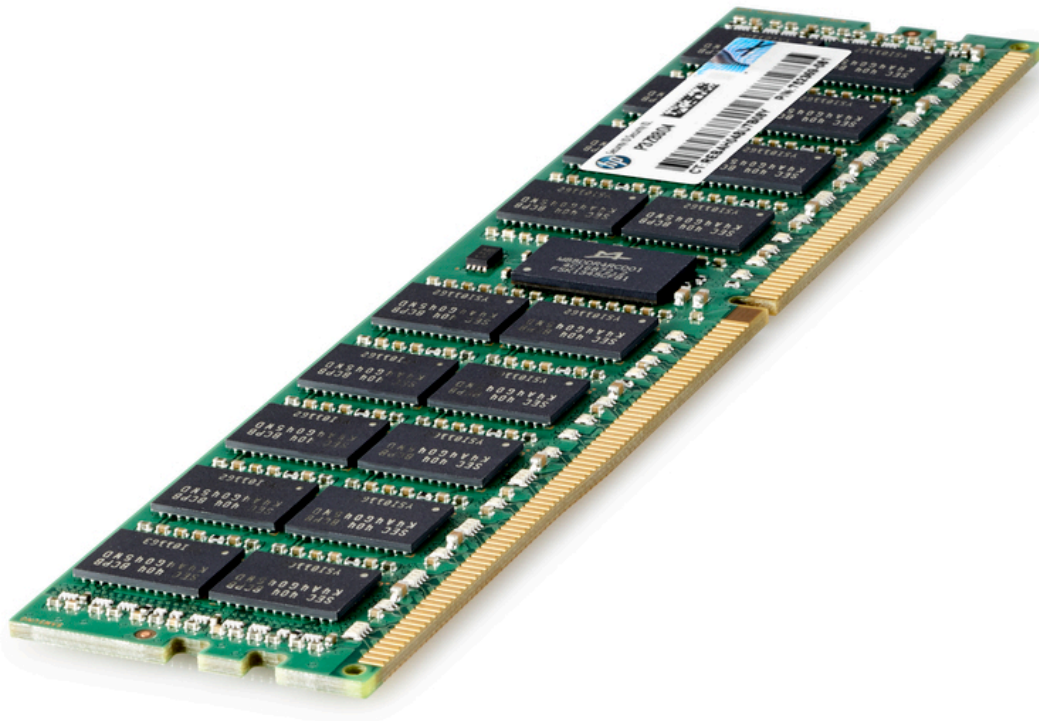


Overview

HPE DDR4 SmartMemory

HPE DDR4 SmartMemory delivers great performance, reliability, and efficiency. Our large selection of server memory solutions provides the compatibility, capacity and bandwidth you need to productively manage your expanding workload with HPE ProLiant Gen9 and Gen10 servers, Apollo Family servers, Synergy systems, and Blade Systems. The quality and reliability of DRAM are more important now than ever, as data center trends such as server virtualization, cloud computing, and the use of large database applications have all increased the need for higher-capacity memory with greater uptime.

HPE SmartMemory goes through rigorous qualification and testing processes that unlock extended memory performance features available only with HPE Gen9 and Gen10 servers. This extensive testing ensures that HPE server memory is completely compatible with and optimized for HPE servers.



What's New

- HPE SmartMemory 2666 MT/s memory supported on HPE Gen10 servers

Platform Information

Models

DDR4 SmartMemory	Registered Memory Kit	
	HP 4GB (1x4GB) Single Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726717-B21
	HP 8GB (1x8GB) Single Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726718-B21
	HP 8GB (1x8GB) Dual Rank x8 DDR4-2133 CAS-15-15-15 Registered Memory Kit	759934-B21
	HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	726719-B21
	HP 32GB (1x32GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit	728629-B21
	HP 8GB (1x8GB) Single Rank x8 DDR4-2400 CAS-17-17-17 Registered Memory Kit	805347-B21
	HP 16GB (1x16GB) Single Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit	805349-B21
	HPE 16GB (1x16GB) Dual Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit	836220-B21
	HP 32GB (1x32GB) Dual Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit	805351-B21
	HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815097-B21
	HPE 8GB (1x8GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	876181-B21
	HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815098-B21
	HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21
	HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
	Load-reduced DIMMs (LRDIMM)	
	HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory Kit	726720-B21
	HP 32GB (1x32GB) Quad Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory Kit	726722-B21
	HP 64GB (1x64GB) Quad Rank x4 DDR4-2133 CAS-15-15-15 Load Reduced Memory Kit	726724-B21
	HPE 32GB (1x32GB) Dual Rank x4 DDR4-2400 CAS-17-17-17 Load Reduced Memory Kit	805353-B21
	HPE 64GB (1x64GB) Quad Rank x4 DDR4-2400 CAS-17-17-17 Load Reduced Memory Kit	805358-B21
	HPE 128GB (1x128GB) Octal Rank x4 DDR4-2400 CAS-20-18-18 Load Reduced Memory Kit	809208-B21
	HPE 64GB (1x64GB) Quad Rank x4 DDR4-2666 CAS-19-19-19 Load Reduced Smart Memory Kit	815101-B21
	HPE 128GB (1x128GB) Octal Rank x4 DDR4-2666 CAS-22-19-19 3DS Load Reduced Memory Kit	815102-B21

