** The following memory is supported by the E5-2600v4 series Processors.	
	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) Dual Rank x4 DDR4-2400 LR Registered 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 2400MHz, 2133MHz or 1866MHz.	
HPE Power Supplies	HPE CL 650W Gold Fixed Power Supply Unit (855424-B21 and 855425-B21)	Included
	HPE CL 500W Platinum HVDC Red. Power Supply Unit	864450-B21
	HPE CL 800W Platinum HVDC Red. Power Supply Unit	864453-B21
	NOTE: Mixing of power supplies in the same server is not supported. All power supplies must be of the same input voltage, output rating, and efficiency rating. If non-matching power supplies are installed, you may receive an error message and/or experience operational issues with your server.	

Step 3: Choose Additional Options

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.

HPE Storage Controllers	**SAS Array Controllers 12Gb/s - HHHL**	
	HPE CL LSI MegaRAID SAS 9341-8i Card	859910-B21
	HPE CL LSI MegaRAID SAS 1G 9361-8i Kit	859912-B21
	HPE CL LSI MegaRAID SAS 9361-16i W Cache CVM02 Adapter	857143-B21
	SAS Host Bus Adapters 12Gb/s - FHHL	
	HPE CL LSI-9305-16i SAS Host Bus Adapter	862627-B21
HPE Processors	**NOTE:** Second processor needs a heatsink	
	Segmented Optimized - E5-2600v4 series Processors	

Configuration Information - Factory Integrated Models for E5-2600v4

	HPE CL Intel® Xeon® E5-2695v4 (2.1GHz/18-core/45MB/120W) Processor Kit	857635-B21
	Advanced - E5-2600v4 series Processors	
	HPE CL Intel® Xeon® E5-2690v4 (2.6GHz/14-core/35MB/135W) Processor Kit	847786-B21
	HPE CL Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) Processor Kit	847792-B21
	HPE CL Intel® Xeon® E5-2660v4 (2.0GHz/14-core/35MB/105W) Processor Kit	847798-B21
	HPE CL Intel® Xeon® E5-2650v4 (2.2GHz/12-core/30MB/105W) Processor Kit	847810-B21
	Standard - E5-2600v4 series Processors	
	HPE CL Intel® Xeon® E5-2640v4 (2.4GHz/10-core/25MB/90W) Processor Kit	847812-B21
	HPE CL Intel® Xeon® E5-2630v4 (2.2GHz/10-core/25MB/85W) Processor Kit	847822-B21
	HPE CL Intel® Xeon® E5-2620v4 (2.1GHz/8-core/20MB/85W) Processor Kit	848499-B21
	Basic - E5-2600v4 series Processors	
	HPE CL Intel® Xeon® E5-2609v4 (1.7GHz/8-core/20MB/85W) Processor Kit	857634-B21
	HPE CL Intel® Xeon® E5-2603v4 (1.7GHz/6-core/15MB/85W) Processor Kit	847824-B21
HPE Heatsink	**NOTE:** Each processor needs a dedicated heatsink	
	HPE CL2200 G3 Processor 2 Heat Sink Kit	857683-B21
HPE Memory DDR4-2400	**NOTE:** The following memory is supported by the E5-2600v4 series Processors.	
	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) Dual Rank x4 DDR4-2400 LR Registered 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 2400MHz, 2133MHz or 1866MHz.	
HPE Drives	**Hot Plug SFF (2.5-inch) HDD – 12Gb/s**	
	HPE CL 1.2TB 12G SAS 10k rpm SFF (2.5-inch) Enterprise Hard Drive	848505-B21
	Hot Plug LFF (3.5-inch) HDD – 6Gb/s	
	HPE CL 6TB 6G SATA 7.2K rpm LFF (3.5-inch) Seagate Midline Hard Drive	847820-B21
	HPE CL 6TB 6G SATA 7.2k 3.5 MDL HDD Kit	851232-B21
	HPE CL 8TB 6G SATA 7.2K rpm LFF (3.5-inch) 512e Seagate Midline Hard Drive	848539-B21
	HPE CL 10TB 6GB SATA 7.2K HG-LFF MDL HDD	860038-B21
	HPE CL 10TB 6GB SATA 7.2K SG LFF MDL HDD	860036-B21
	Hot Plug SFF (2.5-inch) SSD – 6Gb/s	
	HPE CL 256GB 6G SATA SFF VE SNDK SSD Kit	851019-B21
	HPE CL 800G 6G SATA INTL-s3610 SSD Kit	867477-B21
	HPE CL960GB 6G-SATA SM-pm863 VE SSD Kit	858337-B21

Configuration Information - Factory Integrated Models for E5-2600v4

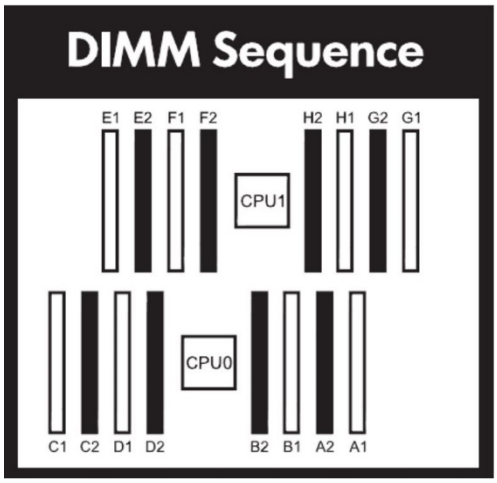
	HPE CL 1.6TB 6G SATA Read Intensive-2 SFF 2.5-in Intel S3520 3yr Wty Solid State Drive	872624-B21
HPE M.2 Drives	HPE CL M2PS Dual M.2 (NGFF) SSD to SATA Adapter	857157-B21
	HPE CL 128GB M.2-2280 SAT-MLC-HY SSD Kit	858311-B21
	NOTE: A minimum of one SSD to SATA Adapter (857157-B21) is required for M.2 devices	
HPE Networking	10 Gigabit Ethernet OCP mezzanine Adapters	
	HPE CL Ethernet 10Gb 2-port SFP+ OCP Mezzanine Adapter	851279-B21
	10 Gigabit Ethernet Adapters	
	HPE CL Ethernet Intel X540-T2 10Gb Dual Port RJ45 PCIe Adapter	859906-B21
	HPE CL Ethernet Intel X520-DA2 10Gb Dual Port SFP+ PCIe Adapter	859908-B21
HPE Rail Kits	HPE CL 2200 Rail Kit	854231-B21
HPE Power Supplies	HPE CL 500W Platinum HVDC Red. Power Supply Unit	864450-B21
	HPE CL 800W Platinum HVDC Red. Power Supply Unit	864453-B21

