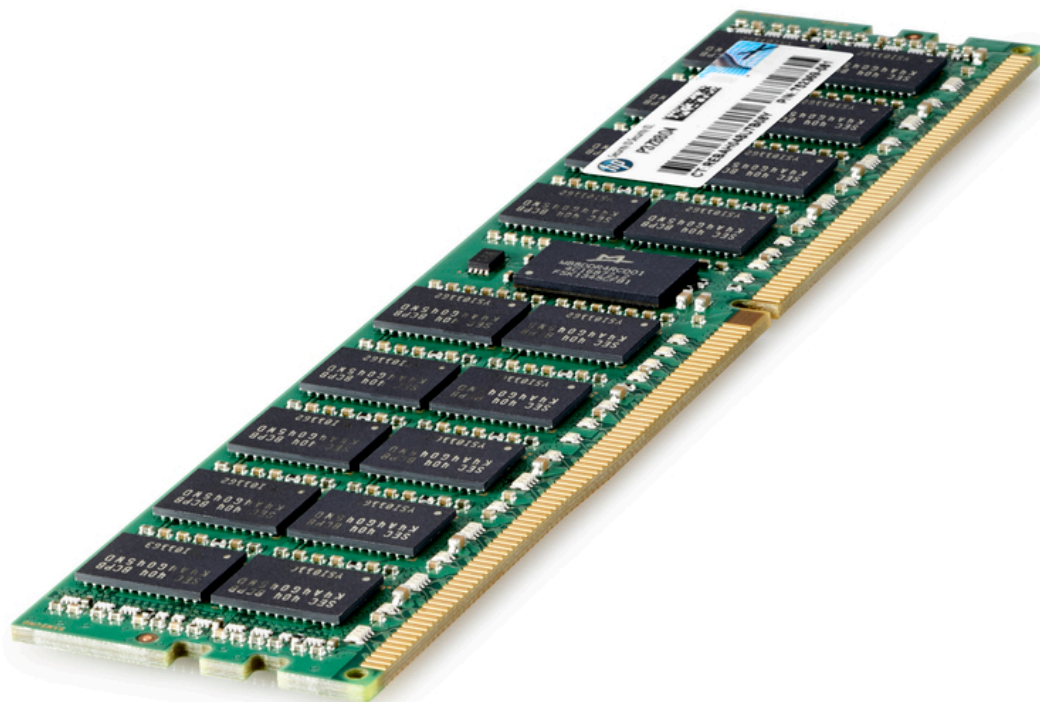# QuickSpecs

Overview

HPE DDR4 Standard Memory

Is finding reliable DRAM memory for your HPE ProLiant Servers a major challenge?

HPE Standard Memory offers the best combination of pricing, quality, reliability and compatibility for HPE ProLiant Servers; designed to help your business achieve powerful results with right-sized affordable solutions. It delivers the ideal value that small businesses require to smoothly run a small network server environment and provides entry-level businesses with affordable server memory that has been optimized for Hewlett Packard Enterprise entry-level servers. HPE Standard Memory is outstanding for businesses looking for memory with a low acquisition cost, exceptional performance, optimized compatibility, assured reliability, and comprehensive management.

What's New
- HPE Standard Memory DDR4 @2400 Memory supported on ProLiant Gen9 10/100 series Servers

Models

Registered DIMMs (RDIMMs)

HP 4GB (1x4GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Registered Standard Memory Kit	803026-B21
HP 8GB (1x8GB) Single Rank x4 DDR4-2133 CAS-15-15-15 Registered Standard Memory Kit	803028-B21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2400 CAS-17-17-17 Registered Standard Memory Kit	851353-B21

Hewlett Packard Enterprise

Overview

Unbuffered DIMMs (UDIMMs)

HPE 4GB (1x4GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Unbuffered Standard Memory Kit	805667-B21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Unbuffered Standard Memory Kit	819880-B21
HPE 8GB (1x8GB) Dual Rank x8 DDR4-2133 CAS-15-15-15 Unbuffered Standard Memory Kit	805669-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2133 CAS-15-15-15 Unbuffered Standard Memory Kit	805671-B21

Standard Features

What is HPE Standard Memory?
HPE Standard Memory is industry-standard memory from the world's server memory leader. Ideal for customers who need competitively priced, high-quality memory and also want the assurance of buying genuine Hewlett Packard Enterprise certified memory which has been optimized for HPE ProLiant 10/100 Series servers. HPE Standard Memory delivers the ideal value that small businesses require to smoothly run a small network server environment. It provides entry-level businesses with affordable server memory that has been optimized for Hewlett Packard Enterprise entry-level servers. HPE Standard Memory offers the best combination of pricing, quality, reliability and compatibility for Hewlett Packard Enterprise ProLiant Servers; designed to help your business achieve powerful results with right-sized affordable solutions.

