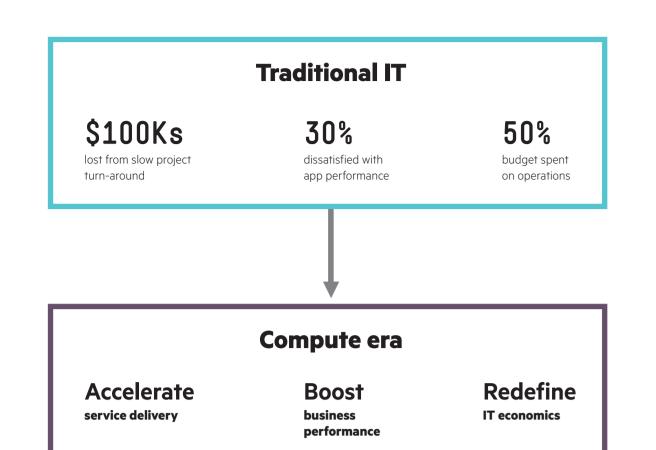
Optimise your IT performance with the new HPE Generation 9 Servers

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Number of sockets Typical applications	Single socket The HPE ProLiant MicroServer Gen8 he businesses get to a s that provides better secured access to da and more efficiency i operations, while driv down operating expe	ps Gen9 Server delivers a full-featured single-soci nd tower server with the rial features at a competitive price, easy to use and maintain for growing sness. businesses and remote factor branch offices.	Gen9 Server is the perfect et first server for growing sight businesses and remote brown offices. This affordable to server delivers expansion all reliability, and performan	affordable single-socket tower server featuring be performance, expansion growth than previous 1P single-socket tower mod class Designed to meet small and midsized businesses performance compute demands, the ML110 Ger delivers exceptional valu	n Gen9 Server delivers the t essential mix of performa petter price, and expandability t in and fit the needs of growing budget-conscious dels. businesses. Designed as dual-socket tower server, it is a right-sized tower	Gen9 Server is the 2P nce, premium server that delivers o a class-leading combination of performance, availability, expandability, manageability, reliability and serviceability. It's the ideal choice for remote offices, growing businesses and data centres.	Gen9 Server powered by Intel® Pentium®, Core i3 and E3-1200v5 processors provides a unique blend of enterprise-class capabilities at a great value – making it an ideal rack server platform for growing businesses and	Gen9 Server is a 1U 1S value rack server with essential features addressing virtualisation and memory/ IO requirements of SMBs an enterprises. It supports one E5-2600 v4 processor.	Gen9 Server provides an affordable compute ag capability that fits specific workload requirements of space-/ budget-constraine SMBs and service provider	Gen9 Server is designed with just the right storage, networking and processor scalability, and ed manageability in a 2U sen rs for cost-conscious service	Gen9 Server delivers the right balance of performance storage, reliability, manageability and efficiency in a dense and compact chassis and is designed to meet the needs of a diverse set of customers: - SMBs and service providers with a wide range of workloads	Gen9 Server delivers an optimised 2U server designed with the right balance of expandability, performance, reliability and manageability – all in a new compact chassis. It's the ideal platform for SMBs and enterprises running applications for	dense general-purpose computing, the HPE ProLiant DL360 Gen9 Server delivers increased performance with the best memory and I/O expandability packed in a 1U dense rack design. Reliability, serviceability and availability, backed by a comprehensive warranty, make it ideal for the most space-constrained	general-purpose compute, the HPE ProLiant DL380 Gen9 Server delivers the best performance and expandability in the HPE 2P rack portfolio. Reliability, serviceability and availability, backed by a comprehensive warranty, make it ideal for	Gen8 Server is the price/ performance choice for your virtualisation, database and high performance computin workloads.	Server is a dense 4-socket ir server for data-intensive workloads such as virtualisation database, business processing and consolidating general 4P	Server is an enterprise-grade 4-socket x86 server offering n, breakthrough performance, rock-solid reliability, and compelling consolidation and manageability efficiencies. It is the ideal choice for	Blade delivers the right performance, scalability and economics for the converged data centre in the new era of computing. It features the latest innovations to offer the lowest cost	scale-up blade server for demanding workloads.	Graphics Server Blade allows you to centalise high-end PCs and workstations for a more business-efficient infrastructure while delivering the same user experience. Assisted with workstation-class high-performance	a density-optimised, 2U shared infrastructure chassis for up to four ProLiant Gen9 independent, hot-plu	in a 2U form factor for object	HPE Apollo 4500 Systems are purpose-built systems that specifically address storage and y analytics workloads: Apollo 4510	robust, front-serviced compute settings, offering optimised rack-scale performance and efficiency with racks tailored to your needs for HPC.	The HPE Hyper Converged 250 is a compact 2U/4-node virtualised platform of powerful compute based of the Apollo 2000 Gen 9 server platform and resilient storage managed as one from a single interface and optimised to handle a variety of workloads – fror on-demand IT infrastructure to virtual desktop infrastructure (VDI). High availability, data protection, and backup and recovery capabilities are built	available virtualisation system, the new HPE Hyper Converged 380 (HC 380) delivers a simple solution stack with extended flexibility and manageability. It builds on the powerful, industry standard DL380 Gen9 server platform combined with VMware vSphere. Usin the new Hyper Converged Manager	Designed to be open and flexible, the HPE Converged System 700 can meet many of your general-purpose infrastructure needs, as well as provide a foundation for private cloud. This powerful laaS platform can run a single enterprise application or support a range of common workloads.	8 socket Running a choice of SUSE SLES 11/ 12, Red Hat RHEL 6/7 and Oracle Linux, this 8-socket x86 server runs large business processing and decision support workloads, especially suitable for SAP HANA. Choose this when you need more CPU capacity than the DL580 and cost-effective scaling without the full-strength mission-critical capability that Superdome X delivers for Linux, Windows and VMware workloads.	industry standard server, x86-based Superdome X delivers mission-critical availability and scaling required to replace proprietary RISC/UNIX* systems. It also extends Linux, Windows* and VMware performance/scaling for workloads reaching limits in capacity or complexity on scale-out servers.
