

# HPE DDR4 SmartMemory

Expanding the server memory portfolio to 2933 MT/s



## New HPE DDR4 SmartMemory SKUs

Enable fine-tuned and high-efficiency features for enterprise customers without compromising performance

Hewlett Packard Enterprise introduces a complete line of [server memory](#) products to support speeds of up to 2933 MT/s, matching the performance capabilities of the new-generation Intel® Cascade Lake based processors.

### Q. What's new with the HPE Server Memory portfolio?

**A.** HPE DDR4 SmartMemory is now capable of taking advantage of speeds of up to 2933 MT/s in capacities of 8 GB to 128 GB. HPE is also introducing 16 Gb SmartMemory for Intel Cascade Lake processors. These two 16 Gb DIMMs will give enterprise customers another option for the memory capacity they need to support their memory-intensive workloads.

### Q. What new server memory products are being announced with the Cascade Lake processor launch?

**A.** HPE is introducing a number of SmartMemory products, including:

Part number	Description	Capacity	Density	Type	Rank	Date
P00918-B21	HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21 Registered SmartMemory Kit	8 GB	8 Gb	RDIMM	Single	April 2019
P00920-B21	HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21 Registered SmartMemory Kit	16 GB	8 Gb	RDIMM	Single	April 2019
P00922-B21	HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered SmartMemory Kit	16 GB	8 Gb	RDIMM	Dual	April 2019
P00924-B21	HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered SmartMemory Kit	32 GB	8 Gb	RDIMM	Dual	April 2019
P00926-B21	HPE 64GB (1x64GB) Quad Rank x4 DDR4-2933 CAS-21-21-21 Load Reduced SmartMemory Kit	64 GB	8 Gb	LRDIMM	Quad	April 2019
P00930-B21	HPE 64GB (1x64GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered SmartMemory Kit	64 GB	16 Gb	RDIMM	Dual	April 2019
P00928-B21	HPE 128GB (1x128GB) Octal Rank x4 DDR4-2933 CAS-24-21-21 3DS Load Reduced SmartMemory Kit	128 GB	8 Gb	LRDIMM	Octal	April 2019
P11040-B21	HPE 128GB (1x128GB) Quad Rank x4 DDR4-2933 CAS-24-21-21 Load Reduced SmartMemory Kit	128 GB	16 Gb	LRDIMM	Quad	June 2019

### Q. What kind of performance improvements should I expect with 2933 MT/s memory?

**A.** Customers can expect to enjoy up to 81% greater memory bandwidth than Gen9 memory. HPE DDR4 2933 MT/s SmartMemory is also 22% faster than that of Gen9 memory.

### Q. Is this performance increase in line with the industry standard? Will HPE be able to exceed the industry standard?

**A.** HPE DDR4 2933 MT/s SmartMemory matches the performance capabilities of Intel's Cascade Lake-based processors. With certain DIMM types, on certain platforms, and in certain configurations, HPE will be able to exceed the industry-standard speed by one level.

For the new 2933 MT/s, 16 Gb/64 GB 2Rx4 RDIMM, customers can expect a decrease of up to a 62% in power usage when compared to 8 Gb/64 GB 4Rx4 LRDIMMs. Additionally, the read/write throughput per watt is improved by 66% when compared to 8 Gb/64 GB 4Rx4 LRDIMMs.

### Q. Will the Cascade Lake memory cost more than Skylake memory?

**A.** The HPE DDR4 2933 MT/s SmartMemory is at cost parity to 2666 MT/s memory. Longer term, 2666 MT/s DIMMs will be harder to obtain and higher in cost than the 2933 MT/s DIMMs. Also, since cost is a function of volume, we expect to see continued cost declines over the lifecycle of the 2933 MT/s memory.

### Q. How long can we expect support for 2666 MT/s memory products?

**A.** At this time, there are no changes to the established end-of-life dates for any existing Skylake server memory products as a result of this introduction.



## Frequently asked questions

### Q. How does HPE recommend that server memory be populated within HPE servers?

A. General memory population guidelines are as follows:

- 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 will be available
- To maximize performance, balance the total memory capacity between all installed processors and load the channels similarly
- 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 RDIMMs and LRDIMMs
- Processors will allow up to two RDIMMs or LRDIMMs per channel
- Operating memory speed is a function of the rated DIMM speed, DIMMs installed per channel, processor model, and the speed selected in the ROM-based setup utility
- The maximum memory capacity is a function of the DIMM capacity, number of installed DIMMs, memory type, and number of installed processors
- To realize the performance memory capabilities listed in this document, HPE SmartMemory is required

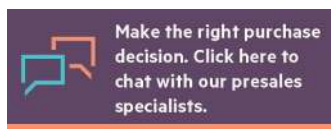
For details on the memory population rules of HPE Gen10 Servers with Intel® Xeon®, visit: [hpe.com/docs/memory-population-rules](https://hpe.com/docs/memory-population-rules)

### Q. Where can I find more detailed information regarding platform compatibility and qualification testing for Cascade Lake memory DIMMs?

A. Contact your HPE representative for detailed information relating to HPE DDR4 2933 MT/s SmartMemory.

Learn more at

[hpe.com/info/memory](https://hpe.com/info/memory)



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