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 2200 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.

DIMM slot and configuration diagram

	CPU 0		CPU 1	
Channel #	**Slot #**	**Population Order**	**Slot #**	**Population Order**
Channel 3	C1	5	G1	6
	C2	13	G2	14
Channel 4	D1	7	H1	8
	D2	15	H2	16
Channel 2	B1	3	F1	4
	B2	11	F2	12
Channel 1	A1	1	E1	2
	A2	9	E2	10

Memory Bandwidth and Capacity

[DIMM Type]	**Registered Dimms (RDIMMs)**				
DIMM Rank	**Single Rank**		**Dual Rank**		
DIMM Capacity			16GB	32GB	64GB
Voltage	Standard Voltage 1.2V				
16 slot servers	16				
MAXIMUM CAPACITY (GB)			256	512	1024

Memory

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

Technical Specifications

Front View

Rear View

12x LFF/SFF Hot Pluggable Hard Drive Bays + Rear 2 SFF Hot Pluggable Hard drive Bays

Technical Specifications

System Unit	Dimensions (H x W x D)	17.58" x 28" x 3.43" (44.6 cm x 71.1 cm x 8.7 cm)	
	Weight (approximate)	Maximum: (all hard drives, power supplies, and processors installed	25.04 kg)
		Minimum: (one hard drive, power supply, and processor installed)	16.52 kg)
	Input Requirements	Rated Line Voltage	For 500W/800W Power Supply: AC input: 100~127V / 200~240V DC input: 240V For 650W Power Supply: AC input: 100~127V / 200~240V
		Rated Input Current	For 500W Power Supply: 100-127V~6.5A 200-240V~3.3A or 240V—3.7A For 800W Power Supply: 100-127V~11A 200-240V~5.5A or 240V—6.3A For 650W Power Supply: 100~127V 8.6A 200~240V 4.3A
		Rated Input Frequency	50/60Hz
		Rated Input Power	For 500W Power Supply: AC input: 645W DC input: 628W For 800W Power Supply: AC input:1080W DC input:1210W For 650W Power Supply: 730W at 110Vac 722W at 220Vac
	BTU Rating	Maximum	For 500W Power Supply: 1895.64 BTU/hour at 110Vac 1854.43 BTU/hour at 220Vac For 800W Power Supply: 3033.03 BTU/hour at 110Vac 2967.09 BTU/hour at 220Vac For 650W Power Supply: 2494.07 BTU/hour at 110Vac 2466.36 BTU/hour at 220Vac
	System Inlet Temperature	Standard Operating Support	10° to 35°C (50° to 95°F)
	Relative Humidity	Operating	50% to 80% relative humidity (Rh)
		Non-operating (non-condensing)	50% to 90% relative humidity (Rh)
	Altitude	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500

Technical Specifications

		ft/min).
	Acoustic Noise	Levels NA
		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.
HPE Embedded Network Adapter	Network Interface	10Base-T/100Base-TX/1000Base-TX
	Compatibility	IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX IEEE 1588, IEEE 802.1AS IEEE 802.3az
	Data Transfer Method	PCI Express v2.0, 5.0 GT/s, x2
	Controller	Intel Powerville i350AM or none
	Ports depending on model	None, 2x 1GbE or 4x 1GbE
	Connecter	RJ-45
Environment friendly Products and Approach	End-of-life Management and Recycling	Hewlett Packard Enterprise offers end-of-life Hewlett Packard Enterprise product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: **http://www.hpe.com/recycle**. To recycle your product, please go to: **http://www.hpe.com/recycle** or contact your nearest Hewlett Packard Enterprise sales office. 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 at: **http://www.hpe.com/recycle**. 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
27-Mar-2017	From version 10 to 11	Updated	Update Technical information and configuration sections
13-Feb-2017	From version 9 to 10	Updated	Add HPE CL 1.6TB 6G SATA Read Intensive solid state drive
9-Dec-2016	From version 8 to 9	Changed	Remove some SKUS in the document
6-Jun-2016	From version 7 to 8	Updated	Updates throughout the QuickSpecs new part numbers
31-Mar-2016	From version 6 to 7	Changed	Update throughout the section of configuration information for v3 and v4 processors
16-Feb-2016	From version 5 to 6	Updated	Update Callouts and Images and info throughout the QuickSpecs
15-Jan-2016	From version 4 to 5	Changed	Changed the formatting and correct the errors throughout the document.
16-Oct-2015	From version 3 to 4	Update	Update the Configuration Information Section
17-Aug-2015	From version 2 to 3	Update	Updates throughout the QuickSpecs
29-May-2015	From version 1 to 2	Changed	Updates throughout the QuickSpecs
30-Mar-2015	Version 1	Created	Create HPE Cloudline G3 2200 Server

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

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