Quality and Performance
HPE Standard Memory is compliant with JEDEC specifications and offers industry standard memory speed with assured quality and reliability. It has passed rigorous qualification tests to ensure the consistent performance. With its Error Correcting Code (ECC), HPE Standard Memory can protect your business data from data loss during unplanned system downtime.

HPE Active Health System
Future ROM updates will enable HPE Standard Memory to will work in conjunction with HPE Active Health System which monitors changes to the server hardware configuration to enable lifecycle monitoring of memory health status. Having insight into memory related service events will shorten diagnosing problems and deliver rapid resolutions if and when failures occur. Whereas Pre-Failure Alert simply notifies the administrator of an impending failure, HPE Standard Memory will provide insight with rich information on memory-related events like multi-bit errors or configuration issues.

Support Matrix
Please see the following URL for the latest list of supported servers:
http://h22195.www2.hp.com/DDR4memoryconfig/

Other Resources
For the latest updates on HPE Qualified Options visit: **http://www.hp.com/go/hpqo**

Service and Support

Service and Support **HPE Technology Services for Industry Standard Servers**

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 selected support.
NOTE: This option is covered under the HPE Support Service(s) applied to the compute module. No separate HPE Support Service(s) need to be purchased.

HPE Support Center Personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise business products. Submit support cases online, chat with HPE experts, access support resources or collaborate with peers. Learn more: **https://www.hpe.com/us/en/services/it-support.html**

The HPE Support Center Mobile App allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalize IT support anywhere, anytime.
NOTE: Hewlett Packard Enterprise Support Center Mobile App is subject to local availability

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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.

Warranty / Service Coverage For ProLiant servers and storage systems, this service covers HPE-branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as external monitors up to 22" and tower UPS products; these items will be covered at the same service level and for the same coverage period as the server unless the maximum supported lifetime and/or the maximum usage limitation has been exceeded. Coverage of the UPS battery is not included; standard warranty terms and conditions apply.

For details on HPE Qualified Options Limited Warranty visit:
http://h20566.www2.hpe.com/hpsc/wc/public/home

Technical Specifications

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.
- White DIMM slots denote the first slot to be populated in a channel.
- Place the DIMMs with the highest number of ranks in the white slot when mixing DIMMs of different ranks on the same channel.
- Do not mix UDIMMs, RDIMMs or LRDIMMs.
- Quad rank LRDIMMs are capable of up to 3DPC.
- 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 processor.
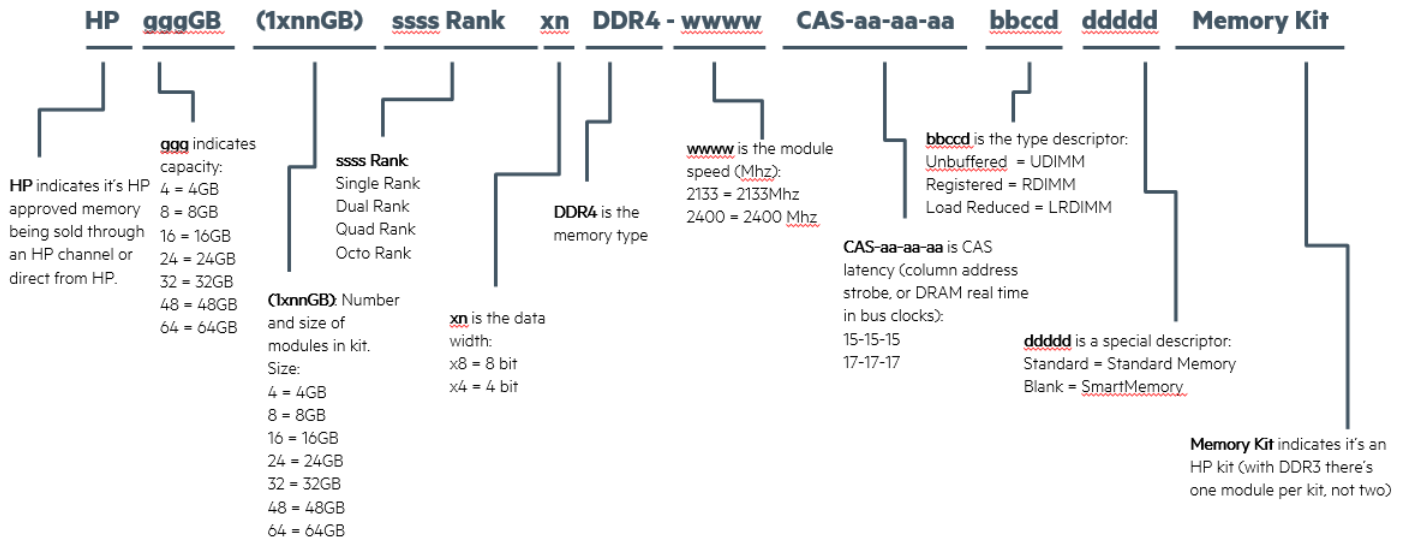
Memory Speed by Processor Model

