

HPE SERVERS AND STORAGE: COMPUTE PORTFOLIO AT A GLANCE

November 2021

OVERVIEW

- View the HPE server and storage portfolio at a high level
- Find the right products to drive infrastructure transformation
- Compare key specifications across the product line

TRANSFORM IT WITH SOFTWARE-DEFINED INFRASTRUCTURE

Cloud is not a destination; it's a model for a better way of doing things. To ensure your private cloud experience mirrors that of the public cloud, you need a partner who can help you build private clouds and manage hybrid cloud successfully, with the flexibility to adapt to changing business needs, by transforming your technology, people, and processes and economics. HPE is uniquely positioned to accelerate your hybrid cloud strategy through world-class software-defined IT solutions, proven hybrid cloud expertise, and flexible consumption and economic options—all supporting your choice of clouds, workloads, and tools. hpe.com/us/en/solutions/data-center-infrastructure.html

HPE SYNERGY

Gain efficiency and control, and deploy IT resources quickly for any workload through a single interface. HPE Synergy, a powerful software-defined solution, enables you to compose fluid pools of physical and virtual compute, storage, and fabric resources into any configuration for any application. Learn more at https://ppe.com/synergy

THE HPE SERVER FAMILY (hpe.com/servers)

Innovation based on standards

Fundamental to establishing a converged infrastructure are your underlying platform choices. Whether it is a departmental server, an enterprise data center, or anything in between, HPE is committed to meeting your exact needs. Only HPE has the breadth of innovation, open partnerships, and depth of expertise to bring it all together.

Our portfolio includes:

HPE ProLiant servers—The world's most secure industry standard servers,¹
HPE ProLiant Gen10 and Gen10 Plus servers coupled with HPE OneView, HPE InfoSight, and HPE OneSphere deliver software-defined compute to accelerate application performance, infrastructure and application deployment, and improve server operations. Our wide selection of multicore, multiprocessor servers, and server blades meet needs ranging from those of cost-sensitive growing businesses to the performance and scalability demands of global enterprises. HPE ProLiant servers support the industry's leading operating systems and applications for data centers of all sizes. hep-com/info/pecom/info/pecom/info/bladesystem

HPE BladeSystem—HPE BladeSystem lets you transform legacy infrastructure and scale business performance while optimizing costs. With the powerful HPE OneView management, HPE BladeSystem puts your business on an agile, secure foundation and on the path to a composable experience. hpe.com/info/bladesystem

HPE Apollo—The HPE Apollo high-density server family is built for the highest levels of performance, scale, and efficiency. They are rack-scale compute, storage, networking, power and cooling—massively scale-up and scale-out solutions, ideal for your Big Data analytics, object storage, high performance computing (HPC), and artificial intelligence (AI) workloads. hpe.com/info/apollo

HPE Data Solutions—When you need real-time business and maximum uptime, HPE Data Solutions are your ideal choice. This portfolio is unparalleled for its resiliency, availability, and security for critical data environments where business continuity is expected.

For industries that never stop, HPE NonStop Systems are uniquely designed for the very highest level of availability: an integrated solution stack with massive scalability, data integrity, and low TCO. hpe.com/info/nonstop. For your most demanding and critical SAP HANA®, Oracle® and SQL Server workloads, HPE Superdome Flex family delivers an unmatched combination of performance, availability, and reliability for data environments of any size. This is also an ideal platform to tackle AI and HPC workloads holistically. hpe.com/superdome.

HPE Server Options—Strengthen the foundation of your data center with high-caliber products that enhance system performance and functionality. HPE memory, drives, processors, racks, and power and cooling offerings are easy to manage and are tailored for HPE ProLiant, Integrity, and HPE storage systems. With HPE Qualified Options, you can be confident in your whole infrastructure. hpe.com/info/serveroptions

HPE Data Center Network solutions—Built from HPE FlexNetwork Architecture, HPE Data Center Network solutions meet the demanding needs of today's highly virtualized, large-scale application environments. HPE FlexFabric Data Center is the network foundation for the servers, storage, and software of converged infrastructure. This robust networking foundation helps you improve service levels and agility, enhance business continuity, and reduce operating costs. hpe.com/networking/datacenter

Partner Software—HPE tests, certifies, and supports a broad range of partner OS and virtualization software on HPE ProLiant servers. HPE resells and provides service and support for Microsoft Windows Server, Red Hat® Enterprise Linux®, SUSE Linux Enterprise Server, Canonical Ubuntu Server, and VMware®. HPE also resells Cloudera, Hortonworks, Scality, and Cleversafe with support provided by the partner. For more information, visit the OS and Virtualization website. hpe.com/info/ossupport

HPE Server Management is an agile infrastructure management solution for accelerating IT service delivery and support. We provide a comprehensive set of server management capabilities designed to manage the lifecycle for the HPE Server portfolio to reduce the time, complexity, and cost of everyday IT management. hpe.com/us/en/servers/management

hpe.com/info/rackservers hpe.com/info/towerservers Security Benchmarks

¹ Based on external firm conducting cybersecurity penetration testing of three server products from three manufacturers, September 2019 Accelerate with
Intelligent Data
Platform from HPE

Power your data-driven transformation by connecting applications to infrastructure, innovators to data, and automation to policies in a seamless, unified cloud experience. Collapse silos and mitigate data and infrastructure management complexities by unifying data operations as a service. Unleash the power of data.

HPE MOONSHOT SYSTEMS

HPE Moonshot is an integrated, workload-optimized, software-defined server system, delivered in a compact, energy efficient form factor. HPE Moonshot infrastructure design delivers breakthrough efficiency and scale by replacing general purpose computing with more energy-efficient System-on-Chip (SoC) containing integrated accelerators tailored for specific workloads. This enables better resource efficiency, while reducing operational cost and improving IT setup and maintenance simplicity.

For more information: hpe.com/info/moonshot

HPE EDGELINE CONVERGED EDGE SYSTEMS

HPE Edgeline Converged Edge Systems is the industry first product category that combines uncompromised IT systems (Intel® Xeon® compute, storage and management) with Operational Technology (OT) Systems (control systems, data capture and industrial networks) in a ruggedized form factor capable to run analytics in virtually any edge environment. HPE Edgeline enable new applications and deliver dramatic improvements in operating cost, speed, reliability and security, while saving time, space, and energy.