Processors *E5-2697 v2, E5-2690 v2, E5-2690 v2, E5-2680 v2, E5-2670 v2, E5-2660 v2, E5-2650 v2, E5-2650 v2, E5-2650 v2, E5-2667 v2, E5-2667 v2, E5-2637 v2, E5-2640 v2, E5-2630 v2, E5-2630 v2, E5-2630 v2, E5-2630 v2, E5-2600 v2, E5-2600 v2, E5-2600 v2, E5-2600, E5-2650, E5-2650, E5-2650, E5-2650, E5-2650, E5-2650, E5-2650, E5-2650, E5-2637, E5-2630, E5-2630, E5-2630, E5-2630, E5-2630, E5-2630, E5-2650, E5	processor or	1610T One Intel® Xeon® E3-12 v5 series processor or One Intel® Pentium® G4 series processor	v5 series processor or 000 One Intel® Core™ i3-600 series processor or	v4 series processor with 4-8 cores or One E5-2600 v4 series	E5-2600 v4 series proces with 6-14 cores Entry/Base/Performance processors – E5-2600 v4 es, series processors up to 12	sors E5-2600 v4 series processors with 4-22 cores, including low power models	v5 processor with 4 cores including low power models Intel® Core™ i3 and Pentium® models with	E5-2600 v4 series processo with 4-12 cores, including low power models One Intel® Xeon® E5-1600	or E5-2600 v4 series process with 4-12 cores, including low power models Entry/Base/Performance processors – E5-2600 v4	sor E5-2600 v4 series processors with 4-12 core including low power mod Entry/Base/Performance processors – E5-2600 v4		E5-2600 v4 series processors with 4-12 cores, including low power models Entry/Base/Performance Processors – E5-2600 v4	E5-2600 v4 series processors with 4-22 cores, including low power models Entry/Base/Performance processors – E5-2600 v4	s E5-2600 v4 series processors with 4-22 cores, including low power models Entry/Base/Performance processors – E5-2600 v4	s 6300 series processors with v 4/8/12/16 cores	Up to 4 Intel® Xeon® E5-4600 v4 series processors with 8/10/12/14/16/18/22 cores, up to 135W		processors with 4-22 cores, including low	Two (2) or four (4) Intel® Xeon® E5-4600 v4 series processors with 6/10/12/14/16/16 cores, up to 135W		series processors with 4-22 cores,	Up to 2 Intel® Xeon® E5-2600 v4 series processors with 4-22 cores including low power models up to 145W	s, series processors with 4-20 core	series processors with 4-22 cores,	Processor options per node (2) Intel® Xeon® E5-2680v3 processor per node; or (1) Intel® Xeon® E5-2660v3 processor per node; or (2) Intel® Xeon® E5-2640v3 processors per node	Processor options per node s 2x Intel® Xeon® E5 processors per node, selectable	Servers 2 to 4 HPE ProLiant DL360 Gen9 E5-v3 management servers Blades HPE BladeSystem c7000 enclosures, Virtual Connect FlexFabric; 2 to 16 HPE ProLiant BL460c Gen9 E5-v3 server blades or 2 to 8 WS460c workstation blades per enclosure. Mixed configurations are supported.	Intel® Xeon® E7 v4 mission-critical processors. 8-sockets, all to be filled - 4-core/3.2GHz - 10-core/2.8GHz - 18-core/2.4GHz - 22-core/2.2GHz - 24-core/2.2GHz	Intel® Xeon® E7 v4 mission-critical processors 4 core 3.2GHz, 2 per blade (reduce license costs) - 10 core 2.8GHz, 2 per blade - 14 core 2.1GHz, 2 per blade - 22 core 2.2GHz, 2 per blade - 24 core 2.2GHz, 2 per blade
Form factor	Ultra Micro Tower	Micro ATX Tower (4U)	Micro ATX Tower (4U)	Tower (4.5U)	Tower (5U)	Tower or rack (5U)	Rack (1U)	Rack (1U)	Rack (1U)	Rack (2U)	Rack (1U)	Rack (2U)	Rack (1U)	Rack (2U)	Rack (2U)	Rack (2U)	Rack (4U)	16 server blades in 10U (c7000) enclosure or 8 blades in 6U (c3000) enclosure	8 server blades in 10U (c7000) enclosure or 4 blades in 6U (c3000) enclosure	-	2U rack form factor for up to $4 \times 1U$ trays or up to $2 \times 2U$ trays. Fits in a standard 1.0M rack.	2U rack form factor. Fits in a standard 1.0M rack.	4U rack form factor. Fits in a1.2M rack. Apollo 4510 1 x Server Tray Apollo 4520 2x Server Trays Apollo 4530 3 x Server Trays	power shelf.	Rack (2U)	Rack (2U)		11U rack server	Fault-tolerant crossbar fabric, full-height tall blades in 18U enclosure, combining best of c-class and Superdome 2 technologies Up to 8 BL920s blades per enclosure
Memory (standard/maximum)	4 GB or 8 GB DDR3 UDIMMs/max. 16 GB	. , ,	4 GB, 8 GB, 16 GB DDR4 UDIMMs, max. 64 GB		DR4 8 GB, 16 GB, 32 GB DDR4 RDIMMs/LRDIMM, max. 512 GB	8 GB, 16 GB, 32 GB, 64 GB DDR4 RDIMM/LRDIMMs, max. 1.5 TB with LRDIMM		RDIMMs/LRDIMM,	DDR4 RDIMMs/LRDIMM,	32 GB DDR4 RDIMMs/		RDIMMs/LRDIMM, or 512 G	DDR4 RDIMM/ LRDIMMs,	DDR4 RDIMM or LRDIMMs,	RDIMMs or LRDIMM max.	RDIMM or LRDIMM DDR4,	RDIMM or LRDIMM DDR4, up to 2400MHz (6 TB max)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ht LRDIMM, up to 2133MHz (2 TB max.)	Four memory channels that support two DIMMs each for up to a total of eight (8) DIMM per installed processor or up to a total of sixteen (16) DIMMs for the server. Up to 64 GB capacity DIMMs are supported for a maximum 1 TB. Supports single and dual rank RDIMMs or quad rank LRDIMMS at 1.2v and speeds of 1600MHz, 1866MHz or 2333MHz depending on processor.	HPE Smart Memory (16) DDR4, up to 2400MHz (1024 GB max)	, , , , , , , , , , , , , , , , , , , ,	HPE Smart Memory (16) DDR4, up to 2400MHz (1024 GB max)	HPE Smart Memory (16) DDR4, up to 2400MHz (1024 GB max)	Memory options per node 128 GB dual-rank x4 DDR4-2133 (4 x 32 GB) 256 GB dual-rank x4 DDR4-2133 (8 x 32 GB) 512 GB dual-rank x4 DDR4-2133 (16 x 32 GB)	(4 x 32 GB) 256 GB dual-rank x4 DDR4-2133 (8 x 32 GB)		Up to 6 TB. 192 DDR4 DIMM slots. Maximum 6 TB memory with 92 x 32 GB DIMMs	Up to 13 TB per blade using 32 GB DIMMs Connect up to 8 blades for 12 TB maximum using 32 GB DIMMs
