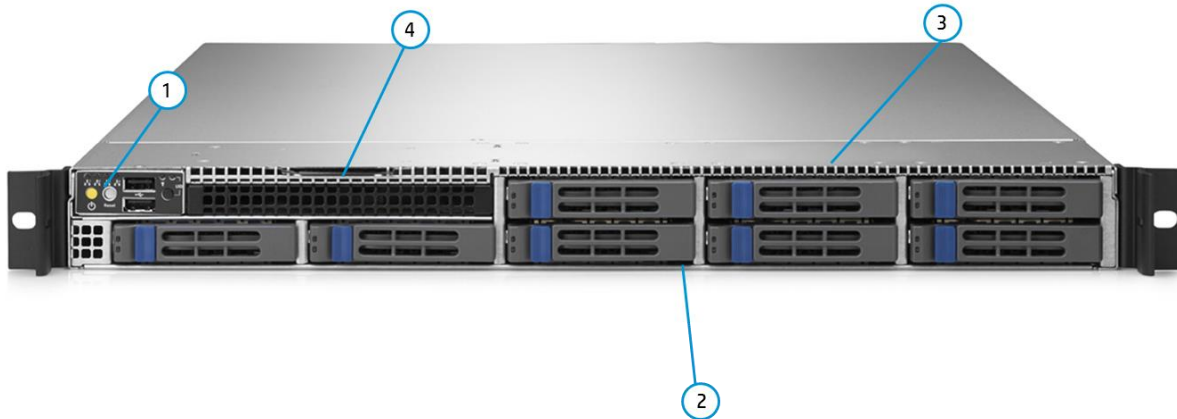


Overview

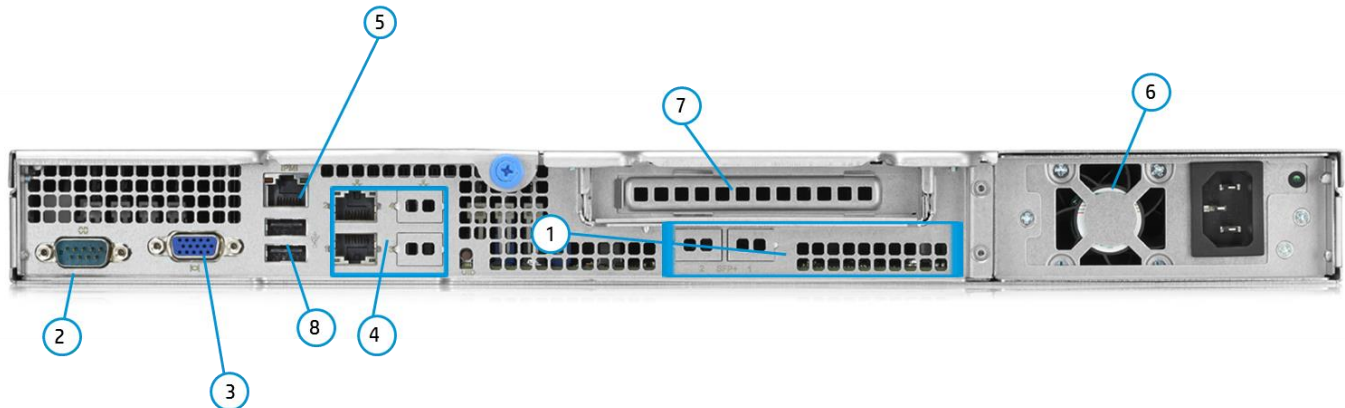
HP Cloudline CL2100 G3 407S Server HP Cloudline CL2100 G3 807S Server

The HP Cloudline CL2100 G3 is a new 2P 1U value server for Cloud Service Providers that Features the latest Intel Xeon E5-2600v3 processors, choice of SFF or LFF hard drives. Without any extras, this server is ideal for web front end applications to meet the needs and workloads of Service Providers.