For more information: hpe.com/info/edgeline

HPE POINTNEXT SERVICES

Achieve maximum return from your IT investment

Get the expertise you need at every step of the IT journey with HPE Pointnext Services and Support. We help you lower your risks and costs using proven best practices, automation, and methodologies that have been tested and refined by HPE experts through thousands of implementations and deployments globally. With Advisory Services, we focus on your business outcomes and goals, partnering with you to design your transformation and build a road map tuned to your unique challenges. Our professional, operational and technical services can be leveraged to speed up time-to-production, boost performance, and accelerate your business.

HPE Pointnext Services specializes in flawless and on-time implementation, on-budget implementation, and creative configurations that get the most out of software and hardware alike. We collaborate with your IT team from technical design to implementation, build to migration, distribution, and finally to operational consulting and service.

- <u>Services and Support</u> accelerates your digital transformation and gain the ability to operate from edge to cloud with strategic help, operational support, and training you need.
- <u>HPE Pointnext Complete Care</u> is a modular, edge-to-cloud IT environment service that provides a holistic approach to optimizing your entire IT environment.
- HPE Pointnext Tech Care a new service changing the definition of operational IT support.

Consume IT services on your terms, getting the specific value that you need for your business. <u>HPE GreenLake</u> enables you to scale easily by adding capacity in minutes, not months. You pay only for what you actually need, creating true pay-per-use outcomes. Simplify your IT planning, capacity forecasting, and cost allocation with HPE GreenLake.

Learn more about HPE Pointnext Services and Solutions for your business.

			ML/DL10 series: Small scale server: Easy to buy and deploy		ML/DL100 series: Right-sized server: Balance of performance, efficiency, and manageability		
		Service Control of the Control of th					
	MicroServer Gen10 Plus	MicroServer Gen10	ML30 Gen10	DL20 Gen10	ML110 Gen10	DL160 Gen10	DL180 Gen10
Number of processors	1	1	1	1	1	1 or 2	1 or 2
Cores per processor	2/4	2/4	2/4/6	2/4/6	4/6/8/10/12/14/16	4/6/8/10/12/14/16/18/20/22/24	4/6/8/10/12/14/16/18/20/22/24
Processors supported	Intel Xeon E2200 series Intel® Pentium® G5400 series	AMD Opteron X3421 AMD Opteron X3216	Intel Xeon E-2200 series; Intel® Core™ i3-9100; Intel Pentium G5420	Intel Xeon E-2100 Series; Intel Core i3-8300; Intel Pentium G5400	Intel Xeon Scalable processor 5200, 4200, and 3200 series; Intel Xeon Scalable processor 5100, 4100, and 3100 series	·	Intel Xeon Scalable processor 8200, 6200, 5200, 4200, 3200 series; Intel Xeon Scalable processor 4100 and 3100 series
Maximum processor frequency	3.8 GHz	3.4 GHz	3.8 GHz	3.8 GHz	3.8 GHz	3.8 GHz	3.8 GHz
Cache	Up to 8 MB L3	2 MB L2	Up to 12 MB L3	Up to 12 MB L3	Up to 22 MB	Up to 35.75 MB	Up to 35.75 MB
Maximum memory	32 GB (2 DIMM slots)	32 GB (2 DIMM slots)	64 GB (4 DIMM slots)	64 GB (4 DIMM slots)	192 GB (6 DIMM slots)	1 TB (16 DIMM slots)	1 TB (16 DIMM slots)
Persistent memory	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Maximum storage drive bays	4 NHP LFF or 4 NHP SFF HDD/SSD	(4) LFF SATA Non-hot plug	(8) SFF SAS/SATA hot plug, (4) LFF SAS/SATA hot plug, or (4) LFF SATA Non-hot plug (1) M.2 NVMe SSD	(4) SFF + (2) SFF (2) LFF hot plug (2) LFF Non-hot plug	(16) SFF SAS/SATA HDD/SSD, (8) LFF SAS/SATA HDD/SSD, or (8) NHP LFF SATA HDD	8 + 2 SFF or 4 LFF	(8) + (24) SFF or (12) LFF SAS/SATA HDD/SSD + (2) SFF rear enablement kit + M.2 SATA support
Maximum internal storage	16 TB	16 TB	64 TB	91.8 TB	96 TB	48 TB	144 TB
I/O slots	Up to 1 PCle 3.0	Up to 2 PCle 3.0	Up to 4 PCle 3.0	Up to 2 PCle 3.0	Up to 5 PCle 3.0	Up to 3 PCle 3.0	Up to 6 PCle 3.0
GPU		Optional AMD Radeon Pro WX 2100	(1) Single-wide, active, up to 75W	N/A	NVIDIA® Quadro P2000 and AMD Radeon Pro WX 2100, NVIDIA Quadro RTX4000	N/A	NVIDIA P2000
Operating systems and virtualization software supported	Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), VMware, Hyper-V, and ClearOS	ClearOS, Microsoft Windows Server	ClearOS, Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), and VMware	ClearOS, Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), and VMware	Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), VMware, Hyper-V, and ClearOS	Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), VMware, and Hyper-V	Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), VMware, and Hyper-V
Management	HPE iLO 5, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE iLO Advanced, HPE InfoSight	N/A	HPE iLO 5, HPE OneView Standard, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE iLO Advanced, HPE InfoSight	HPE iLO 5, HPE OneView Standard, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE iLO Advanced, HPE OneView Advanced, HPE InfoSight	HPE iLO 5, HPE OneView Standard, HPE InfoSight, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE iLO Advanced	HPE iLO 5, HPE OneView Standard, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE iLO Advanced, HPE OneView Advanced, HPE InfoSight	HPE iLO 5, HPE OneView Standard, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE iLO Advanced, HPE OneView Advanced, HPE InfoSight
Form factor/chassis depth	Ultra Micro Tower/9.65"	Ultra Micro Tower/10"	Micro ATX Tower (4U)/18.71"	Rack (1U)/15.05"	Tower (4.5U)/< 19"	Rack (1U)/24.1"	Rack (2U)/24.99"
Warranty—year(s) (parts/labor/on-site)	1/1/1	1/1/1	3/1/1 or 3/3/3 (depending on region)	3/3/3	3/3/3	3/3/3	3/3/3

