Have feedback on QuickSpecs? We're listening

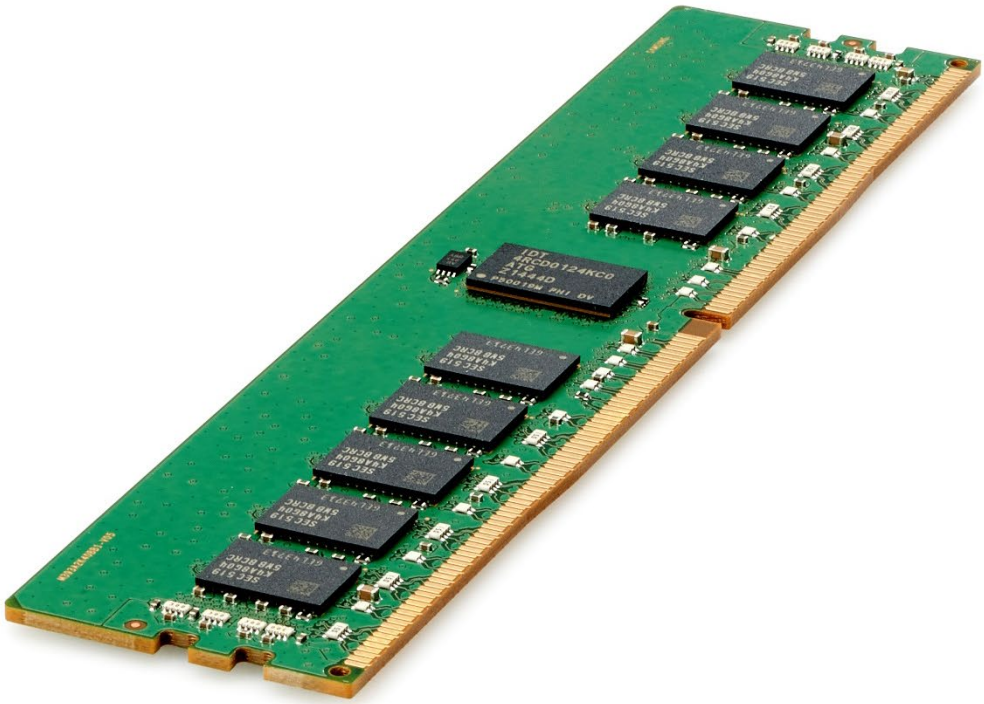
HPE DDR4 Smart Memory QuickSpecs

HPE DDR4 Smart Memory 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, Gen10, and Gen10 Plus servers, Apollo family servers, Synergy systems, and Blade systems.

Overview

As workloads grow and data center trends such as server virtualization, cloud computing, and the use of large database applications increase the need for higher-capacity memory with greater uptime, the quality and reliability of DRAM become ever more important. HPE Smart Memory goes through additional rigorous qualification and testing processes that unlock extended memory performance features available only with HPE Gen9, Gen10, and Gen10 Plus servers. This extensive testing ensures that HPE server memory is completely compatible with and optimized for HPE servers.



HPE DDR4 Smart Memory

What's New

- HPE Smart Memory 3200 MT/s memory supported on HPE Gen10 Plus AMD servers

Models

Registered Memory Kits

HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-X21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-X21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00918-X21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00918-H21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00918-K21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00920-X21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00920-H21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00920-K21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00922-X21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00922-H21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00922-K21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00924-X21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00924-H21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00924-K21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00930-X21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00930-H21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00930-K21
HPE 16GB (1x16GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06029-X21
HPE 16GB (1x16GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06029-H21
HPE 16GB (1x16GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06029-K21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06031-X21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06033-X21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06033-H21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06033-K21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06035-X21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06035-H21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06035-K21
HPE 8GB (1x8GB) Single Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07525-X21
HPE 8GB (1x8GB) Single Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07525-H21
HPE 8GB (1x8GB) Single Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07525-K21
HPE 8GB (1x8GB) Single Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07638-X21
HPE 8GB (1x8GB) Single Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07638-H21
HPE 16GB (1x16GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit.	P07640-X21
HPE 16GB (1x16GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07640-H21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07642-X21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07646-X21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07646-H21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07650-X21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07650-H21