Front View

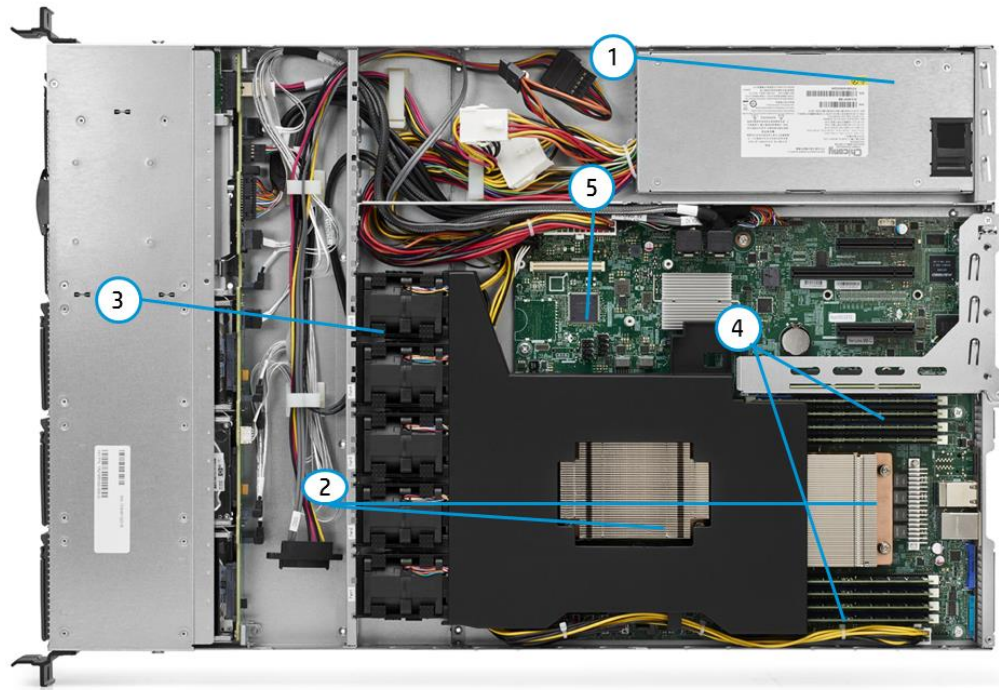
1. Front Control Panel
2. (8) SFF Hot-plug drives
3. (8) SFF Drive Cage Bay
4. Asset Tag and HDD Sequence Label



Rear View

1. (1) OCP Mezz Card with Optional SFP + ports
2. (1) Serial Port
3. (1) VGA port
4. (4) 1GbE LAN ports
5. (1) BMC Port
6. (1) PSU
7. (1) PCIe Slot
8. (2) USB 2.0 Ports

Overview



Internal View

1. (1) 650W Fixed Power Supply
2. (2) Processors with Heat Sinks
3. (5) NHP System Fans
4. (16) DDR4 DIMMS Available, (8) showing
5. (1) BMC

Standard Features

Processor

One of the following depending on model

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

Intel® Xeon® processor E5-2600 v3 product family is designed to deliver the best combination of performance, built-in capabilities, and cost-effectiveness. One (or two) of the following Intel® Xeon® E5-2600 v3 processors based on the model.

Model	CPU frequency	Cores	L3 Cache	TDP	QPI	DDR4 Maximum Speed
E5-2670v3	2.3GHz	12	30MB	120W	9.6GT/s	2133 MHz
E5-2660v3	2.6GHz	10	25MB	105W	9.6GT/s	2133 MHz
E5-2650v3	2.3GHz	10	25MB	105W	9.6GT/s	2133 MHz
E5-2640v3	2.6GHz	8	20MB	90W	8.0GT/s	1866 MHz
E5-2630v3	2.4GHz	8	20MB	85W	8.0GT/s	1866 MHz
E5-2620v3	2.4GHz	6	15MB	85W	8.0GT/s	1866 MHz
E5-2603v3	1.6GHz	6	15MB	85W	6.4GT/s	1600 MHz