I/O slots	1 total PCIe slot: CPU 1 (1) LP x 16 (x16 spee	CPU 1 (1) FH/HL x 16 (x8 spec (1) FH/HL x 8 (x8 spec	CPU 1 d) (1) FH/FL x 16 (x16 speed) (2) FH/FL x 4 (x1 speed) (1) FH/HL x 8 (x4 speed)	CPU 1 (d) (1) FH/ 3/4 L x 16 (16x speed)	CPU 1 (3) FH/HL x 8 (x8 speed (1) FH/FL x 16 (x16 speed) d) CPU 2 (1) FH/FL x 16 (x16 speed)	CPU 1) (1) FH/FL x 16 (x16 speed) d) (2) FH/FL x 8 (x4 speed) (1) FH/FL x 16 (x8 speed)	(1) FH/HL x 8 (x8 speed) or (1) FlexLOM x 8 (x8 speed) (1) FH/HL x 8 (x8 speed) or	CPU 1 (1) LP x 16 (x16 speed) and (1) LP x 8 (x8 speed) (1) FlexLOM x 8 (x8 speed)	CPU 1 (1) LP x 16 (x16 speed) CPU 2) (1) LP x 8 (x8 speed) (1) FlexLOM x 8 (x8 speed) or (1) LP x 8 (x8 speed) (1) FH/HL x 8 (x8 speed)	Up to 5 total PCIe slots: CPU 1 (2) LP x 16 (x16 speed) (1) LP x 8 (x8 speed) CPU 2 (1) LP x 16 (x16 speed) (1) LP x 8 (x8 speed) or (1) FH/HL x 8 (x8 speed) or (1) FH/HL x 8 (x8 speed) or (1) FH/FL x 16 (x16 speed)	(1) LP x 8 (x8 speed) or (1) FlexLOM x 8 (x8 speed) (1) LP x 8 (x8 speed) CPU 2 (1) LP x 16 (x16 speed)	CPU 1 (1) FH/FL x 16 (x16 speed) (1) FH/HL x 8 (x8 speed) or (3) FH/HL x 8 (x8 speed) or	(1) LP x 8 (x8 speed) CPU 2 (1) LP x 16 (x16 speed)	or (1) FH/FL x 16 (x16 speed)) (1) FH/FL x 8 (x8 speed)	(1) FH/HL x 8 (x8 speed) (1) FH/HL x 8 (x4 speed) CPU 2 (1) FH/FL x 16 (x16 speed)	Up to 7 total PCIe slots: CPU 1 (2) FH/HL x 8 (x16 speed) (1) FH/HL x 8 (x8 speed) CPU 2 (1) FH/HL x 16 (x16 speed) (2) FH/HL x 8 (x16 speed) (1) FH/HL x 8 (x8 speed)	Up to 9 total PCIe slots: CPU 1 (1) FH/FL x 16 (x16 speed) CPU 2 (2) FH/FL x 8 (x16 speed) (1) FH/FL x 16 (x16 speed) CPU 3 (2) FH/FL x 8 (x16 speed) (1) FH/FL x 16 (x16 speed) CPU 4 (1) FH/FL x 16 (x16 speed)	Up to 2 total PCIe slots: CPU 1 (1) FH/FL x 16 (x16 speed) CPU 2 (1) FH/FL x 16 (x16 speed)	Up to 3 total PCIe slots: CPU 1 (1) FH/FL x 16 (x16 speed) CPU 2 (1) FH/FL x 16 (x16 speed) CPU 3-4 (1) FH/FL x 16 (x16 speed)	Up to 2 total PCIe slots: CPU 1 (1) FH/FL x 16 (x16 speed) CPU 2 (1) FH/FL x 16 (x16 speed)	XL170r Up to 2 total PCIe slots: CPU 1 (1) LP x 16 (x16 speed) or (1) FlexLOM x 8 (x8 speed) CPU 2 (1) LP x 16 (x16 speed) XL190r Up to 4 total PCIe slots: CPU 1 (1) LP x 16 (x16 speed) (1) FH/FL x 16 (x16 speed) CPU 2 (1) LP x 16 (x16 speed) (1) FH/FL x 16 (x16 speed) (1) FH/FL x 16 (x16 speed)	Up to 6 total PCIe slots: CPU 1 (2 or 3 slots) (1) LP x 8 (x8 speed) Either (1) LP x 16 (x16 speed) or (2) FH/HL x 8 (x8 speed) CPU 2 (2) LP x 16 (x16 speed) (1) LP x 8 (x8 speed)	Up to 5 total PCle slots: CPU 1 1 x FlexLOM x 8 (x8 speed) (2) HH/FL x 16 (x16 speed) CPU 2 (2) HH/FL x 16 (x16 speed)	Up to 3 total PCIe slots: CPU 1 (1) LP x 16 (x16 speed) CPU 2 (1) FlexLOM x 16 (x16 speed) (1) FlexLOM x 8 (x8 speed)				Up to 20 total PCle slots: Base Chassis (4) FH/FL x 4 (x8 speed) (4) FH/FL x 4 (x16 speed) Expansion Chassis (8) FH/FL x 8 (x8 speed) (4) FH/FL x 4 (x16 speed)	Per Blade Up to 3 total PCle slots: (1) Mezz x 8 (x8 speed) (2) Mezz x 4 (x16 speed)
Storage controller	HPE Dynamic Smart B120i Controller (RAID 0, 1, 10)	,	(5) B140i Controller (RAID 0/1/1+0 and 5) with optic H240/H241 Smart HBA of P440/P441 performance	Array B140i Controller onal (RAID 0/1/1+0 and 5) wit or optional H240/H241 Sma e HBA or P440/P441/P84i	B140i Controller (RAID 0, ith 1+0, 5) with optional H24 hart H241 Smart HBA or P440 P441/P840 performance	1, B140i Controller (RAID 0/ 0, 1, 1+0, 5) with optional 0/ H240ar/H241 Smart HBA	B140i Controller (RAID 0/1/1+0 and 5) with optiona	B140i Controller (RAID 0/1/1+0 and 5) with optiona H240/H241 Smart HBA or P440/P441 performance	B140i Controller (RAID al 0/1/1+0 and 5) with option	B140i Controller (RAID and 5) with optic H240/H241 Smart HBA c	B140i Controller (RAID 0, 1, anal 1+0, 5) with optional H240/ r H241 Smart HBA or P440/	B140i Controller (RAID 0, 1, 1+0, 5) with optional H240/ H241 Smart HBA or P440/ P441/P840 performance	B140i Controller (RAID 0/1/1+0 and 5) with optional H240ar/H241 Smart HBA or P440ar/P441/P840/P841	B140i Controller (RAID 0/1/1+0 and 5) with optional H240ar/H241 Smart HBA	performance array controlle with options to 2G FBWC	er Controller, or HPE Flexible Sma Array P440ar Controller, or	rt B140i Controller, HPE Smart	1 x HPE Smart Array P244br controller with 1 GB FBWC, supporting RAID 0 and RAID 1, or HPE H244br Smart HBA	Array B140i Optional HPE Smart Array P246br for	One (1) HPE Smart Array P244br Controller with 1 GB Flash-Backed Write Cache (FBWC) supporting RAID 0 and RAID 1, or HPE H244br Smart HBA.	Standard HPE Dynamic Smart Array B140i Choice of HPE HBA H240(1) or HPE Smart Array P440(1)/4G or P840(1)/4G for performance or additional features	Choice of HPE HBA H240(1) or HPE Smart Array P440(1)/4G for	Array B140i Choice of HPE HBA H240(1) or HPE Smart Array P440(1)/4G or P840(1)/4G for performance or	Standard HPE Dynamic Smart Array B140i Choice of HPE Smart HBA H240 or	Each node includes a SmartArray P440 Controller with 4 GB cache	,		2 x 1.8" SATA SSD slots, 6Gb/s	Dual port 16Gb Fibre Channel mezzanine card Mandatory: one. Optional: two.