Overview

HPE 16GB (1x16GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Memory Kit	P56425-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Memory Kit	P56429-B21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Memory Kit	P56431-B21

Load-reduced Memory Kits

HPE 128GB (1x128GB) Quad Rank x4 DDR4-2933 CAS-21-21-21 Load Reduced Smart Memory Kit	P11040-X21
HPE 128GB (1x128GB) Quad Rank x4 DDR4-3200 CAS-22-22-22 Load Reduced Smart Memory Kit	P06037-X21
HPE 256GB (1x256GB) Octal Rank x4 DDR4-3200 CAS-26-22-22 Load Reduced 3DS Smart Memory Kit	P06039-X21
HPE 128GB (1x128GB) Quad Rank x4 DDR4-3200 CAS-22-22-22 Load Reduced Smart Memory Kit	P07652-X21
HPE 256GB (1x256GB) Octal Rank x4 DDR4-3200 CAS-26-22-22 Load Reduced 3DS Smart Memory Kit	P07654-X21

Notes:

- New Hewlett Packard Enterprise Hardware Products may be manufactured using new materials or new and used materials equivalent to, or better than, new in performance and reliability, including newer materials that may not have been available at the time that the hardware product was originally introduced.
- Memory DIMM availability for a specific server platform is dependent upon completion of certification testing.
- Memory compatibility may vary or be limited within a specific server family depending upon the specific configuration being requested. Because each server environment and requirements can vary, memory compatibility is based not only upon the server family, but may also be affected by the amount and type of additional hardware options installed within a specific server configuration. For this reason, some HPE memory DIMMs may be qualified for a server model or family and yet occasionally not be supported with limited configurations within that server family.
- Please consult with the HPE server QuickSpecs or your HPE representative if you have any questions regarding memory compatibility with a specific HPE server configuration.

Fast Fault Tolerance Factory Setting

HPE Smart Memory Fast Fault Tolerance FIO Setting	875293-B21

Notes: Select this part number to enable HPE Fast Fault Tolerance, which allows server memory to run at the resiliency of double device data correction (DDDC), but with significantly higher performance. HPE Fast Fault Tolerance is available on all HPE Gen10 servers with an Intel® central processing unit.

Support for Sub-Numa Clustering (SNC) with 12 DIMMs (Gen10 Plus)

HPE 12 DIMM SNC2 Hemi SGX FIO Enablement Kit	P26933-B21

Notes: Select this part number (known as a trigger SKU) to indicate how the memory should be configured in the unbalanced 12 DIMM configuration.

Overview

XXXXXX**-X21** is SKU designation formed by a common six-digit part number and a **-X21** suffix that identifies a SKU that is available across multiple server family lines. Refer to the table below to find the SKU suffix that applies to the specific server product line this option can be ordered with.

-B21	-H21	-K21
COMPUTE	**SPECIALIZED COMPUTE**	**STORAGE**
HPE Cloudline CL2100/CL2200/CL2800/CL3100/CL4100/CL5200/CL5800 Servers HPE Composable Cloud for ProLiant DL HPE Converged System 700/750 HPE ProLiant BL460c/BL660c Servers HPE ProLiant DL20/DL160/DL180 Servers HPE ProLiant DL325/DL360/DL380/DL385/DL560/DL580 Servers HPE ProLiant DX360/DX380 Servers HPE ProLiant DX170r/DX190r/DX200/DX560/DX4200 Servers HPE ProLiant MicroServer HPE ProLiant for Microsoft Azure Stack HPE ProLiant ML30/ML110/ML350 Servers HPE Synergy 480/660 Systems HPE Synergy D3940 Storage Module	HPE Apollo 35/40/70 Systems HPE Apollo 2000/6000 Servers HPE XL170r/XL190r/XL270d (Apollo 6500) Gen10 Server for BlueData Software HPE Converged System 300/500 HPE Edgeline Systems and Servers HPE Integrity BL860c i6/BL870c i6/BL890c i6 Server Blades HPE Integrity MC990 X Server HPE Integrity rx2800 i6 Server HPE Integrity Superdome HPE SGI 8600 System HPE Solutions for SAP HANA (TDI) HPE Apollo Systems for BlueData Software	HPE Apollo 4200 Gen9/Gen10 Servers HPE Apollo 4200 Gen10 LFF Server for BlueData Software HPE Apollo 4510 Gen10 System HPE D3000/D6020/D8000 Disk Enclosures HPE D2220sb/D2500sb Storage Blade HPE Scalable Object Storage with Scality RING HPE SimpliVity 2600 HPE SimpliVity 325/380 Gen10 HPE Storage File Controllers HPE StoreEasy 1460/1560/1650/1660/1860