Chipset

One of the following depending on model

Intel® C610 Series Chipset

Intel® E5-2600v3 Processor Family

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

On System Management Chipset

One of the following depending on model

ASPEED 2400 with KVM Support

Memory

One of the following depending on model

Type:

Industry Standard DDR4

DDR4 Registered (RDIMM)

DIMM Slots Available

16

(16 DIMM slots per processor, 4 channels per processor, 1 DIMMs per channel)

Maximum Capacity (RDIMM)

256GB

(8 x 16GB RDIMM @2133MHz)

Memory Protection

One of the following depending on model

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

PCIe riser slots

Expansion Slots #

1

Technology

PCIe 3.0

Bus Width

x16

Connector Width

x16

Form Factor

FH/HL

Notes

NA

Storage Controller

One of the following depending on model

Embedded SATA 3.0 controller via Intel PCH standard

Optional HP CL LSI-2308 SAS Host Bus Adaptor Mezzanine Card

Optional HP CL LSI 9271-8i RAID PCIe Card

Internal Storage Devices

One of the following depending on model

Hard Drives - None ship standard

Hard Drive Bays - 4 LFF hot plug SAS/SATA drive bays total

8 SFF hot plug SAS/SATA drive bays total

Standard Features

	CAPACITY	CONFIGURATION
Maximum Internal Storage One of the following depending on model	Hot Plug LFF SATA 24.0TB Hot Plug SFF SAS 7.2TB Hot Plug SFF SATA 8.0TB Hot Plug SFF SATA SSD 6.4TB	4 x 6TB (with 4LFF drive cage) 8 x 900GB (with 8SFF drive cage) 8 x 1TB (with 8SFF drive cage) 8 x 800GB (with 8SFF drive cage)
Power Supply One of the following depending on model	HP CL 650W HVDC-Fixed PSU	
System Fans One of the following depending on model	Redundant 5, NHP fans	
Interfaces	Video 1 LOM Network Ports 2 x 1GbE ports IPMI management port 1x 10/100Mb port USB 4 USB ports (standard); Front: 2xUSB 3.0 Rear: 2xUSB 2.0	
Operating Systems Support for CL Servers	Cent OS Red Hat Enterprise Linux (RHEL) NOTE: For more information on Certified and Supported OS versions for Cloudline Servers, please visit our Support Matrix at: http://www.hp.com/go/ossupport	
Upgradeability One of the following depending on model	Upgradeable to two processors (24 cores) up to 16 DIMM slots NOTE: To take advantage of DIMMs 9-16, a second processor must be installed.	
Industry Standard Compliance	ACPI 2.0b Compliant PCIe 3.0 Compliant 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 One of the following depending on model	1U Rack form factor 8SFF and 4LFF version: 1.7" (4.3cm) Height x 17" (43.2cm) Width x 26.5" (67.4cm) Length	
Security	Power-on password Serial interface control Administrator's password UEFI	

Standard Features

Warranty

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

Hardware support and is available for 1 year from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the HP Cloudline Servers and Options Global Limited Warranty and Technical Support for details.

NOTE: Server Warranty includes 1 year five (5) day Parts response time, 0-Years Labor, 0-Years Onsite support. 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 HP has either established a mutually acceptable time for support to be performed, or HP 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 HP service organization for response time availability in your area.

Service and Support

HP Technology Services HP Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to HP to help prevent problems and solve issues faster. Our support technology lets you 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 HP Care Pack Services HP Care Pack 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 **HP Cloudline Carepacks Service**

Connect to HP for faster problem resolution. Cloudline Carepack Services provides hardware onsite response. Simplify your support experience and make HP your first choice for hardware and software questions.

Related Services **Data Center Platform Consulting Services**

These services help modernize key systems and leverage new technology to support a changing business climate and prepare you for the new style of IT. HP understands the needs of the data center of the future and will serve as your guide for the journey. <http://www.hp.com/services/consulting>

Data Privacy Services

Protect your data through better media management. HP Data privacy services help manage and protect sensitive data. <http://www.hp.com/services/dataprivacy>

Additional HP Care Pack services can be found at: <http://www.hp.com/go/cpc>

Parts and Materials HP will provide HP-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 HP due to malfunction.