HPE PROLIANT SERVERS—10, 100, 300, 500 SERIES (CONTINUED)

HPE ProLiant servers

 $\textbf{ML/DL300 series:} \ \textit{Versatile server:} \ \textit{Industry-leading portfolio offering flexible choices for multiworkload compute and storage}$



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	ML350 Gen10	DL325 Gen10	DL325 Gen10 Plus v2	DL325 Gen10 Plus	DL345 Gen10 Plus	DL360 Gen10	DL365 Gen10 Plus
Number of processors	1 or 2	1	1	1	1	1 or 2	1 or 2
Cores per processor	4/6/8/10/12/14/16/18/20/22/24/26/28	8/16/24/32/64	8/16/24/28/32/48/56/64	8/16/24/32/64	8/16/24/28/32/48/56/64	4/6/8/10/12/14/16/18/22/24/26/28	8/16/24/28/32/48/56/64
Processors supported	Intel Xeon Scalable 8200 series; Intel Xeon Scalable 8100 series; Intel Xeon Scalable 6100 series; Intel Xeon Scalable 5100 series; Intel Xeon Scalable 4100 series; Intel Xeon Scalable 3100 series	AMD EPYC™ 7000 series processors	3rd Generation AMD EPYC 7000 Series	AMD EPYC 7000 Series	3rd Generation AMD EPYC 7000 Series	Intel Xeon Scalable processor 8200, 6200, 5200, 4200, 3200 series; Intel Xeon Scalable processor 8100, 6100, 5100, 4100, and 3100 series	3rd Generation AMD EPYC 7000 Series
Maximum processor frequency	3.8 GHz	3.4 GHz	3.7 GHz	3.4 GHz	4.1 GHz	3.8 GHz	3.7 GHz
Cache	Up to 38.5 MB L3	Up to 256 MB L3	Up to 256 MB L3	Up to 256 MB	Up to 256 MB L3	Up to 38.5 MB	Up to 256 MB L3
Maximum memory	3 TB (24 DIMM slots)	2 TB (16 DIMM slots)	4 TB (16 DIMM Slots)	4 TB/3200 MT/s	4 TB (16 DIMM Slots)	3 TB (24 DIMM slots)	8.0 TB with 256 GB DDR4
Persistent memory	N/A	N/A	N/A	N/A	N/A	Up to (12) 16 GB NVDIMMs option (192 GB max.)**	N/A
Maximum storage drive bays	(24) SFF SAS/SATA HDD/SSD, (12) LFF SAS/SATA HDD/SSD, (8) NVMe SSD option, or (12) NHP LFF SATA HDD	(4) LFF SAS/SATA HDD/SSD, (8) SFF SAS/SATA HDD/SSD + (2) SFF SAS/SATA HDD/SSD (10) SFF NVMe	4 LFF SAS/SATA, 8 SFF SAS/SATA/NVMe with optional 1x 2 SFF SAS/SATA or 1x 2 SFF NVMe	Up to 12 LFF/24 SFF/24 NVMe	8 or 12 LFF SAS/SATA with 2 SFF rear drive optional 8 or 24 SFF SAS/SATA with 2 SFF rear drive optional, 24 SFF NVMe Front bay with 2 SFF rear drive optional	(10) NVMe + (1) SFF or (8) + (2) + (1) SFF or (4) LFF + (1) SFF SAS/SATA HDD/SSD M.2 SATA/PCIe enabled, optional dual uFF M.2 Enablement Kits	8 SFF SAS/SATA/NVMe with optional 1x 2 SFF SAS/SATA or 1x 2 SFF NVMe
Maximum internal storage	184 TB	154 TB	459 TB	Up to 2 Single Width Active only	399.36 TB	153.6 TB	153.6 TB
I/O slots	Up to 8 PCle 3.0	3 PCle 3.0	Up to 3 PCle 4.0	Up to 3 PCIe 4.0	UP to 4 PCle 4.0	Up to 3 PCle 3.0	UP to 4 PCle 4.0
GPU	FL/FH double-wide and single-wide active and passive (4)	N/A	N/A	Up to 2 Single Width Active only		Single-wide and active to 9.5" (2) in length, up to 150W each	
Operating systems and virtualization software supported	Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), VMware, Hyper-V, and ClearOS	ClearOS, Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), and VMware	ClearOS, Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE, Linux Enterprise Server (SLES), and VMware	ClearOS, Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), and VMware	ClearOS, Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE, Linux Enterprise Server (SLES), and VMware	ClearOS, Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), and VMware	ClearOS, Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE, Linux Enterprise Server (SLES), and VMware
Management	HPE iLO 5, HPE OneView Standard, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE iLO Advanced, HPE OneView Advanced, HPE InfoSight	HPE iLO 5, HPE OneView Standard, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE iLO Advanced, HPE OneView Advanced, HPE InfoSight	Default: HPE iLO Standard with Intelligent Provisioning, HPE OneView Standard (requires download)	HPE iLO 5, HPE OneView Standard, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight HPE iLO Advance, HPE OneView Advanced HPE OneSphere	Default: HPE iLO Standard with Intelligent Provisioning, HPE OneView Standard (requires download) Optional (require licenses): HPE iLO Advanced, HPE iLO Advanced Premium Security Edition, HPE OneView Advanced	HPE iLO 5, HPE OneView Standard, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE iLO Advanced, HPE OneView Advanced, HPE InfoSight	HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download) HPE iLO Advanced (require license)
Form factor/chassis depth	Tower (4U)/25.5" or Rack (5U)/25.5"	Rack (1U)/24.2"	1U Rack	1U, 31.8" (Up to 8 LFF/20 SFF) or 39.3" (12 LFF/24 SFF)	2U Rack, LFF Easy Install rails with optional CMA	Rack (1U)/27.81" (SFF), 29.5" (LFF)	1U Rack, SFF Easy Install rails without CMA
Warranty—year(s) (parts/labor/on-site)	3/3/3	3/3/3	3/3/3	3/3/3	3/3/3	3/3/3	3/3/3

 $^{{}^* \, \}text{Intel} {}^{\scriptsize{\$}} \, \text{Speed Select, 1-socket Optimized, NFV Optimized and VM Density Optimized processors.}$

^{**} Supported on first generation Intel Xeon Scalable processors.