Notes: Disclaimer: This may not be a complete listing of applicable servers.

Standard Features

What is HPE Smart Memory?

HPE Smart Memory uniquely optimizes memory performance on the HPE ProLiant Rack and Tower servers, Apollo family servers, Blade systems, and Synergy systems. Authenticated HPE Smart Memory supports extended memory performance in the competitive landscape and provides customers with service enhancement through HPE Active Health System and other HPE proprietary software.

Quality and Performance

HPE Smart Memory undergoes a rigorous qualification process to provide 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

HPE Smart Memory works 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 Smart Memory can provide rich insight into memory-related events like multi-bit errors or configuration issues.

Other Resources

For the latest updates on HPE Server Options, visit: http://www.hpe.com/us/en/servers/memory.html

For more information on HPE Persistent Memory options, visit: https://www.hpe.com/us/en/servers/persistent-memory.html

Service and Support

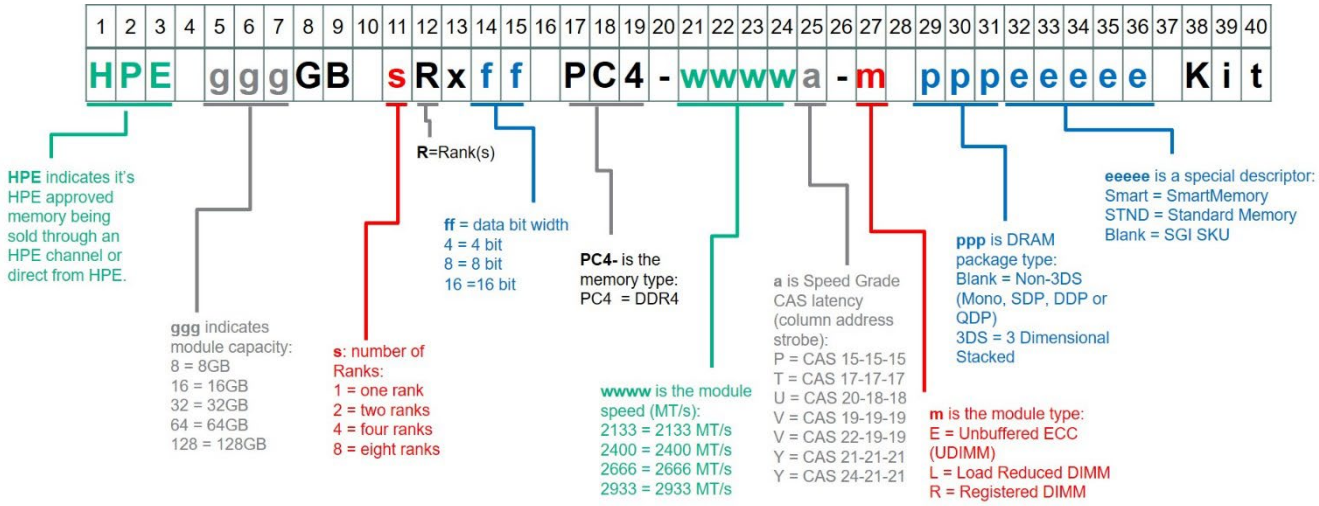
For the most up-to-date information on HPE Services, please refer to the HPE Services – Supplemental QuickSpecs, which provides a comprehensive and regularly updated overview of available services.