Storage (maximum) *One of the following depending on model	- 16 TB LFF non-hot	olug - 24 TB (6 x 4 TB) NHF LFF	- 16 TB (8 x 2 TB) SFF - 960 GB (8 x 120 GB) SFF SSD	- 19.2 TB (16 x 1.2 TB) SF - 12.8 TB (8 x 1.6 TB) LFF SSD	LFF SSD	- 96 TB (48 x 2 TB) SFF - 92.16 TB (24 x 3.84 TB)	- 8 TB (2 x 4 TB) LFF - 16 TB (2 x 8 TB) LFF - 7.68 TB (4 x 1.92 TB)	- 9.6 TB (8 x 1.2 TB) SFF - 6.4 TB (4 x 1.6 TB) LFF SSD - 12.8 TB (8 x 1.6 TB)	- 6.4 TB (4 x 1.6 TB)		- 9.6 TB (8 x 1.2 TB) SFF - 6.4 TB (4 x 1.6 TB) LFF SSD	- 19.2 TB (16 x 1.2 TB) SFF - 19.2 TB (12 x 1.6 TB) LFF SSD	- 18.0 TB (10 x 1.8 TB) SFF - 6.4 TB (4 x 1.6 TB) LFF SSD - 38.4 TB (10 x 3.84 TB)	- 46.8 TB (24+2 x 1.8 TB) SFF - 24 TB (12+3 x 1.6 TB)	- 96 TB LFF SAS/SATA - 48 TB SFF SAS SSD - 19 TB LFF SATA SSD	HDD/SSD, HPE Universal Med			Four (4) internal SFF slots: 4.8 TB for hot-plug SFF SAS 8.0 TB for hot-plug SFF SATA 6.4 TB for hot-plug SFF SAS SSD 7.68 TB for hot-plug SFF SATA SSD	Maximum Internal Storage: Hot Plug SFF SAS: 2 x 1.2 TB Hot Plug SFF SATA: 2 x 1.0 TB Hot Plug SFF SAS SSD: 2 x 1.6 TB Hot Plug SFF SATA SSD: 2 x 800 GB	XL170r XL170r 3 x LFF with r2200 chassis 6 x SFF/SSD with r2600 XL190r 6 x LFF with r2200 chassis 12 x SFF/SSD with r2600 XL170r and XL190r up to 24 x SFF/SSD with r2800 chas Optional M2 Raiser card with 2 x 64 2 x 120 GB	6SFF rear) Optional M.2 Raiser card with 1 x 120 GB or 2 x 120 GB	Apollo 4510 68 LFF drives (8 LF are Optional in back) Apollo 4530 15 LFF drives Apollo 4520 23 LFF drives XL450 support up to additional 2 SFF drives Optional 80 GB or 120 GB or 340 6G SATA RI M.2 2280 SSD	Up to 4 SFF hot-plug /non -hot Plug HDD/SSD XL250 Up to 6(8) SFF hot-plug /non -hot Plug HDD/SSD. (8 including 2 internal Non Hot Plug HDD)	Capacity Storage: (6) 1.2 TB 10K SAS SFF	Up to three storage blocks, each with 4.5 to 8.4 TB usable capacity per block 8 drives either SSD/HDD hybrid or all-HDD Maximum of 25.2 TB per node, usable	Usable File Capacity: 2-256 TiB		External storage, via Fibre Channel
Optical drive support	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional external	Optional	Optional SFF internal Optional LFF external	Optional	Optional SFF internal Optional LFF external	Optional (not available on some models-drive cage dependant)	Yes, as an option	Optional external optical drive	Enclosure-based DVD drive available with c3000 enclosure		n Enclosure-based DVD drive available with c3000 enclosure	No	No	No	No	in a lour-loue configuration				Built-in. DVD included in the enclosure. Can be presented to any partition.
Network interface controller *Supports FCoE, Flex-10, TCP/IP offload engine, hardware-based accelerated ISCSI, ISCSI boot, and autosensing 10Gb/1Gb Ethernet **Dedicated ILO network card	HPE Ethernet 1Gb 2-port LOM (LAN on motherboard)	Intel 1Gb 1-port LOM	HPE Ethernet 1Gb 2-port LOM	HPE Ethernet 1Gb 2-port LOM	HPE Ethernet 1Gb 2-port Adapter LOM	HPE Ethernet 1Gb 4-port Adapter LOM	HPE Ethernet 1Gb 2-port Adapter LOM Optional: FlexibleLOM available for 1GbE, 10GbE, 10Gb SFP	Adapter LOM Optional: FlexibleLOM	Adapter LOM Optional: FlexibleLOM	Adapter LOM Optional: FlexibleLOM	HPE Ethernet 1Gb 2-port Adapter LOM Optional: FlexibleLOM available for 1GbE, 10GbE, CNA, and IB	Adapter LOM Optional: FlexibleLOM	Adapter LOM Optional: FlexibleLOM available for 1GbE, 10GbE,	Adapter LOM Optional: FlexibleLOM	Adapter (FlexLOM). Optional: FlexLOM available for 10GbE, CNA, SFP+ and			FlexibleLOM or 1 x HPE FlexFabric 20Gb 2-port 650FLE FlexibleLOM; supports FCoE, TCP/IP offload engine, hardware-based accelerated iSCSI, iSCSI b	One (1) HPE FlexFabric 20Gb 2-port 650FLB FlexibleLOM	536FLB FlexibleLOM or	Optional: Flexible LOM and PCle available for 1GbE, 10GbE, 40GbE, FC and IB Flexible iLO access options: through one of the 1GbE Ports, Optional	LOM Optional: FlexibleLOM and PCIe available for 1GbE, 10GbE, 40GbE and IB Flexible iLO access options: throu one of the 1GbE ports or optional	LOM Optional: FlexibleLOM and PCle available for 1GbE, 10GbE, 40Gbl and IB Gh Dedicated 1GbE iLO port	1GbE iLO port per server with port aggregation at the chassis FlexibleLOM riser module: supports two 1GbE, 10GbE, FC and/or InfiniBand	NOTE: 10GbE networking is	Networking per node 10GbE SFP+ or Base-T (Cloud 6x, VDI 2x, Virt/ROBO 8x); 4x 1GbE RJ45	Multi-Rack - HPE Networking Option: 2 HPE 5900AF-48G-4XG-2QSFP+ switches and 2 HPE 5900AF-48XG-4QSFP+ switches. Additional 2 HPE 5900AF- 48XG-4QSFP+, for a total of 4 HPE 5900AF-48XG-4QSFP+ switches if 5 to 8 HPE BladeSystem c7000 enclosures are present. - Cisco Networking Option: 2 Cisco Nexus 3048 switches and 2 Cisco Nexus 50128p switches. Additional 2 Cisco Nexus 2248PO 10GE Fabric Extenders if 5 to 8 HPE BladeSystem c7000 enclosure are present Single-Rack - HPE Networking option: 2 HPE 5900AF-48XG-4QSFP+ switches.	1x Gb Ethernet port	One or two Flex LOM cards, dual port, 10GbE. Optional dual port 10GbE mezzanine card.
USB support		7 total ports: Front: 2 USB 2.0 2.0 Rear: 4 USB 3.0 Internal: 1 USB 2.0				8 total ports: Front: 2 USB 3.0 O Rear: 2 USB 3.0, 2 USB 2.0 2.0 Internal: 1 USB 3.0, 1 USB 2.0	5 USB ports: Front: 2 USB 2.0 Rear: 2 USB 3.0 Internal: 1 USB 3.0	4 USB ports: Front: 1 USB 2.0 Rear: 2 USB 3.0 Internal: 1 USB 3.0	4 USB ports: Front: 1 USB 2.0 Rear: 2 USB 3.0 Internal: 1 USB 3.0	4 USB ports: Front: 1 USB 2.0 Rear: 2 USB 3.0 Internal: 1 USB 3.0		4 total ports: Front: 1 USB 2.0 Rear: 2 USB 3.0 Internal: 1 USB 3.0 Optional: 1 USB 3.0 (with rack ear SFF)		5 total ports: Front: 1 USB 3.0 Rear: 2 USB 3.0 Internal: 2 USB 3.0 Optional front: 2 USB 2.0 (SFF)			Rear: 4 USB 2.0	3 total ports: Internal: 1 USB 3.0 Other: 1 MicroSD-HC card slot, 1 TPM 1.2 connector	3 total ports: Internal: 2 USB 3.0 Other: 1 MicroSD card slot Optional: 1 Dual MicroSD card slot, 1 Dual 64 GB M.2 support	3 total ports: Internal: 1 USB 3.0 Other: 1 MicroSD-HC card slot, 1 TPM 1.2 connector	3 total ports: Rear: 1 SUV connector, 1 USB 3.0 connector Internal: 1 USB 3.0 connector	6 total ports: Front: 1 USB 2.0 Rear: 2 USB 3.0, 1 Video, 1 UID LED Internal: 1 USB 3.0	4 total ports: Front: 2 USB 2.0 (per node), 1 Video, 1 Power/Health/UID Buttons and LEDs	6 total ports: Front: 2 USB 2.0, 1 Video, 1 Serial (via SUV Connector/cable) Internal: 1 MicroSD card slot, 1 USB 3.0			- Cisco Networking Option: 2 Cisco Nexus 56128p switches	4 total ports: Front: 4 USB 2.0	Via Onboard Administrator