	ML/DL300 series: Versatile server: Industry-leading portfo	olio offering flexible choices for multiworkload compute and sto	DL500 series: Scalable performance for business-critical workloads			
	DL380 Gen10	DL385 Gen10	DL385 Gen10 Plus	DL385 Gen10 Plus v2	DL560 Gen10	DL580 Gen10
Number of processors	1 or 2	1 or 2	1 or 2	1 or 2	1, 2, or 4	1, 2, 3, or 4
Cores per processor	4/6/8/10/12/14/16/18/20/22/24/26/28	8/16/24/32/64	8/16/24/32/64	8/16/24/32/48/56/64	4/6/8/10/12/14/16/18/20/22/24/26/28	4/6/8/10/12/14/16/18/20/22/24/26/28
Processors supported	Intel Xeon Scalable processor 8200, 6200, 5200, 4200, 3200 series; Intel Xeon Scalable processor 8100, 6100, 5100, 4100, and 3100 series	AMD EPYC 7000 series processors	AMD EPYC 7000 Series	3rd Generation AMD EPYC 7000 Series	Intel Xeon Scalable processor 8200, 6200, 5200 series; Intel Xeon Scalable processor 8100, 6100, and 5100 series	Intel Xeon Scalable processor 8200, 6200, and 5200 series; Intel Xeon Scalable processor 8100, 6100, and 5100 series
Maximum processor frequency	3.8 GHz	3.4 GHz	3.4 GHz	3.7 GHz	3.8 GHz	3.8 GHz
Cache	Up to 38.5 MB	Up to 256 MB L3	Up to 256 MB	Up to 256 MB L3	Up to 38.5 MB	38.5 MB
Maximum memory	3 TB (24 DIMM slots)	4 TB (32 DIMM slots)	8 TB/3200 MT/s	8.0 TB with 256 GB DDR4	6 TB (48 DIMM slots)	6 TB (48 DIMM slots)
Persistent memory	Up to (24) 16 GB NVDIMMs option (384 GB max.)**	N/A	N/A	N/A	Up to (24) 16 GB NVDIMMs option (384 GB max.)**	Up to (24) 16 GB NVDIMMs option (384 GB max.)**
Maximum storage drive bays	(24) + (6) SFF SAS/SATA HDD/SSD or (12) + (4) + (3) LFF + (2) SFF SAS/SATA HDD/SSD or 20 NVMe PCI SSD, M.2 enabled, optional dual uFF M.2 Enablement Kits	(8) LFF SAS/SATA HDD/SSD + UMB (12) LFF SAS/SATA/SSD + (4) LFF mid-plane + (3) LFF + (2) SFF rear drive bay (total 19 LFF + 2 SFF drives) (8) SFF SAS/SATA/SSD + optional UMB, SFF, or NVMe drive bay options (24) SFF SAS/SATA HDD/SSD + (6) SFF rear drives (total of 30 SFF drives) (24) NVMe PCI		8 or 12 LFF SAS/SATA with 4 LFF mid drive optional, 4 LFF rear drive 8 or 24 SFF SAS/SATA with 8 SFF mid drive optional and 4 SFF rear drive optional, 16 SFF NVMe Front bay with 8 SFF mid drive optional	(24) SFF SAS/SATA HDD/SSD or (12) NVMe PCI SSD (optional), M.2 enabled, optional dual uFF enablement kits	(48) SFF SAS/SATA HDD/SSD (2) SFF SAS/SATA/NVMe, and (20) NVMe SSD option kits (optional)
Maximum internal storage	197+ TB	459 TB		428.4 TB	184 TB	368 TB
I/O slots	Up to 8 PCle 3.0	8 PCIe 3.0	Up to 8 PCle 4.0 + M.2 support in PCle slot	UP to 4 PCle 4.0	Up to 8 PCle 3.0	16 PCle 3.0
GPU	Single-wide (5)/double-wide (3) and active/passive up to 10.5*	Single-wide (5)/double-wide (3) and active/passive up to 10.5 cards	Single-/double-wide (8) and active/passive up to 10.5* (3)		HL/FH (2)	FL/FH double-wide (4)
Operating systems and virtualization software supported	ClearOS, Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), and VMware	ClearOS, Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), and VMware		ClearOS, Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE, Linux Enterprise Server (SLES), and VMware	Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), and VMware	Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), and VMware
Management	HPE iLO 5, HPE OneView Standard, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE iLO Advanced, HPE OneView Advanced, HPE InfoSight	HPE iLO 5, HPE OneView Standard, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE iLO Advanced, HPE OneView Advanced, HPE InfoSight	HPE iLO 5, HPE OneView Standard, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE InfoSight HPE iLO Advance, HPE OneView Advanced HPE OneSphere	(require licenses): HPE iLO Advanced, HPE iLO	HPE iLO 5, HPE OneView Standard, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE iLO Advanced, HPE OneView Advanced, HPE InfoSight	HPE iLO 5, HPE OneView Standard, Intelligent Provisioning, Smart Update Manager, RESTful Interface Tool, HPE iLO Amplifier Pack Optional: HPE iLO Advanced, HPE OneView Advanced, HPE InfoSight
Form factor/chassis depth	Rack (2U)/26.75" (SFF), 28.75" (LFF)	Rack (2U)/28.75"	Rack (2U)/26.75" (SFF), 28.75" (LFF)	2U Rack	Rack (2U)/29.75" (SFF)	Rack (4U)/29.75"
Warranty—year(s) (parts/labor/on-site)	3/3/3	3/3/3	3/3/3	3/3/3	3/3/3	3/3/3

^{**} Supported on first generation Intel Xeon Scalable processors.