NOTE: Memory DIMM availability with a server platform is dependent upon completion of certification testing.

Standard Features

What is HPE SmartMemory?	HPE SmartMemory is unique technology designed for HPE servers. It optimizes memory performance on the HPE ProLiant Rack and Tower servers, Apollo family servers, Blade systems, and Synergy systems. Authenticated HPE SmartMemory supports extended memory performance in the competitive landscape and provides customers with service enhancement through HPE Active Health Systems and other HPE proprietary software.
Quality and Performance	HPE SmartMemory undergoes a rigorous qualification process to provide our customers with the highest server memory quality options. Its performance is tested and optimized for HPE servers, supporting unique features only available with HPE servers and systems. In addition, it enhances memory throughput up to 23% and achieves an improvement in latency of up to 25%.
HPE Active Health System	Future ROM updates will enable HPE SmartMemory to work in conjunction with the 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 problem diagnosis and deliver rapid resolutions if and when failures occur. Whereas the pre-failure alert simply notifies the administrator of an impending failure, HPE SmartMemory can provide rich insight 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://www.hpe.com/servers/servermemoryconfigurator
Other Resources	For the latest updates on HPE Server Options, visit: https://www.hpe.com/us/en/servers/memory.html For more information on the HPE Persistent Memory options, visit: https://www.hpe.com/us/en/servers/persistent-memory.html

Service and Support

HPE Support Center

HPE Support Center offers personalized online support portal with access to information, tools and experts to support HPE 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: The HPE Support Center Mobile App is subject to local availability

Parts and materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain operating condition for covered hardware products, 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.

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 inches 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 the HPE Server Options Limited Warranty, visit:

<http://h20566.www2.hpe.com/hpsc/wc/public/home>

General Memory Population Rules and Guidelines:

For HPE Gen9 Servers:

- 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.
- Mixing of DIMM types (UDIMM, RDIMM, and LRDIMM) is not supported. Mixing the 128GB LRDIMM with other capacities is not supported. HPE Gen9 servers with Quad rank 2400MT/s 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. To enable Mirrored Memory mode, the system allocates half of the installed memory as system memory and the remaining half as mirrored memory.
- All memory channels must be configured identically.
- For HPE Gen9 servers, only an RDIMM can be mixed with HPE NVDIMM
- When installing NVDIMM(s) on the same memory channel as RDIMM(s), populate the RDIMM(s) first and farthest from the processor, then populate the NVDIMM(s) last and closer to the processor.

For HPE Gen10 Servers:

- 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.

Service and Support

- To maximize performance, it is recommended to balance the total memory capacity between all installed processors.
- 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.
- Mixing of DIMM types (UDIMM, RDIMM, and LRDIMM) is not supported.
- 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 number of DIMM slots on the platform, the largest DIMM capacity qualified on the platform, and the number and model of installed processors qualified on the platform.

For details on the HPE Server Memory Options Population Rules, visit:

<http://www.hpe.com/docs/memory-population-rules>

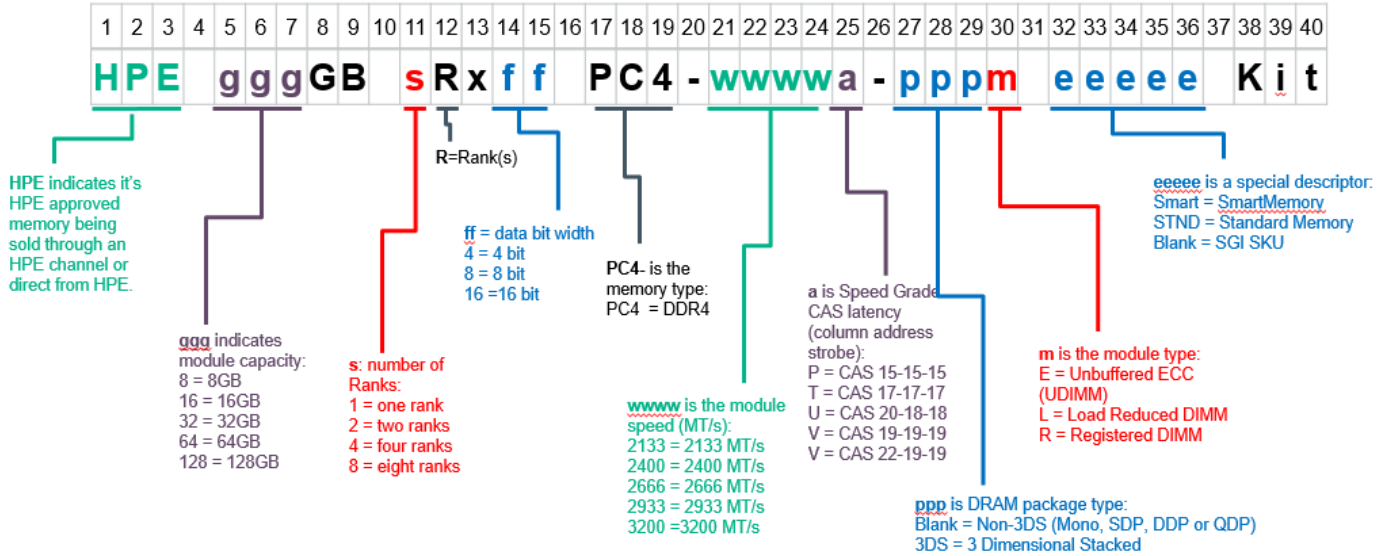
Technical Specifications

Memory Speed by Processor Model

For details on HPE server memory speeds, visit: <http://www.hpe.com/docs/memory-speed-table>

Memory options part number decoder

Short Name



Example: HPE 128GB 8Rx4 PC4-2666V-3DSL Smart Kit

For example, **HPE 128GB 8Rx4 PC4-2666V-2HTSVL Smart Kit** indicates an HPE SmartMemory DIMM with a 128GB capacity, Octal rank, a data width of 4, memory type of DDR4, 2666 Load Reduced 22-19-19 latency, and an HPE kit.

Summary of Changes

Date	Version History	Action	Description of Change
25-Sep-2017	From Version 9 to 10	Changed	Overview, Standard Features, Platform Information, Service and Support, and Technical Specifications section were updated.
		Removed	Obsolete SKU was deleted: 792278-B21
11-Jul-2017	From Version 8 to 9	Changed	Overview, Standard Features, Platform Information, Service and Support, and Technical Specifications section were updated.
		Added	SKUs added in Platform Information section: 815097-B21, 876181-B21, 815098-B21, 835955-B21, 815100-B21, 815101-B21, 815102-B21.
13-Feb-2017	From Version 7 to 8	Changed	Models section was updated.
06-Jun-2016	From Version 6 to 7	Changed	Overview, Models, Compatibility, Standard Features, Service and Support, and Technical Specifications sections were updated. Memory Speed Table, Ground rules updates, Tech Term edits
31-Mar-2016	From Version 5 to 6	Changed	Overview, Overview, Standard Features, Service and Support, and Technical Specifications
		Added	SKU Added in Models section: 805347-B21, 805349-B21, 836220-B21, 805351-B21, 805353-B21, 805358-B21, 726718-B21, 726719-B21, 728629-B21, 726722-B21, 809208-B21
01-Jun-2015	From Version 4 to 5	Added	SKU Added in Models section: 726724-B21
		Changed	What 's new, Technical Specifications & Models sections were updated.
30-Mar-2015	From Version 3 to 4	Changed	Overview, Service and Support and Technical Specifications sections were updated
		Added	SKU Added on Models: 728629-B21
16-Jan-2015	From Version 2 to 3	Changed	Performance section on Standard Features was updated
01-Dec-2014	From Version 1 to 2	Changed	Overview and Technical Specifications sections were updated
		Added	SKUs added to Models: 726717-B21, 759934-B21, 726720-B21, 792278-B21



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