For HP Cloudline spare parts replenishment, see the HP website http://www.hp.com/support/cloudline_parts

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, HP recommends the use of an HP 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 based on the number of initial hard drives ordered with the server.
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)

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

CTO Server	HP CL2100 G3 407S 4 LFF Configure-to-order Server	HP CL2100 G3 807S 8SFF Configure-to-order Server
SKU Number	811146-B21	811147-B21
Processor	2 (optional)	
DIMMSlots	16 DIMM slots for RDIMM DDR4 Memory	
Storage Controller	Embedded SATA 3.0 controller via Intel PCH (standard) HP CL LSI-2308 SAS Host Bus Adaptor Mezzanine Card (optional) HP CL LSI 9271-8i RAID PCIe Card (optional)	
PCIe	1 Full height half length PCIe 3.0 slot, 1 HBA mezz slot and 1 OCP Mezz Slot	
Drive Cage	4LFF Hot Plug	8SFF Hot Plug
Network Controller	HP CL 2100 RB 4 1GbE ports (no OCP mezzanine slot) HP CL 2100 RD 2 1GbE ports + 1 OCP mezzanine slot	
Fans	5 non-hot swap fans, redundant	
Management	ASPEED 2400, KVM Support	
USB	2 front USB 3.0 ports, 2 rear USB 2.0 ports	

System Board HP CL 2100 Rb 4GbE+2x16+2x8 Board 813846-B21

NOTE: Includes embedded 4-Port 4Gb Network Adapter, 1x Controller Mezzanine Slot, 2x Gen3 PCIe x16 FH/FL x16 Connector, 2x Gen3 PCIe x8 FH/FL x8 Connector

HP CL 2100 Rd OCP+2GbE+2x16+2x8 Board 813848-B21

NOTE: Includes embedded 2-Port 2Gb Network Adapter, 1x OCP Mezzanine Slot, 1x Controller Mezzanine Slot, 2x Gen3 PCIe x16 FH/FL x16 Connector, 1x Gen3 PCIe x8 FH/FL x8 Connector

HP Processors

Entry Processors - E5-2600v3 series Processors

HP CL2100 G3 Intel® Xeon® E5-2603v3 (1.6GHz/6-core/15MB/85W) FIO Processor Kit 807813-L21

Base Processors - E5-2600v3 series Processors

HP CL2100 G3 Intel® Xeon® E5-2620v3 (2.4GHz/6-core/15MB/85W) FIO Processor Kit 807809-L21

HP CL2100 G3 Intel® Xeon® E5-2630v3 (2.4GHz/8-core/20MB/85W) FIO Processor Kit 807801-L21

HP CL2100 G3 Intel® Xeon® E5-2640v3 (2.6GHz/8-core/20MB/90W) FIO Processor Kit 807793-L21

Performance Processors - E5-2600v3 series Processors

HP CL2100 G3 Intel® Xeon® E5-2650v3 (2.3GHz/10-core/25MB/105W) FIO Processor Kit 807789-L21

HP CL2100 G3 Intel® Xeon® E5-2660v3 (2.6GHz/10-core/25MB/105W) FIO Processor Kit 807785-L21

HP CL2100 G3 Intel® Xeon® E5-2670v3 (2.3GHz/12-core/30MB/120W) FIO Processor Kit 807781-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: For the Intel® C600 Chipset E5-2600 Series, the letter preceding the model number indicates the Product Line (E3, E5, E7); 2600x v#, 2 = number of CPUs in a Node, 6 is socket/segment designation, 00 = Processor SKU, x = L for low power SKUs and v# (not yet designated) = version number.

HP Memory

NOTE: Select one or more memory from section below. 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.