HPE SYNERGY AND HPE BLADESYSTEM COMPUTE AND STORAGE MODULES

Intel Xeon Scalable processors family—1st

Half-height, 12 per enclosure (mixing allowed)

SY480 Gen10*

1 or 2

Number of processors

Processors supported

Form factor

Compute Modules



Intel Xeon Scalable processors family—1st

1			
SY660 Gen10*			

Intel Xeon Scalable processors family—2nd Fabric

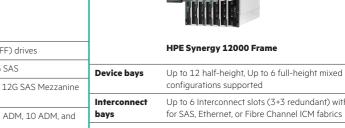


Max. Drive quantity supported 1 to 40 small form factor (SFF) drives

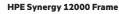
Storage Modules

D3940 Storage Module

Supports 6G SATA and 12G SAS



Height



:		comigarations supported
	Interconnect	Up to 6 Interconnect slots (3+3 redundant) with support
	bays	for SAS, Ethernet, or Fibre Channel ICM fabrics
	Power	Choice of up to 6 hot plug power supplies (3+3 redundancy):
		Single-phase only VAC 2650W each, HVDC, 277 VAC, or -48 VDC @ 2650W each. No mixing of PSUs.
	Cooling	Centralized Cooling with 10 redundant fans
S	Management/ Appliances	Composer, powered by HPE OneView. Single or Dual redundant appliances for managing up to 250 Compute
		Modules over multiple racks. Image Streamer for managing

server Boot environments.

Rack Height (10U)

	Generation	Generation	Generation****	Generation	Controller model	HPE Smart Array P416ie-m 12G SAS Mezzanine
Processors—Cores available	4 to 28 4 to 28				Controller	
Processors—Frequency	1.7 to 3.6 GHz	1.8 to 3.8 GHz	2.0 to 3.6 GHz	1.8 to 3.8 GHz	Controller RAID options	RAID 0, 1, 5, 6, 10, 50, 60, 1 ADM, 10 ADM, and
Memory slots	24	24	48	48		HBA mode
Memory capacity—Per socket	Up to 1.5 TB***	Up to 1, 2, or 4.5 TB***	Up to 6 TB***	Up to 1, 2, or 4.5 TB***	Interconnect module	HPE Synergy 12 Gb SAS Connection Module with 12 internal ports
Memory speed	DDR4 @ 2666 MT/s***	DDR4 @ 2933 MT/s***	DDR4 @ 2666 MT/s***	DDR4 @ 2933 MT/s***	Drive mix	· · · · · · · · · · · · · · · · · · ·
Persistent memory	N/A	Intel (256 GB, 512 GB, 1 TB)***	N/A	Intel (256 GB, 512 GB, 1 TB)***	Drive mix	Choice to mix and match SAS/SATA, SSD/HDDs in each storage module, provisioned with servers
Operating systems supported**	MS Win, RHEL, SLES**		MS Win, RHEL, SLES**			in the same HPE Synergy frame
Network ports	Up to 3 Mezzanine Slots for SAS, Ethernet, or Fibre Channel depending on configuration		Up to 6 Mezzanine Slots for SAS, I	Ethernet, or Fibre Channel depending on configuration	Logical array limitation	Must be composed with a single drive type
Drives supported	2 SFF SAS/SATA or 2 SFF NVMe (of depending on model	optional) or 2 M.2 SATA and 2 Dual uFF, hot plug,	0 to 4 SFF SAS/SATA/NVMe SSDs up to 4 internal M.2 drives	and/or up to 8 uFF Flash and/or	Max. SAS storage capacity per module	612 Terabytes (with 40 x 15.3 TB SAS RI SSDs)
Maximum internal storage	Up to 2 Drives + 40 w/ D3940 (up 204 max. drives per frame	to 5 storage modules per frame)	Up to 4 Drives + 40 w/ D3940 (up to 4 storage modules per frame) 168 max. drives per frame		Max. storage capacity per frame	3 Petabytes
I/O slots	Up to 3 available	Up to 3 available		Up to 6 available		200 drives
Management HPE OneView		HPE OneView		Max. storage modules per	5 HPE Synergy D3940 storage modules	

3/3/3

* For more details please review QuickSpecs at hpe.com/psnow/doc/a00008520enw?from=app§ion=search&isFutureVersion=true and hpe.com/psnow/doc/a00008522enw?from=app§ion=search&isFutureVersion=true.

** For more information on HPE's certified and supported HPE ProLiant servers for OS and Virtualization software and latest listing of software drivers available for your server, please visit our Support Matrix at hee.com/info/ossupport.

Intel Xeon Scalable processors family—2nd

*** Capacity and Speed of Memory is highly dependent on version #, number of slots occupied and processor selected. See Memory Population Tables in individual Compute QuickSpecs for details.

**** Intel Xeon Scalable Family 100 Series (s1##aa) Bronze, Silver, Gold, and Platinum shelves.

Warranty—year(s) (parts/labor/on-site) 3/3/3

***** Intel Xeon Scalable Family 200 Series (s2##aa) Bronze, Silver, Gold, and Platinum shelves.

Max. SAS storage capacity per module	612 Terabytes (with 40 x 15.3 TB SAS RI SSDs)
Max. storage capacity per frame	3 Petabytes
Max. drives per frame	200 drives
Max. storage modules per frame	5 HPE Synergy D3940 storage modules
Composable storage	HPE OneView
Recommended HA storage/ fault tolerance	SAS SFF redundant paths require additional I/O module and SAS connection module. (SATA drives have a single port limitation, making them more vulnerable to failure than SAS drives.)
RAID	Support of RAID 0, 1, 5, 6, 10, 60, 1 ADM, 10 ADM presentation to OS as a volume and Software RAID
ades	Enclosures

HPE BladeSystem		HPE storage blades	Enclosures

Full-height, 6 per enclosure (mixing allowed)