Redundant power supply	No	No	Yes/Optional	Yes/Optional	Optional	Yes	Yes/Optional	Yes/Optional	Yes/Optional	Yes/Optional	Optional	Optional	Yes	Yes	Yes	Platinum or Platinum Plus, 1500	W Platinum Plus power supplies.			Enclosure-based redundant power (single-phase or three-phase); DC power option				HPE Apollo Power Shelf, with up to 6 HPE 2400W or 2650W Platinum hot plug power supply supports up to 6 chassis 15.9 kW of DC power			Yes		Enclosure-based redundant power (single-phase and three-phase); DC power option
Redundant fans	No	No	No	No	No	Optional	No	Optional	Optional	Optional	Optional	Optional	Yes	Yes	Yes	Yes	Yes, features N+1 independent rotor capability to handle rotor failures.		Redundant cooling using multiple hot-pluggable c-Class Active Cool Fans		Yes, hot-pluggable	Yes, hot-pluggable	Yes, hot-pluggable	Yes, hot-pluggable	Yes	Yes	Yes		Redundant cooling using multiple hot-pluggable c-Class Active Cool Fans
Infrastructure management	HPE iLO Managemer Engine HPE Insight Control	Technology 11.0	nt iLO Management Engine Insight Control			iLO Management Engine Insight Control	iLO Management Engine Insight Control HPE OneView	iLO Management Engine Insight Control HPE OneView	iLO Management Engine Insight Control HPE OneView	iLO Management Engine Insight Control HPE OneView	iLO Management Engine Insight Control HPE OneView	iLO Management Engine Insight Control HPE OneView	iLO Management Engine Insight Control HPE OneView	iLO Management Engine Insight Control HPE OneView	iLO Management Engine Insight Control	HPE OneView HPE iLO Advanced Insight Online with enhanced mobile appl HPE iLO 4, HPE SUM, RESTfu Interface Tool, UEFI/Legacy BI		iLO Management Engine Insight Control HPE OneView (optional)	HPE OneView and HPE iLO Advanced HPE Insight Online with enhanced mobile appl HPE iLO, HPE SUM, RESTful Interface Tool, UEFI, Agentless Management	HPE iLO Management Engine; optional Insight Control or HPE OneView		HPE iLO, HPE SUM, RESTful ent, API interface, UEFI, Agentless Management, Advanced Power Manager		API interface, UEFI, Agentless	Pre-installed StoreVirtual VSA; OneView InstantOn; VMware vSphere and vCenter or Microsoft Hyper-V	Pre-installed StoreVirtual VSA; OneView InstantOn; VMware vSphere and vCenter	OneView; OneView for vCenter; VMware vSphere and vCenter HPE CloudSystem 9.0 (optional)	Rack Management Controller	HPE iLO 4 Standard for BladeSystem and HPE Insight Foundation
Warranty (P: parts, L: labour)	1-yr P, 0-yr L, 0-yr On-site support	1-yr On-site support		3-yr P, 1-yr L, 1-yr On-site support		3-yr P, 3-yr L, 3-yr On-site support	1-yr On-site support	1-yr On-site support	1-yr P, 1-yr L, 1-yr On-site support	1-yr P, 1-yr L, 1-yr On-site support				3-yr P, 3-yr L, 3-yr On-site support	3-yr P, 3-yr L, 3-yr On-site support	3-yr P, 3-yr L, 3-yr On-site support	3-yr P, 3-yr L, 3-yr On-site support	3-yr P, 3-yr L, 3-yr On-site support	3-yr P, 3-yr L, 3-yr On-site support	3-yr P, 3-yr L, 3-yr On-site support	1-yr P, 1-yr L, 1-yr On-site support	3-yr P, 1-yr L, 1-yr On-site support	1-yr P, 1-yr L, 1-yr On-site support	1-yr P, 1-yr L, 1-yr On-site support	1-yr P, 1-yr L, 1-yr On-site support	3-yr P, 3-yr L, 3-yr On-site support	3-yr P, 3-yr L, 3-yr On-site support	3-yr P, 3-yr L, 3-yr On-site support	3-yr P, 3-yr L, 3-yr On-site support
Recommended support	'	3-yr Foundation Care F7E) On-site support (H1RNS	,	,	,	,	1 '	,	,	,	3-yr Foundation Care On-site support (U7AZ1E) Installation and	,	,	,	,	3-yr Proactive Care 4-hr 24x7 (U8QM3E)	3-yr Proactive Care 4-hr 24x7 (U8NF8E) Installation and	3-yr Proactive Care 4-hr 24x7 (U7BN8E)	3-yr Proactive Care 4-hr 24x7 (U8LQ2E) Installation and	3-yr Proactive Care 4-hr 24x7 (U8BF0E)	3-yr Foundation Care 24x7 (U8AV1E) Installation and Startup Service	3-yr Foundation Care 24x7 (U8MG4E)	3-yr Foundation Care 24x7 (U8MR1E/U8LX7E) Installation and Startup Service	3-yr Foundation Care 24x7 (U6UQ7E)	3-yr Proactive Care 4-hr 24x7 (H1K92A3) Installation and Startup Service	Required: 3-yr Proactive Care 4-hr 24x7 (H1K92A3), or 3-yr Proactiv Care On-site support (H1K90A3) Installation and Startup Service	e 4-hr 24x7 (H1K92A3), or 3-yr Proactive	Standard Care Datacenter Care Installation and Startun Service (HA124A1)	3-yr Proactive Care 4-hr 24x7 (H1K92A3) Proactive Care Advanced enclosure (recommended) (H8B35A3) Installation and Startup Service
	Installation and Startup Service (UR508E)	Installation and Startup Service (U7WZ5E)	instaliation and Startup Service (U7WZ5E)	Installation and Startup Service (U6G21E)	Installation and Startup Service (U6D41E)	Installation Service (U4522E)	Startup Service (U7WZ5E)	Installation and Startup Service (U6F51E)	Installation and Startup Service (U7WZ5E)	Installation and Startup Service (U7WZ5E)	Installation and Startup Service (U6E11E)	Installation and Startup Service (U6E81E)	Installation Service (U4506E)	installation Service (U4554E)	installation Service (U4554E)	Installation and Startup Service (U6H58E/U6H60E)	Installation and Startup Service (U4617E/U4618E)	Installation and Startup Service BL460c (UE493E)	Installation and Startup Service BL660c (UE493E)	Installation and Startup Service WS460c (UR362E)	(UM857E/UM858E)	(UM857E/UM858E)	(UR285E/UR286E)	(USV60E/USV62E)	(HA114A1) U7PF1E – for Microsoft U7PE9E – for VMware	installation and Starrup Service (HA124A1)	Express Level 4 (H8A03A1)	Installation and Startup Service (HA124A1) HA455A1 Factory Express 5 (recommended)	HA124A1 (mandatory) HA455A1 Factory Express 5 (recommended)