With Intel® Xeon® E5-26xx Series Processor Family:

DIMM Rank ->	Unbuffered DIMM (UDIMM)				Register DIMM (RDIMM)		
	Single Rank (1R)	Single Rank (1R)	Dual Rank (2R)	Dual Rank (2R)	Single Rank (1R)	Single Rank (1R)	Single Rank (1R)
DIMM Capacity ->	**4GB**	**8GB**	**8GB**	**16GB**	**4GB**	**8GB**	**8GB**
Voltage	1.2V	1.2V	1.2V	1.2V	1.2V	1.2V	1.2V
SLOTS THAT CAN BE POPULATED							
2 slot servers	NA	NA	2	2	NA	NA	NA
4 slot servers	4	4	4	4	NA	NA	NA
8 slot servers	NA	NA	NA	NA	8	8	8
16 slot servers	NA	NA	NA	NA	16	16	16
MAXIMUM CAPACITY (GB)							
4 slot servers	16	32	32	64	16	32	32
8 slot servers	NA	NA	NA	NA	32	64	64
16 slot servers	NA	NA	NA	NA	64	128	128
POPULATED DIMM SPEED (MT/s)							
1 DIMM Per Channel	2133	2133	2133	2133	2133	2133	2400
2 DIMM Per Channel	2133	2133	2133	2133	2133	2133	2400
3 DIMM Per Channel	NA	NA	NA	NA	NA	NA	NA

Memory Options Part Number Decoder

Technical Specifications

Example: HP 8GB (1x8GB) Single Rank x4 DDR4-2133 CAS-15-15-15 Registered Standard Memory Kit

HP	gggGB	(1xnnGB)	ssss Rank	xn	DDR4 - wwww	CAS-aa-aa-aa	bbccd	ddddd	Memory Kit

ggg indicates capacity:
4 = 4GB
8 = 8GB
16 = 16GB
24 = 24GB
32 = 32GB
48 = 48GB
64 = 64GB

ssss Rank:
Single Rank
Dual Rank
Quad Rank
Octo Rank

wwww is the module speed (Mhz):
2133 = 2133Mhz
2400 = 2400 Mhz

bbccd is the type descriptor:
Unbuffered = UDIMM
Registered = RDIMM
Load Reduced = LRDIMM

HP indicates it's HP approved memory being sold through an HP channel or direct from HP.

DDR4 is the memory type

(1xnnGB): Number and size of modules in kit.
Size:
4 = 4GB
8 = 8GB
16 = 16GB
24 = 24GB
32 = 32GB
48 = 48GB
64 = 64GB

xn is the data width:
x8 = 8 bit
x4 = 4 bit

CAS-aa-aa-aa is CAS latency (column address strobe, or DRAM real time in bus clocks):
15-15-15
17-17-17

ddddd is a special descriptor:
Standard = Standard Memory
Blank = SmartMemory

Memory Kit indicates it's an HP kit (with DDR3 there's one module per kit, not two)

Summary of Changes

Date	Version History	Action	Description of Change
31-Mar-2016	From Version 5 to 6	Changed	Overview, Overview, Standard Features, Service and Support, and Technical Specifications
		Added	SKU added in Overview section: 851353-B21
03-Feb-2016	From Version 4 to 5	Changed	Overview, Technical Specifications sections
		Added	New 2400MHz SKU 851353-B21
01-Dec-2015	From Version 3 to 4	Changed	Overview, Service and Support, and Technical Specifications sections were updated.
		Added	SKUs added in Overview section: 805667-B21, 819880-B21, 805669-B21, 805671-B21
20-Feb-2015	From Version 2 to 3	Changed	Overview, Technical Specifications sections were updated
05-Dec-2014	From Version 1 to 2	Changed	Note added on Overview section: **NOTE: Available WW except EMEA**

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