Registered DIMMs (RDIMMs) for E5-2600v3 Series

HP CL 4GB (1x4GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit	807815-B21
HP CL 8GB (1x8GB) Single Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	807816-B21
HP CL 8GB (1x8GB) Dual Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit	807817-B21
HP CL 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	807818-B21

HP Hard Drives

NOTE: Select a minimum of one and a maximum of 8 hard drives from section below if ordering HP CL2100 G3 807S Server Model (P/N 811147-B21)

Hot Plug SFF

HP CL 120GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value SSD	807821-B21
HP CL 240GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value SSD	807822-B21
HP CL 480GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value SSD	807823-B21
HP CL 800GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value SSD	807824-B21
HP CL 960GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value SSD	807825-B21
HP CL 512GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value SSD	811409-B21
HP CL 500GB 6G SATA 7.2K rpmSFF (2.5-inch) Midline Hard Drive	807832-B21
HP CL 1TB 6G SATA 7.2K rpmSFF (2.5-inch) Midline Hard Drive	807833-B21
HP CL 300GB 6G SAS 10K rpm SFF (2.5-inch) Enterprise Hard Drive	807836-B21
HP CL 300GB 6G SAS 15K rpm SFF (2.5-inch) Enterprise Hard Drive	807837-B21
HP CL 600GB 6G SAS 10K rpm SFF (2.5-inch) Enterprise Hard Drive	807839-B21
HP CL 900GB 6G SAS 10K rpm SFF (2.5-inch) Enterprise Hard Drive	807841-B21

NOTE: Select a minimum of one and a maximum of 4 hard drives from section below if ordering HP CL2100 G3 407S Server Model (P/N 811146-B21)

Hot Plug LFF

HP CL 1TB 6G SATA 7.2K rpm LFF (3.5-inch) Midline Hard Drive	807827-B21
HP CL 2TB 6G SATA 7.2K rpm LFF (3.5-inch) Midline Hard Drive	807828-B21
HP CL 4TB 6G SATA 7.2K rpm LFF (3.5-inch) Midline Hard Drive	807830-B21
HP CL 6TB 6G SATA 7.2K rpm LFF (3.5-inch) Midline Hard Drive	807831-B21
HP CL 500GB 6G SATA 7.2K rpmSFF (2.5-inch) Midline Hard Drive	807832-B21
HP CL 1TB 6G SATA 7.2K rpmSFF (2.5-inch) Midline Hard Drive	807833-B21
HP CL 300GB 6G SAS 15K rpm SFF (2.5-inch) Enterprise Hard Drive	807837-B21

SAS Cable Kits

HP CL2100 407S embedded controller SAS Cable Kit	814131-B21
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NOTE: Select this kit if ordering a Mezz or PCIe option with the HP CL2100 G3 407S Server Model (P/N 811146-B21)

HP CL2100 407S LSI Card SAS Cable Kit	814132-B21
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NOTE: Select this kit for the HP CL2100 G3 407S Server Model (P/N 811146-B21) if no Mezz or PCIe option is ordered.

HP CL2100 807S embedded controller SAS Cable Kit	814133-B21
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NOTE: Select this kit if ordering a Mezz or PCIe option with the HP CL2100 G3 807S Server Model (P/N 811147-B21)

HP CL2100 807S LSI Card SAS Cable Kit	814134-B21
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NOTE: Select this kit for the HP CL2100 G3 807S Server Model (P/N 811147-B21) if no Mezz or PCIe option is ordered.

Step 3: Choose Additional Options

Configuration Information - Factory Integrated Models

HP Storage Controllers	NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.	
	HP CL LSI-2308 SAS Host Bus Adaptor Mezzanine Card	807844-B21
	HP CL LSI 9271-8i RAID PCIe Card	807845-B21
	HP CL LSI 9271-8i RAID PCIe Card with Cache Vault LSICVM01	807846-B21
HP Networking	HP CL Ethernet 10Gb 2 Port SFP+OCP Mezz	807842-B21

Core Options

HP Processors

Entry Processors - E5-2600v3 series Processors

HP CL2100 G3 Intel® Xeon® E5-2603v3 (1.6GHz/6-core/15MB/85W) Processor Kit 807813-B21