Reimagine the server. Think compute.

HPE ProLiant Gen9 delivers the right compute for the right workload at the right economics...every time

With the HPE ProLiant Gen9 portfolio, HPE redefines compute economics by combining more computing and storage capacity with flexible size, floorspace and energy needs. These servers help boost business performance and grow revenue, margin and market share, offering faster compute, memory and I/O as well as increased storage and networking performance, including lower latency. They are well suited to multiple workloads such as IT infrastructure (file/print), web serving, business (ERP/CRM), collaboration (email), analytics and Big Data.



HPE ProLiant Gen9 Servers are based on the new Intel® Xeon° processor E5-2600/1600 v4 product family.

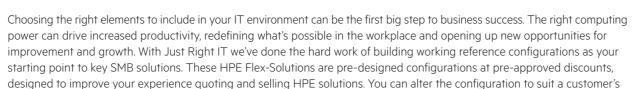
Built on 14-nm processor technology and low-power/highperformance processor microarchitecture, the Intel® Xeon® processor v4 product families are the next generation of 64-bit, multicore enterprise processors. They help IT address the growing demands placed on infrastructure, supporting business growth while enabling new services faster and delivering new applications for enterprise, technical computing, communications, storage and cloud.

Get higher performance for diverse workloads.

Up to 22 cores per socket, 55 MB of last-level cache and next-generation DDR4 memory support, together with greater resource monitoring and allocation capabilities, optimize the data centre orchestration and virtualization experience.

You only have to remember one thing: It's what's inside that counts.





specific requirements and still take advantage of our pre-approved transactional promotional discounts.







SMB Flex-Bundle Solutions

}		
king :MB	Support Services for SMB	

Flex-Solution	Target Customer	Key Benefits
HPE First Server Solution with Microsoft Windows Server 2012 R2	- Startups that need a small but comprehensive IT environment as a starting point	– Scalable, compatible business platform
	 Companies with expanded or increasing storage, network and server needs, such as thriving startups building a network of clients and employees who need to stay connected in real time 	 Easy management, even for first-time users Solutions to support up to 50 concurrent users
HPE Flex-Solutions for Virtualization	-Companies either starting or building momentum on their virtualization journey	– Scalable solutions for business growth
	 Companies that have virtualized the less-critical apps (such as web pages and internal development) in their environment, and are ready to virtualize customer-facing applications that require high availability and simplified management 	Virtualized storage optionsStorage options tailored to demand
	- Companies looking to virtualize their storage and networking infrastructure	
HPE MS Exchange 2013 Solution	- Mid-sized customers (200-999)	- Handles growing UC infrastructure
	-Customers who have an older version of Microsoft Exchange running on HP or competing server	– Remote email access without VPN
HPE Unified Communication and Collaboration with Microsoft Skype for Business	Mid-sized companies with 250–1,000 seats seeking a strategic and secure Unified Communication and Collaboration strategy	- Reduces conference-call dial-up time from 45 seconds to 1–2 seconds - Voice, conference, IM, file and desktop sharing capabilities
	 Companies looking to implement a BYOD strategy to accommodate the range of devices used in the workplace by a growing mobile workforce 	3
	-Companies needing to drive down communication costs and travel expenses while improving employee productivity and collaboration	
HPE Business intelligence with Microsoft SQL Server 2014	Companies with business or technical challenges that:	– Easy management, familiar toolset
	- Need an entry-level database to build data-driven applications	– Data protection and optional encryption
	- Want to implement online transaction processing (OLTP) - Are experiencing performance issues with current database workloads	– Significant cost savings
	- Are experiencing performance issues with current database workloads - Have new application(s) with stringent database performance requirements	

A customer landing page is available HP.com/go/servelT Here the customer can access solution briefs and white papers

Processors and HPE Server Options

Intel® and AMD® processors and HPE Flexible Network Adapters

	Intel®		Intel® Core	1 Inte	el® Xeon® E3	Processo	r Series			Intel® X	Keon® E5 P	rocessor	r Series																										Intel	» Xeon » E	7 Processo	r Series				P	AMD Opter	on™ 6300	Processor	Series
	Penti	um®	i3 Processo	r																																														
	Proce		Series																																															
	Series	S																																																
Socket	Single	socket	Single socke	Sing	gle socket					Single s	ocket		Dual soc	cket																				Four so	cket				Four	socket						N	Multi socket			
capability																																																		
Processor	G4400	G4500	i3-6100 i3-63	00 E3-1	220 E3-1225	E3-1230	E3-1240	E3-1270	E3-1240L	E5-1603	E5-1620	E5-1650	E5-2630L	E5-2650L	E5-2603	E5-2609	E5-2620	E5-2623	E5-2630	E5-2637 E	5-2640 E5	-2643 E5-2	650 E5-26	50 E5-266	57 E5-2680	0 E5-2683	3 E5-2690	E5-2695	E5-2697	E5-2697A	E5-2698	B E5-2699	E5-2687W	E5-4603	E5-4610	E5-4617 E	5-4620 E5-	4640 E5-46	650 E7-28	30 E7-285	60 E7-2860	E7-4807	E7-4830	E7-4850	E7-4860 E7-	-4870 6	320 6328	6344 (6376 6380	6386SE
models				v5	v5	v5	v5	v5	v5	v3	v3	v3	v4	v4	v4	v4	v4	v4	v4	v4 v	4 v4	v4	v4	v4	v4	v4	v4	v4	v4	v4	v4	v4	v4																	
Core count	2	2	2 2	4	4	4	4	4	4	4	4	6	10	14	6	8	8	4	10	4 10) 6	12	14	8	14	16	14	18	18	16	20	22	12	4	6	6 8	8	8	8	10	10	6	8	10	10 10	8	8	12 1	16 16	16
Clock speed	3.3	3.5	3.7 3.8	3.0	3.3	3.4	3.5	3.6	2.1	2.8	3.5	3.5	1.8	1.7	1.7	1.7	2.1	2.6	2.2	3.5 2	4 3.4	4 2.2	2	3.2	2.4	2.1	2.6	2.1	2.3	2.6	2.2	2.2	3.0	2	2.4	2.9 2	.2 2.4	2.7	2.13	2	2.26	1.86	2.13	2	2.26 2.4	4 2	1.8 3.2	2.6 2	2.3 2.5	2.8
(GHz)																																																		
QPI speed	n/a	n/a	n/a n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8	9.6	6.4	6.4	8	9.6	8	9.6 8	9.0	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	6.4	7.2	7.2 7	2 8	8	6.4	6.4	6.4	4.8	6.4	6.4	6.4 6.4	4 6	5.4 6.4	6.4 6	6.4 6.4	6.4
(GT/s)																																																		
Cache L3	3	3	3 4	8	8	8	8	8	8	10	10	10	25	35	15	20	20	10	25	15 2	5 15	30	35	20	35	40	35	45	45	40	50	55	30	10	15	15 1	5 20	20	24	24	24	18	24	24	24 30	/1	6 16	16 1	6 16	16
(MB)																																																		

HPE Flexible Network Adapters for ProLiant Servers

																1	(0. ().																			
	ProLiant B	L														ProLiant DI	L/SL/ML																			
Adapter	530	532	542	552	544	630	650	536	534	551	553	554	560	361	366	544	546	557	523	526	530	533	534	550	554	560	561	570	571	331	332	361	364	365	366	112
Number of ports	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2	2	4	4	4	1
Transfer rate			0000		10000/	20	000			10000			10000	10	000	10000/		100	000			10000				10	0000						1000			
					40000											40000																				
VC Flex10, FlexFabric,		Virtual C	onnect Flex10		IB		Virtual	Connect Flex10	/Flex20/FlexF	abric/CNA (ISCS	I/FCOE)			NIC		IB											NIC									
CNA (E/IB/iSCSI/FCoE)																																				
PCI bus architecture		Р	I-e 2.0			PCI	-е 3.0			PCI-	e 2.0			PCI-e 2.0			PCI-e 3.0		PC	-e 2.0		PCI-e 2.0				PC	I-e 2.0				PCI-e 2.0		PCI-e 1.0	PCI-e	2.0 P	PCI-e 1.0
Available form factor ¹	FLB, M	m	m	m, M	М	FL	В, М	FLB	FLB, M	m	m	FLB, M	FLB, M	FLB	М	FLR-QSFP,	FLR-SFP+	SFP+	SFP	FLR- SFP+	FLR-SFP+,	FLR-T	FLR-SFP+	SFP	FLR, FLR-	FLR-SFP+,	FLR-T, T	FLR-SF	P+, SFP+	FLR, T			Т		FLR, T	Т
																QSFP					SFP+, T				SFP+	SFP+										