	BL400C GEILLV			
Number of processors	1 or 2			
Processors supported	4 to 26	4 to 26		
Processors—Cores available	Intel Xeon Scalable processors family—1st Generation****	Intel Xeon Scalable processors family—2nd Generation*****		
Processors—Frequency	1.7 to 3.6 GHz	1.8 to 3.8 GHz	Proc	
Memory slots	16	16	Driv	
Memory capacity—Per socket	Up to 1 TB***	Up to 1 TB***	Max	
Memory speed	DDR4 @ 2666 MT/s***	DDR4 @ 2933 MT/s***		
Persistent memory	N/A	N/A		
Operating systems supported**	MS Win, RHEL, SLES**		RAII	
Network ports	Up to 2 Mezzanine Slots for SAS, Ethernet, or Fibre Channel depending	on configuration		
Drives supported	2 SFF SAS/SATA or 2 SFF NVMe (optional) or 2 M.2 SATA and 2 Dual u	FF, hot plug, depending on model	Forr	
Maximum internal storage	Up to 2 Drives + 12 w/Expansion Drive		War	
I/O slots	Up to 2 available		(par	
Management	OA, HPE OneView			
Form factor	Half-height, 16 per enclosure (mixing allowed)			
Warranty—year(s) (parts/labor/on-site)	3/3/3			



	HPE D2500sb Storage Blade	
Processors supported	N/A	
Drives supported	Up to 12 hot plug SFF SAS or SATA HDDs or SAS/SATA SSDs	ı
Maximum capacity	12 drives per storage blade and up to 8 storage blades in an enclosure provides an additional 368.64 TB maximum capacity to the HPE ProLiant BL460c Gen10 server blades	F
RAID support	RAID 0, 1, 5, 6, 10, 50, 60, 1 Advanced Data Mirroring (ADM), and 10 ADM	,
Form factor	Half-height, single-wide storage blade	
Warranty—year(s) (parts/labor/on-site)	3/0/0 with warranty upgrade options	,
		١,
		Ľ.



Platinum Enclosure

	HPE BladeSystem c7000	
	HPE BladeSystem c7000 Platinum Enclosure	
p to 4	Up to 16 half-height, up to 8 full-	

Device bays	Up to 8 half-height blades up to 4 full-height blades Mixed configurations supported	Up to 16 half-height, up to 8 full-height blades Mixed configurations supported
Interconnect bays	4 Interconnect bays. Interconnect bays with support for any I/O fabric.	8 Interconnect bays with support for any I/O fabric
Power	Choice of up to 6 hot plug power supply kits: Single-phase VAC up to 1200W each or -48 VDC up to 1200W each	Choice of up to 6 hot plug power supply kits: Single-phase or three-phase VAC up to 2650W each or -48 VDC up to 2650W each
Cooling	Cooling Centralized redundant fans up to 6 Active Cool fans	Centralized redundant fans up to 10 Active Cool fans
Management/ Appliances	Single Onboard Administrator—LAN and serial access, Redundant Onboard Administrator—LAN and serial access, optional HPE OneView	Single Onboard Administrator—LAN and serial access, Redundant Onboard Administrator—LAN and serial access, optional HPE OneView
Height	Rack Height (6U)	Rack Height (10U)

^{*} For more details please review QuickSpecs at hpe.com/psnow/doc/a00008517enw?from=app§ion=search&isFutureVersion=true.

^{**} For more information on HPE's certified and supported HPE ProLiant servers for OS and Virtualization software and latest listing of software drivers available for your server, please visit our Support Matrix at hpe.com/info/ossupport

^{***} Capacity and Speed of Memory is highly dependent on version #, number of slots occupied and processor selected. See Memory Population Tables in individual Compute QuickSpecs for details.

^{****} Intel Xeon Scalable Family 100 Series (s1##aa) Bronze, Silver, Gold, and Platinum shelves.

^{*****} Intel Xeon Scalable Family 200 Series (s2##aa) Bronze, Silver, Gold, and Platinum shelves.