Base Processors - E5-2600v3 series Processors

HP CL2100 G3 Intel® Xeon® E5-2620v3 (2.4GHz/6-core/15MB/85W) Processor Kit 807809-B21

HP CL2100 G3 Intel® Xeon® E5-2630v3 (2.4GHz/8-core/20MB/85W) Processor Kit 807801-B21

HP CL2100 G3 Intel® Xeon® E5-2640v3 (2.6GHz/8-core/20MB/90W) Processor Kit 807793-B21

Performance Processors - E5-2600v3 series Processors

HP CL2100 G3 Intel® Xeon® E5-2650v3 (2.3GHz/10-core/25MB/105W) Processor Kit 807789-B21

HP CL2100 G3 Intel® Xeon® E5-2660v3 (2.6GHz/10-core/25MB/105W) Processor Kit 807785-B21

HP CL2100 G3 Intel® Xeon® E5-2670v3 (2.3GHz/12-core/30MB/120W) Processor Kit 807781-B21

HP Memory

Registered DIMMs (RDIMMs) for E5-2600v3 Series

HP 4GB (1x4GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit 807815-B21

HP 8GB (1x8GB) Single Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit 807816-B21

HP 8GB (1x8GB) Dual Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit 807817-B21

HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit 807818-B21

HP Drives

Hot Plug LFF (3.5-inch) Drives

HP CL 500GB 6G SATA 7.2K rpm LFF (3.5-inch) Midline Hard Drive 807826-B21

HP CL 1TB 6G SATA 7.2K rpm LFF (3.5-inch) Midline Hard Drive 807827-B21

HP CL 2TB 6G SATA 7.2K rpm LFF (3.5-inch) Midline Hard Drive 807828-B21

HP CL 4TB 6G SATA 7.2K rpm LFF (3.5-inch) Midline Hard Drive 807830-B21

HP CL 6TB 6G SATA 7.2K rpm LFF (3.5-inch) Midline Hard Drive 807831-B21

Hot Plug SFF (2.5-inch) Drives

HP CL 120GB 6G SATA SFF (2.5-inch) Value Endurance SSD 807821-B21

HP CL 240GB 6G SATA SFF (2.5-inch) Value Endurance SSD 807822-B21

HP CL 480GB 6G SATA SFF (2.5-inch) Value Endurance SSD 807823-B21

HP CL 800GB 6G SATA SFF (2.5-inch) Value Endurance SSD 807824-B21

HP CL 960GB 6G SATA SFF (2.5-inch) Value Endurance SSD 807825-B21

HP CL 500GB 6G SATA 7.2K rpm SFF (2.5-inch) Midline Hard Drive 807832-B21

HP CL 1TB 6G SATA 7.2K rpm SFF (2.5-inch) Midline Hard Drive 807833-B21

HP CL 300GB 6G SAS 10K rpm SFF (2.5-inch) Enterprise Hard Drive 807836-B21