Hyper Converged

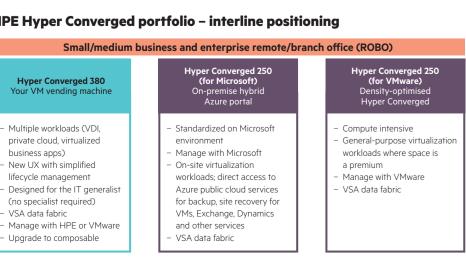
HC250 for VMware, HC250 for Microsoft CPS, HC380 for VMware

HPE Hyper Converged 380 target use cases - Ideal for SMBs and Edge of the Enterprise

- Built on the world's most deployed server - Single vendor with global support capabilities

Hybrid IT small to medium
- General-purpose workhorse - Mixed workloads - Cloud/hybrid IT - Dev and test - Databases - Web tier apps - DR - compliance done easily - Data protection through VSA integration with StoreOne - Only vendor certified

by VMware for MCS

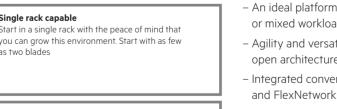


multipurpose VDI

- Pathway to composable

'FLR = FlexibleLOM for ML/DL/SL; FLB = FlexibleLOM for Blades; M (Gen8/9), m (pre Gen8) = Mezzanine for Blades; T = Ethernet Twisted-pair; C = Copper – IB and 10GbE; SFP+ = Small Form Factor Plug; QFP = Quad Small Form Factor Plug

HPE Converged System 700





HPE Converged Architecture 700



- An ideal platform to deploy laaS, single or mixed workloads, and private cloud

· Integrated converged scale-out storage and FlexNetwork connectivity Redefined compute economics, powered by the latest Intel Gen9 processors · Footprint as small as a single rack, or scale out with multi-rack solution

Ability to expand and upgrade your current environment to meet changing

What's in it for partners HPE tested and validated workloadoriented solutions based on reference architectures

Provide additional support and services Enabling tools to accelerate ordering HPE marketing support and demand generation

Verified, repeatable and workload-optimised

compliance auditing

processes across the stack

business needs

· Choice of network, storage, and compute options from HPE and partners · Scalable to meet current and future growth needs of heterogeneous IT environment - HPE OneView 2.0 offers automated

Integrated support with collaborative

- Agility and versatility with a flexible and open architecture

Agile management for accelerating IT service delivery

What is HPE OneView?

– Automates delivery and ops of IT services, transforming everyday management of server, storage and network resources in physical and virtual environments

- Features software-defined approach to converged management that shifts focus from "devices" to "how people work" - Provides out-of-the-box integration with HPE, VMware, Microsoft, CSA, Chef, Docker and easy

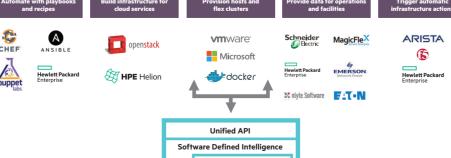
integration with many other management products **Customer benefits**

- Reduces OPEX and improves agility - frees up resources to focus on new business initiatives How does HPE OneView deliver these benefits?

- Unifies processes, UI and APIs across server, storage and networking

- Provides simple, software-defined process templates for "get it right" repeatability - Prevents unplanned outages caused by human error and device failure

The power of software-defined data centre management Enabling a broad ecosystem



HPE iLO – the preferred IT administrator in every ProLiant server

When reliability is essential to the health of your customer's system, HPE Integrated Lights-Out (iLO) provides the automated intelligence to maintain complete server control from anyplace. HPE iLO functions out of the box, without additional software installation, regardless of the servers'

HPE iLO Management technologies are embedded management technologies that support the complete lifecycle of all HPE ProLiant Gen8 and Gen9 servers, from initial deployment to ongoing management and service alerting. The iLO Management technologies contain: provision, monitor, optimise and support.

state of operation, giving you complete access to your customer's server from any location via a web

Introducing the RESTful API for servers conformant with Redfish 1.0

Are your customers having problems finding a single interface for server management that works among different server components? Are they challenged with many tools and remote management vulnerabilities as well as scripting limitations?

v 2.3 and beyond.

- Built-in remote support

browser or the iLO Mobile App.

Representational State Transfer (REST) has not only become a popular communication protocol on service-oriented architectural style, but an industry standard with the introduction of Redfish API. The RESTful API for iLO4 in conformance with Redfish 1.0 provides a modern programmable interface and a lightweight data model specification that is simple, remote.

secure and extensible. The RESTful API for iLO4 is adopting this architectural style with our HPE ProLiant Gen9 servers as the interface that our server management tools can use to perform configuration, inventory, and monitoring of a server via HPE iLO 4 FW v2.0 and for Redfish 1.0 conformance, iLO 4 FW

Now available: HPE OneView 3.0 What are the new features for OneView 3.0? - Federated views for enterprise scale - Migrate with no service outage - More platform coverage

Introducing the first composable infrastructure with HPE Synergy

HPE Synergy, the first platform built from the ground up for composable infrastructure, offers an experience that empowers IT to create and deliver new value instantly and continuously. It is a single infrastructure that reduces operational complexity for traditional workloads and increases operational velocity for the new breed of applications and services. Through a single interface, HPE Synergy composes physical and virtual compute, storage and fabric pools into any configuration for any application. As an extensible platform, it easily enables a broad range of applications and operational models such as virtualization, hybrid cloud, and DevOps. With HPE Synergy, IT can become not just the internal service provider but the business partner to rapidly launch new applications that become the business.



- Everything needed to run applications, so IT can be quickly set up and consumed Auto-integration makes scaling simple and automated at rack/low scale - Photonics and memristor ready for investment protection

HPE Composer

- Integrated software-defined intelligence to self-discover, auto-integrate and scale from racks to rows

Composable compute - Provides scalability, density optimisation, storage simplicity and configuration flexibility

Composable fabric - Rack-scale multi-fabric connectivity eliminates standalone TOR switches

Composable storage - High-density integrated storage

The challenge

The solution

longevity, and reliability.

Benefits for customers

- Instant availability through best-in-class distribution supply chains

HPE Server Options

– Does the customer have an application that requires local data storage?

- Have they analysed the state of their storage and future growth?

– Do they already use a RAID 5 solution to protect their data?

Have you quoted all the required options?

What options does the customer already have?

Which management system will be used?

- Scalable and flexible to suit all customer workload and infrastructure requirements

Flexibility to pre-integrate and customise tested solutions straight from the HPE factory

– Does the offered server include all options necessary to support the application to be installed?