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



Summary of Changes

Date	Version History	Action	Description of Change
21-Sep-2026	Version 32	Changed	QuickSpecs maintenance updates.
16-Feb-2026	Version 31	Changed	New branding applied to document.
04-Dec-2023	Version 30	Changed	Service and Support section was updated.
19-Sep-2022	Version 29	Changed	Service and Support section was updated.
01-Nov-2021	Version 28	Changed	Overview section was updated.
07-Sep-2021	Version 27	Changed	Overview and Models sections were updated.
19-Apr-2021	Version 26	Changed	Models section was updated.
07-Dec-2020	Version 25	Changed	SKUs were updated in Models section.
15-Jun-2021	Version 24	Changed	SKUs were added in Models section.
06-Apr-2020	Version 23	Changed	Technical Specifications section was updated.
09-Dec-2019	Version 22	Changed	SKU section was updated.
02-Dec-2019	Version 21	Changed	Overview SKUs section was updated.
07-Oct-2019	Version 20	Changed	Configuration Information section was updated.
05-Aug-2019	Version 19	Changed	Overview section was updated.
17-May-2019	Version 18	Added	SKUs were added in Models sections: P19040-**X21**, P19041-**X21**, P19042-**X21**, P19043-**X21**, P19044-**X21**, P19045-**X21**, P19046-B21, P19047-**X21**.
02-Apr-2019	Version 17	Changed	Technical Specifications section was updated.
17-Dec-2018	Version 16	Changed	Overview section was updated. SKU added in Overview section: P00423-**X21**, 838089-**X21**. SKU deleted in Overview section: 836220-B21.
01-Oct-2018	Version 15	Changed	Overview section was updated.
06-Aug-2018	Version 14	Changed	Overview, Standard Features, and Service and Support sections were updated. SKUs were added in Models section: P05592-**X21**. Obsolete SKUs were deleted: 838079-**X21**, 838089-**X21**, P05580-B21, 838083-**X21**, 726722-B21.
04-Jun-2018	Version 13	Changed	Overview, Standard Features, Service and Support sections were updated. SKUs added in Models section: 726718-B21, 726719-B21, 728629-B21, 805347-**X21**, 836220-B21, 815097-**X21**, 876181-B21, 838079-**X21**, P05586-B21, 838081-**X21**, 838089-**X21**, P05588-**X21**, 838083-**X21**, P05590-**X21**, 726722-B21, 726724-B21, 805353-B21, 809208-B21, 815102-**X21**, 838085-**X21**, 838087-**X21**.
05-Mar-2018	Version 12	Changed	Obsolete SKUs deleted: 726717-B21, 759934-B21, 726720-B21.
04-Dec-2017	Version 11	Changed	Overview, Standard Features, and Service and Support sections were updated. SKUs added in Models section.
25-Sep-2017	Version 10	Changed	Overview, Standard Features, Platform Information, Service and Support, and Technical Specifications section were updated. Obsolete SKU was deleted: 792278-B21.
11-Jul-2017	Version 9	Changed	Overview, Standard Features, Platform Information, Service and Support, and Technical Specifications section were updated. SKUs added in Platform Information section: 815097-**X21**, 876181-B21, 815098-**X21**, 835955-**X21**, 815100-**X21**, 815101-**X21**, 815102-**X21**.

Summary of Changes

Date	Version History	Action	Description of Change
13-Feb-2017	Version 8	Changed	Models section was updated.
06-Jun-2016	Version 7	Changed	Overview, Compatibility, Standard Features, Service and Support, and Technical Specifications sections were updated.
31-Mar-2016	Version 6	Changed	Overview, Standard Features, Service and Support, and Technical Specifications sections were updated.
01-Jun-2015	Version 5	Changed	SKU added in Models section: 726724-B21 What's new, Technical Specifications and Models sections were updated.
30-Mar-2015	Version 4	Changed	Overview, Service and Support, and Technical Specifications sections were updated. SKU added on Models: 728629-B21
16-Jan-2015	Version 3	Changed	Performance section on Standard Features was updated.
01-Dec-2014	Version 2	Changed	Overview and Technical Specifications sections were updated.
		Added	SKUs added to Models: 726717-B21, 759934-B21, 726720-B21, 792278-B21.
09-Sep-2014	Version 1	New	New QuickSpecs.

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