HP CL 300GB 6G SAS 15K rpm SFF (2.5-inch) Enterprise Hard Drive 807837-B21

HP CL 600GB 6G SAS 10K rpm SFF (2.5-inch) Enterprise Hard Drive 807839-B21

HP CL 600GB 6G SAS 15K rpm SFF (2.5-inch) Enterprise Hard Drive 807840-B21

HP CL 900GB 6G SAS 10K rpm SFF (2.5-inch) Enterprise Hard Drive 807841-B21

HP CL 512GB 6G SATA SFF (2.5-inch) Value Endurance SSD 811409-B21

Additional Options

Rail Kits

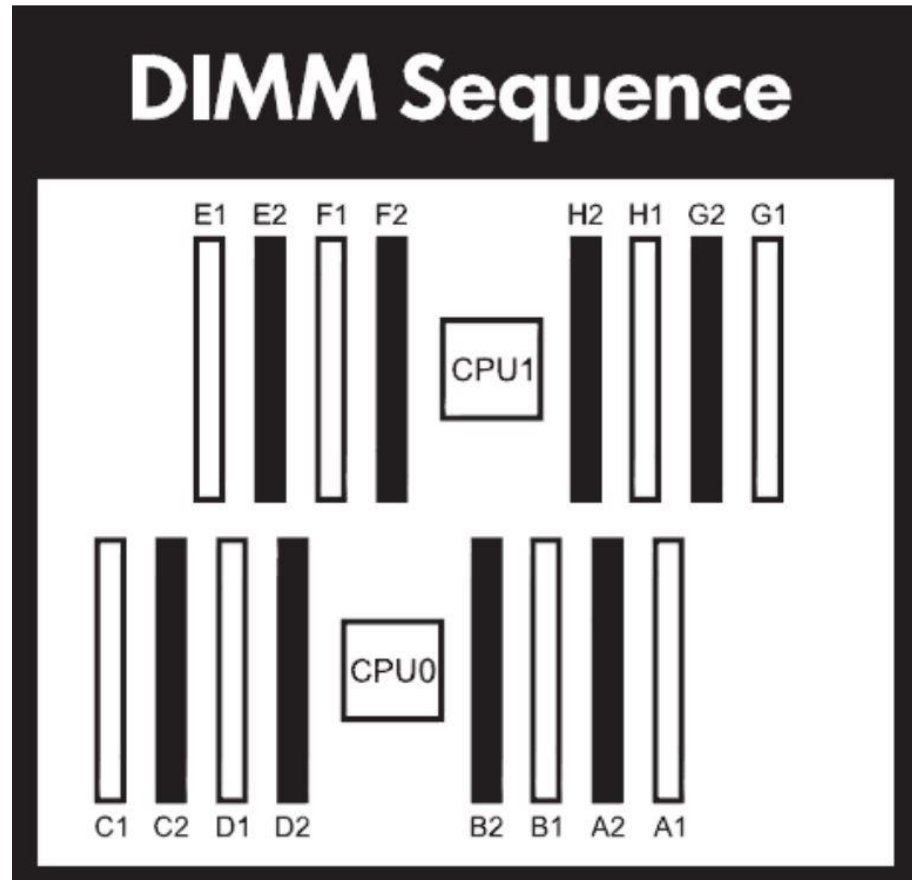
HP CL2x00 G3 Tool Less Friction Rail Kit

814770-B21

Memory

Memory Subsystem Architecture Each Intel® Xeon® E5-2600v3 family processor socket contains four memory channels per installed processor with two DIMMs 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 1100 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

DIMM slot and configuration diagram

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

DIMM slot and configuration diagrams

Basic memory slot & population diagram

- Population order; start with "A1" first, "B1" second, "C1" third, etc.
 - When one processor is installed, install DIMMs in sequential alphabetic order: A1, B1, C1, D1, A2, B2 ...
 - When two processors are installed, install DIMMs in sequential alphabetic order: CPU0-A, CPU1-E, CPU0-B, CPU1-F, CPU0-C, CPU1-G, CPU0-D, CPU1-H
- CPU #0 IS PROCESSOR IN FRONT WHEN LOOKING FROM FRONT OF SERVER

Channel #	CPU 0		CPU 1	
	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

[DIMM Type]	Registered Dimms (RDIMMs)		
DIMM Rank	Single Rank		Dual Rank
DIMM Capacity	4GB	8GB	16GB
Voltage	Std Voltage 1.2V		
16 slot servers	16		
MAXIMUM CAPACITY (GB)	64	128	256
1 DIMM Per Channel	2133 MHz		
2 DIMM Per Channel	1866 MHz		

Memory Speed by Processor Model

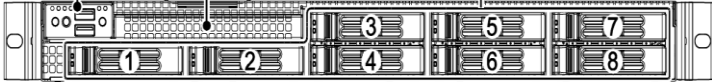
Processor Models	Supported Memory Speeds
E5-2603v3	1600MHz
E5-2630v3, E5-2620v3, E5-2640v3	1866MHz
E5-2650v3, E5-2660v3, E5-2670v3	2133MHz

Memory

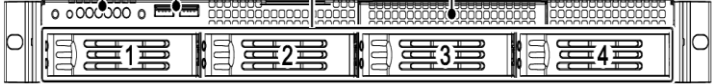
NOTE: Capacity references are rounded to the common gigabyte (GB) values.