 Compose any compute with any storage (SDS, DAS, SAN)

Fluid resource pools

- Single infrastructure of disaggregated pools of compute, storage and fabric that is ready for any workload at boot-up

- Auto-integration of resource capacity Software-defined intelligence emplate-driven workload composition

– Physical, virtual and containers

Frictionless operations

- Single line of code to abstract every element of infrastructure for full infrastructure programmability – Bare metal interface for Infrastructure as a Service

A combination of storage modules, including fully integrated internal storage modules, directly connected and fully orchestrated SAN storage of compute software-defined storage, 2- and 4-socket compute modules, and a variety of redundant fabric modules, are able to meet a wide range

infrastructure needed to run an application and accommodate its data Intelligent auto-discovery

The HPF Synergy Frame easily mounts into existing racks, plugs into data centre resources and is operational in minutes. Compute, storage of resources

and fabric modules are easily plugged in and automatically discovered

configuration errors and improperly plugged-in modules and guidance on how to correct the issue. Frictionless lifecycle Integrated software-defined intelligence enables self-discovering. self-assembling, self-securing, self-orchestrating and self-diagnosing capabilities. Built-in templates allow operations such as setup, provisionin

Composable infrastructure is the engine for the idea economy

Reduce er-provisioning and CAPEX	Deploy at cloud-like speed	Develop more apps, faster	Update firmware seamlessly
cisely compose any compute	Power up to a portal in minutes	Program infrastructure the	Frictionless operations reduce

with any storage pool Quickly recompose across racks of all resources and rows in seconds Bare metal through OS provisioning in seconds

- SDS, DAS and SAN in the infrastructure Compose disaggregated

HPE Server Options: cost-effective and reliable options tailored

Customers need flexibility in their configurations with the ability to increase performance as their business grows – all whilst managing power consumption, protecting assets and reducing IT operational costs.

HPE Server Options provide better performance, reliability and compatibility with HPE server and storage systems. HPE Server Options are fully integrated with many HPE system management tools and can help dramatically lower IT operational costs when compared to other non-HPE products. Thoroughly tested beyond standard industry practices, HPE Server Options underscore compatibility, performance,

stateless resources

· Self-discovery, auto-integration way you want Single line of code for full Stand up infrastructure in minutes, not months

operational effor

quickly and automatically for continuous application availability.

 Templates define how the Single firmware/driver updates aligned to maintenance window

HPE Rack and Power Infrastructure

Optimise the efficiency, performance and reliability of your data centre

Building blocks for your business

Businesses need technology partners they can trust with their IT infrastructure, those with a wealth of experience and expertise where it counts.

HPE Rack and Power Infrastructure provides you with the perfect platform from which to build and grow any size business. Whether you are new to IT, are migrating to rack-based solutions for the first time, need to grow your existing IT applications to meet customer needs or have an established IT expansion strategy in place, we can provide you with the right solution to meet your business needs.

Designed and developed by HPE for HPE

install and to be used with HPE servers and storage.

HPE Support Services

Peace of Mind – Every HPE Rack and Power Infrastructure product inherits the HPE Support Services coverage purchased for your server and storage products, saving you precious IT budget over third-party deployments.



usiness needing rack space on a budget

Advanced series – Ideal for any server room

or today's modern data centre, providing

you with the innovations you need while

maintaining a focus on performance

Enterprise series – Designed for the

cable management facilities

data centre, offering innovative intelligence

structural integrity, optimised cooling and

capabilities for asset management, unparalleled

without compromising on features



Complete product portfolio

Designed and developed – Our Rack and Power Infrastructure Optimised for HPE, perfect for any business – Our complete range products are specifically designed and developed to be easy to of infrastructure products provide you with the functions and features you need with the ability to source everything from one place.





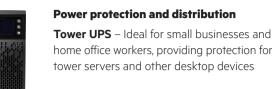
IT at the rack with the HPE LCD8500 Integrated Monitor and Keyboard. **Workstation console switches** – Ideal for

small businesses and home office workers

Analogue console switches – Ideal for

IT infrastructure

accessing any connected device at your rack







Server and digital console switches power distribution unit solutions, essential for customers requiring either secure local to any rack-based IT deployment, to meet access or dedicated remote access to their diverse customer needs

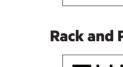
More information

Use the following QR codes to find out more about HPE servers and solutions for your infrastructure:

ProLiant Servers

HPE Server Option

















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4AA3-7884EEE, June 2016, Rev. 6

Reimagine the server. Think compute.

Get insight into the unparalleled portfolio of the world's most resilient and intelligent servers, including HPE ProLiant, HPE BladeSystem and HPE Integrity.



Converged Infrastructure management HPE Moonshot System – specialised workloads and

optimised hardware HPE Moonshot is an energy-efficient, integrated server system that gives you the right compute for

Mobile workspace Improve total cost of ownership and lower power consumption while delivering a dedicated, personalized PC experience. Users get exclusive access to a CPU, graphics processor, memory, storage and network

channel on a purpose-built server cartridge. Moonshot delivers the best business graphics and multimedia

your workloads, with 65% less power consumption, 90% less space and 98% less cabling.

for HPE servers and storage systems

Accept no substitutes. Build better server and storage solutions with HPE Server Options.

- The highest-quality options with rigorous certification processes, providing excellent reliability with all HPE server and storage products

- Have you talked with the customer about the benefits of options such as additional processors, memory, hard drives, operating systems, etc.?

What to remember when selling a ProLiant server with

- Know what has previously been supplied to the customer. When was this sold? Does the customer have any performance challenges we can solve by adding options to the server?

- Have you talked with the customer about the benefits of HPE OneView at the time of purchase? Is the customer looking for greater visibility and control of their data centre? Could HPE OneView help

- Automatically covered by HPE server and storage Care Packs at no additional cost to the customer, unlike non-HPE products

streamline their infrastructure and management processes to allow them to easily keep up with business demands?

Recommended cartridges: m700, m710p

performance – essential for today's mobile workers.

Media processing HP is redefining the economics of video transcoding applications by delivering HD performance with a 27x increase in streams per rack compared to traditional servers. Moonshot enables expanded offerings and new formats, preparing for the future without the need to expand your data centre:

 Streaming and transcoding Cloud DVR, just-in-time transcoding, just-in-time packaging Cloud UI

Recommended cartridge: m710p Big Data and analytics

small servers working in parallel. Moonshot provides an economical, energy-efficient alternative to rack-mount servers. Recommended cartridge: m710p Web infrastructure

HP Moonshot for NoSQL Apache Cassandra™ with DataStax Enterprise allows you to handle large

amounts of data effortlessly and predictably. Big Data technologies like NoSQL thrive on numerous

4-node cartridge, each: AMD Opteron™ X2150 APU, 1.5Ghz

HPE ProLiant m700 Cartridge

8 GB DDR3 PC3-12800 SDRAM (1600 MHz) per SoC 32, 64, 120 GB m.2 SSD Storage per SoC 2 x 1 GbE Broadcom BCM5720 Ethernet Controller

TEXAS INSTRUMENTS **HPE ProLiant m710p Cartridge** 1-node cartridge, each:

Intel® Xeon® E3-1284L v4 (2.9-3.8GHz/4-core/6MG/47W) 32 GB PC3L-12800 (DDR3-1600) SODIMM LVM 120, 240, 480 and 960 GB m.2 SSD 2 x 10 GbE Mellanox Connect-X3 Pro Ethernet Controller

HPE ProLiant m350 Cartridge

4-node cartridge, each: Intel® AtomTM E3 Processor C2730, 1.7 GHz 16 GB (1x8 GB SODIMM, 1x8 GB embedded) 32, 64 GB m.2 SSD

2 x 1 GbE Ethernet Controller

HPE ProLiant m400 Cartridge 1-node cartridge, each:

AppliedMicro® X-Gene TM CPU, 8 ARM64-bit 2.4 GHz cores 64 GB (8x8 GB) PC3L-12800 (DDR3-1600) SODIMM LVM 120, 240, and 480 GB m.2 SSD 2 x 10 GbE Mellanox Connect-X3 Pro Ethernet Controller

across multiple chassis for maximum scalability, high availability and a lower total cost of ownership. Recommended cartridges: m350, m400, m710p

Easily set up and manage your entire multi-tier web infrastructure within one HP Moonshot chassis or