HPE Apollo 2000 System



HPE Apollo 2000 Gen10 Plus System











HPE ProLiant XL1	7
Gen10 server	

HPE ProLiant XL190r

	HPE AR44z server	HPE AR64z server		Gen10 server	Gen10 server		HPE ProLiant XL225n Gen10 Plus server
Density/Scale	2U System, up to (4) 1U half width trays	2U system, up to (2) 2U half width trays	Density/Scale	2U system, up to (4) 1U half width trays	2U system, up to (2) 2U half width trays	Density/Scale	2U system, Up to (4) 1U half width trays
Processor	Marvell Thunder X2 processor; 28 or 32 cores; 165W or 180W		Processor	Up to two Intel Xeon Scalable processors per server node, up to 150W; -F support on CPU 0		Processor	Up to two AMD EPYC 7002 series Processors per server node, Up to 200W+
Memory (type, channels, slots)	Supports up to 2666 MT/s DDR4; 8 channels, 16 slots		Memory (type, channels, slots)	Supports up to 2666/2933 MT/s DDR4 SmartMemory; 6 channels, 16 slots		Memory (type, channels, slots)	Supports up to 3200 MT/s DDR4 SmartMemory; 8 channels, 16 slots
Storage	Internal storage up to 8 LFF hot-plug SATA; 2 internal 2280 M.2	Internal storage up to 4 LFF hot-plug drives; 2 internal 2280 M.2	Storage	Dependent on chassis selection (r2200, r2600, or r2800)			Dependent on chassis selection (n2600 with multiback plane options including no backplane or up to 24 SFF drives)
				6 SFF HDD/SSD or up to 2 NVMe SSD option, 3 LFF HDD; 2 internal 2280 M.2 optional kit	12 SFF HDD/SSD or up to 4 NVMe SSD options, 6 LFF HDD; 2 internal 2280 M.2 optional kit	Storage Storage	6 SFF HDD/SSD or up to 2 NVMe SSD options 2 internal 22110 M.2 optional kit w/ HW RAID NVMe
GPU Support	N/A	·	GPU Support	N/A	Up to (4) FH/FL	GPU Support	N/A
System management	HPE Performance Cluster Manager (HPCM)		System management	HPE Performance Cluster Manager (HPCM), UEFI		System management	HPE Performance Cluster Manager (HPCM)
OS Support	SUSE Linux Enterprise Server (SLES), Red Hat Enterprise Linux (RHEL)		OS Support	Windows Server 2012 R2/2016/2019 (Most Recent Version), VMware ESXi™ 6.0 U3/6.5 U2/6.7 U1, Red Hat Enterprise Linux (RHEL) 7.6, SUSE Linux Enterprise Server (SLES) 12 SP4/15 SP1, CentOS		OS Support	Windows Server 2012 R2/2016/2019 (Most Recent Version), VMware ESXi 6.0 U3/6.5 U2/6.7 U1, Red Hat Enterprise Linux (RHEL) 7.6, SUSE Linux Enterprise Server (SLES) 12 SP4/15 SP1, CentOS, Ubuntu, Citrix XenServer
Power Supply—Hot Plug	Two 1600W platinum power supplies		Power Supply—Hot Plug	Two 800W/1400W, 277 VAC/1600W, 2200W (2018) HPE Apollo Platform Manager option for rack level management		Power Supply—Hot Plug	Two 1600W/3000W HPE Apollo Platform Manager option for rack level management
Interconnect	Choice of Ethernet (10 Gigabit), InfiniBand EDR/Ethernet 100 Gb		Interconnect	Choice of 1 Gigabit, 10 Gigabit, 25 Gigabit, InfiniBand, Omni-Path or FlexibleLOM		Interconnect	Choice of Ethernet (1 Gigabit to 100 Gigabit), InfiniBand (100 Gb HDR or 200 Gb HDR) InfiniBand
Cooling	(8) Single rotor fans (standard)		Cooling	(4) Single rotor fans (standard) and an additional 4 rotor fans can be added for redundancy		Cooling	(5) Single rotor fans (standard) and an additional 2 rotor fans can be added for additional cooling
Security	N/A		Security	HPE iLO 5, Silicon Root of Trust, HPE iLO Advanced (Optional)		Security	HPE iLO 5, Silicon Root of Trust, HPE iLO Advanced (Optional)
Storage Controller	Integrated SATA controller		Storage Controller	(1) HPE Smart Array S100i; optional HPE Smart Array PCIe card		Storage Controller	(1) HPE Smart Array S100i; optional HPE Smart Array PCle card
Warranty (parts, labor, on-site support)	3/3/3		Warranty (parts, labor, on-site support)	3/3/3		Warranty (parts, labor, on-site support)	3/3/3
QuickSpecs URL	hpe.com/psnow/doc/a00039978enw?from=app§ion=search&isFutureVersion=true		QuickSpecs URL	hpe.com/psnow/doc/a00022816enw?from=app§ion=search&isFutureVersion=true hpe.com/psnow/doc/a00019876enw?from=app§ion=sea	hpe.com/psnow/doc/a00022817enw?from=app§ion= search&isFutureVersion=true rch&isFutureVersion=true	QuickSpecs URL	hpe.com/psnow/doc/a00056110enw?from=app§ion=search&isFutureVersion=true

HPE APOLLO COMPUTE SYSTEMS

HPE Apollo 4200 Gen	10 System	HPE Apollo 4510 Gen10 System	HPE Apollo 6000 Gen1	0 System	HPE Apollo 6500 Gen1	0 System
				HPE Apollo 6000 Gen10 System		HPE Apollo 6500 Gen10 System
	HPE Apollo 4200 Gen10 Server	HPE Apollo 4510 Gen10 System	4			
orm factor	2U rack server	4U shared infrastructure chassis	_	American Company		
Storage type	Front: Up to 24 LFF or 48 SFF in the two front HDD Cages Optional Rear HDD Cages: 4 LFF, 2 SFF + 2 HHHL PCIe (supports [2] uFF Dual M.2), or 6 NVMe Optional M.2 kits	(60) LFF in front (2) driver drawers, side loaded; (2) SFF SAS/SATA/NVMe/SSD or (2) uFF Dual M.2 front loaded; (2) M.2 supported by internal riser				
itorage capacity	Up to 392 TB (24 + 4 LFF 14 TB HDD) Up to 7.8 PB per 42U rack	Up to 960 TB per server (60 x 16 TB HDD)				
	(20 servers 14 TB HDD)	Over 9 PB in 42U rack (10 servers 16 TB HDD)		HPE ProLiant XL230k Gen10 Server		HPE ProLiant XL270d Gen10 Server
Storage controller	(1) HPE Smart Array S100i; optional HPE Smart Array cards; Up to 3 HPE Smart	(1) HPE Smart Array S100i; optional HPE Smart Array cards	Density/Scale	12U system, Up to (24) 1U half width trays	Density/Scale	4U system
	Array Gen10 Controllers	, , , , , , , , , , , , , , , , , , , ,	Processor	Up to two Intel Xeon Scalable processors	Processor	Up to two Intel Xeon Scalable processors
Processor family	Intel Xeon Scalable processors (8100, 6100/6200, 5100/5200, and 4100/4200 series)	Intel Xeon Scalable processors (8100, 6100/6200, 5100/5200, and 4100/4200 series)	Memory (type, channels, slots)	Supports up to 2666/2933 MT/s DDR4 SmartMemory, 16 DIMM slots	Memory (type, channels, slots)	Supports up to 2933 MT/s DDR4 SmartMemory 3 TB Max, 24 DIMM slots
Processor number	One or two per server	One or two per server	Storage	Up to 4 SAS/SATA/NVMe	Storage	Up to 16 SAS/SATA SSD, or up to 4 NVMe SSD (optional), M.21
Processor cores available	Up to 28 cores/165W	Up to 26 cores/150W	GPU Support	N/A	GPU Support	Up to 8 PCle or SXM-2 NVLink GPU, Now supporting NVIDIA Quadro RTX GPU
Memory	Supports up to 2933 MT/s DDR4 SmartMemory 1 TB max. with 64 GB LRDIMM	Supports up to 2933 MT/s DDR4 SmartMemory 1 TB max. with 64 GB LRDIMM	System management	HPE Performance Cluster Manager (HPCM)	System management	HPE Performance Cluster Manager (HPCM), HPE Container Platform
-	@ 2933 MT/s, 16 DIMM slots	@ 2933 MT/s, 16 DIMM slots	OS Support	Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux	OS Support	Ubuntu and Enterprise OS choice
Networking	Embedded dual 1 Gb NIC PCIe Standup ([1] 16x PCIe Gen3 slots from each	2 x 1GbE embedded + Choice of FlexibleLOM + Standup		Enterprise Server (SLES), VMware, CentOS	Power Supply—Hot Plug	Up to 4 HPE 2200W Platinum 80 Plus (2+2)
	processor)		Power Supply—Hot Plug		Interconnect	4 x 1GbE embedded Choice of FlexibleLOM + Standup
Expansion slots	Up to 5 Low Profile PCIe Slots or up to 6 slots including 2 FHHL PCIe from riser support (extended from Slot 2) with 2 processors	Up to (3) PCIe slots: (1) LP PCIe slot and (2) FHHL PCIe slots; Two riser options		power load; holds up to 6 power supplies: 2650W Platinum hot-plug (15.9 kW non-redundant) or 2400W Platinum hot-plug (14.4 kW non-redundant); power can be managed by an HPE Advanced Power Manager (APM) option at the server,	Cooling	Air cooled, 5 fan modules per server. One 80 mm dual rotor fan on top, one 60 mm single rotor fan on bottom.
Operating systems and	Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux	Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux		chassis or power shelf level	Security	HPE iLO 5, Silicon Root of Trust, HPE iLO Advanced (Optional)
virtualization SW	Enterprise Server (SLES), and VMware	Enterprise Server (SLES), and VMware	Interconnect	Integrated 10 Gb Ethernet, EDR and Omni-Path fabric options	Storage Controller	(1) HPE Smart Array S100i; optional HPE Flexible Smart Array and Smart Array PCle
Management Recommended for	HPE iLO 5 Management (standard), (2) HPE iLO dedicated management ports; Intelligent Provisioning (standard), UEFI, HPE iLO Advanced (optional),	HPE iLO 5 Management (standard), (2) HPE iLO dedicated management ports; Intelligent Provisioning (standard), UEFI, HPE iLO Advanced (optional),	Cooling	(5) Dual rotor fans (standard)		card
Management at scale	HPE OneView Advanced (optional)	HPE OneView Advanced (optional)	Security	HPE iLO 5, Silicon Root of Trust, HPE iLO Advanced (Optional)	Warranty (parts, labor,	3/3/3
Chassis (series)	HPE Apollo 4200	HPE Apollo 4510 Chassis	Storage Controller	Embedded chipset SATA (s114i); optional HPE Smart Array PCIe card	on-site support)	
Systems fans features	Up to 10 fans with optional redundant fan kit (for redundancy)	Hot plug rear serviceable N + 1 redundant dual fan modules	Warranty (parts, labor,	3/3/3	QuickSpecs URL	hpe.com/psnow/doc/a00039976enw?from=app§ion=search&isFutureVersion=true
Power supply type	(2) HPE 800W or 1600W, Flex Slot Power Supplies (AC/DC/277 VAC)	(4) HPE 800W or 1600W, Flex Slot Power Supplies (AC/DC/277 VAC) HPE Apollo Platform Manager option for rack level management	on-site support) QuickSpecs URL	hpe.com/psnow/doc/a00016634enw?from=app§ion=search&		
Warranty	3/3/3	3/3/3		isFutureVersion=true		
QuickSpecs URL	hpe.com/psnow/doc/a00056091enw?from=app§ion=search&isFutureVersion=true	hpe.com/psnow/doc/a00021866enw?from=app§ion=search&isFutureVersion=true		hpe.com/psnow/doc/a00016641enw?from=app§ion=search&isFutureVersion=true		