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

Storage



1-8 8 x SFF SATA/SAS/SSD Hot Pluggable Hard Drive Bays



1-4 4 x LFF/SFF SATA/SAS/SSD Hot Pluggable Hard Drive Bays

Technical Specifications

System Unit	Dimensions (H x W x D)	4LFF/8 SFF - 1.7 x 17 x 26.5 inches (4.3 x 43.2 x 67.4 cm)		
	Weight (approximate)	Maximum: (all hard drives, power supplies, and processors installed)	4LFF 31.09 lb (14.1 kg) 8SFF 28.49 lb (12.92 kg)	
		Minimum: (one hard drive, power supply, and processor installed)	4LFF 22.20 lb (10.07 kg) 8SFF 22.20 lb (10.07 kg)	
	Input Requirements	Rated Line Voltage	200 to 240 VAC 240 VDC	
		Rated Input Current	For 650W Power Supply: 4 A (at 200 VAC) 3.2 A (at 240 VDC)	
		Rated Input Frequency	47 to 63 Hz	
		Rated Input Power	For 650 W Power Supply: <750W.	
	BTU Rating	Maximum	For 650 W Power Supply: 2466.36 BTU/hr	
	Power Supply Output	Rated Steady-State Power	For 650 W Power Supply: 650 W For 400 W Power Supply: 400 W (at 100 VAC) 400 W (at 240 VAC)	
		Maximum Peak Power	For 650 W Power Supply: <700 W	
System Unit	System Inlet Temperature	Standard Operating Support	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed. System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).	
		Non-operating	-40° to 70°C. Maximum rate of change is 20°C/hr (36°F/hr).	
	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 ft/min).		
Acoustic Noise	Levels	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).		

Technical Specifications

Idle	
	Option Model
L-Wad	<ul style="list-style-type: none"> 4LFF 6.5 B 8SFF 6.5 B
L pAm	<ul style="list-style-type: none"> 4LFF 52.6 dBA 8SFF 51.8 dBA
Operating	
L-Wad	<ul style="list-style-type: none"> 4LFF 8.0 B 8SFF 7.9 B
L pAm	<ul style="list-style-type: none"> 4SFF 67.7 dBA 8SFF 65.6 dBA

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.

HP Embedded Dual Port 361i Adapter	Network Interface Compatibility	10Base-T/100Base-TX/1000Base-TX IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX IEEE 1588, IEEE 802.1AS IEEE 802.3az - Energy Efficient Ethernet (EEE)		
	Data Transfer Method	PCI Express v 2.0, 5.0 GT/s, two lanes (x2)		
Environment friendly Products and Approach	Controller	Intel I350 Powerville		
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s per port, 40 Mb/s combined	
		10Base-T (Full-Duplex)	20 Mb/s per port, 80 Mb/s combined	
		100Base-TX (Half-Duplex)	100 Mb/s per port, 400 Mb/s combined	
		100Base-TX (Full-Duplex)	200 Mb/s per port, 800 Mb/s combined	
		1000Base-TX (Half and Full-Duplex)	1000Mb/s per port, 4000 Mb/s combined	
	Connector	Two RJ-45		
End-of-life Management and Recycling	Cable Support	10 Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)	
		10/100/1000 Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)	
<p>Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.</p>				

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 web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

Summary of Changes

Date	Version History	Action	Description of Change
16-Oct-2015	From version 4 to 5	Updated	Update the Configuration Section
17-Aug-2015	From version 3 to 4	Changed	Changes made throughout the QuickSpecs
12-Jun-2015	From version 2 to 3	Changed	Changes made in the overview of the QuickSpecs
26-May-2015	From version 1 to 2	Updated	Update Technical specifications sections
30-Mar-2015	Version 1	Created	Create QS for HP CL2100

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