HPE DATA SOLUTIONS

HPE superdome flex 280 server		HPE Mission Critical x86 Servers		
Scalability and performance	• 3rd generation Intel Xeon Scalable processors, gold or platinum, up to 28 cores • Modular scale-up 5U building block/chassis (2 or 4 sockets per chassis) • "Glueless" modular architecture with 6 UPI links/processor for higher bandwidth and faster data rates • Scale from 2-8 sockets in 2-socket increments, with 16-224 cores • Designed to provide 64 GB to 24 TB of shared memory using DRAM only or in combination with persistent memory • Optional Intel® Optane™ persistent memory 200 series for HPE	Unparalleled scale	• Modular scale-up architecture • Scales seamlessly from 4 to 32 sockets as a single system, with both Gold and Platinum processors • Designed to provide 768 GB-48 TB of shared memory • High bandwidth (13.3 GB/sec-bi-directional per link)/low latency (<400ns) HPE Flex Grid • Intel Xeon Scalable processors, first—and second-generation, with up to 28-cores	
I/O flexibility	Balanced I/O for extreme performance - Up to 32 PCle 3.0 cards with choice of 16-slot (all low profile) or 12-slot (FH/FW) - 16-slot: each CPU has support for two x8 and two x16 PCle cards - 12-slot: each CPU has support for one x16 PCle slot and one 300w GPU Up to 20 SAS/SATA/NVMe drives with RAID & HW encryption Up to 8 NVIDIA Quadro GPUs or up to 16 NVIDIA T4 GPUs; support for Intel SDVis	Unbounded I/O Optimum flexibility	Up to 128 PCle standup cards, LP/FH PCle 4-socket chassis building blocks, low entry cost; HPE nPars NVIDIA GPUs, Intel SDVis 1/10/25/100 Gbe, 16/32 Gb FC, IB EDR/Ethernet 100 GB, IB HDR SAS, Multi-Rail LNet for Lustre; NVMe SSD MPI, OpenMP	
	1/10/25 Gbe, 16/32Gb FC, IB EDR/Ethernet 100 GB, IB HDR SAS, Multi-Rail LNet for Lustre; NVMe SSD MPI, OpenMP	Extreme availability Simplified user experience	 Advanced memory resilience, firmware first, analysis engine, self-healing HPE Serviceguard for Linux HPE OneView, IRS, OpenStack, Redfish API 	
Extreme HPE Superdome RAS	 Advanced memory resiliency, Firmware First, analysis engine, self-healing HPE Serviceguard for Linux Enhanced security with silicon root of trust and TPM 2.0 	_ Simplified user experience	HPE Datacenter Care, HPE Proactive Care	
Simplified User Experience	Simplified management GUI HPE OneView, OpenStack, Redfish API Optional HPE GreenLake consumption model HPE Datacenter Care, HPE Proactive Care			

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