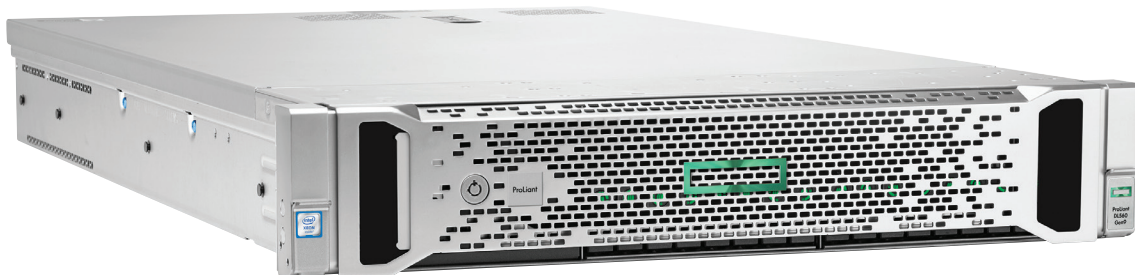




HPE ProLiant DL560 Gen9 Server

High-density four-socket server for
multi-workload compute



- Are you looking for a dense but highly scalable solution for your virtualization needs?
- Do space constraints pose challenges you need to overcome?
- Do you need to grow your business—without growing your data center?

Then the HPE ProLiant DL560 Gen9 Server is the right solution for you!

The balanced performance and scalability of the HPE ProLiant DL560 Gen9 Server make it an ideal foundational scale-up server for multi-workload computing, virtualization, and business processing, especially when data center space is at a premium.

Grow your business without expanding your data center

Business-critical workloads and virtualized environments require compact and powerful computing capacity. The HPE ProLiant DL560 Gen9 Server is designed to deliver performance, scalability, and expandability in a dense 2U footprint. It uses the latest technology to help you achieve greater efficiency without compromising on performance.

The ProLiant DL560 Gen9 Server is ideal for environments that involve virtualization, server consolidation, database management, and business processing—as well as other 4S data-intensive applications—where optimization of data center space, performance, and costs are vital.

Ultimate performance for your most demanding workloads

Packed with the latest innovative, intuitive HPE hardware and embedded management features, the new HPE ProLiant DL560 Gen9 Server blends extreme processor density with a compact form factor, allowing up to 21 servers per 42U rack. It features a perfect balance of new system architecture with enhanced remote access service features, extensive memory capacity, and I/O throughput with up to seven PCI Express (PCIe) slots in addition to HPE Flexible Smart Array and FlexibleLOM slots—significantly accelerating virtualization performance, removing bottlenecks, and delivering the ultimate performance for your demanding x86 workloads.

Powered by the new high-density and cost-effective Intel® Xeon® E5-4600 v4/v3 processors, the ProLiant DL560 offers greater processing power, along with increased storage capacity of up to 24 small form factor (SFF) HPE SmartDrives, I/O high bandwidth, and up to 3 TB¹ of the latest HPE DDR4 SmartMemory, plus the intelligence and simplicity of automated management with HPE OneView and HPE Integrated Lights-Out 4 (iLO 4). All of this adds up to a high-density server that can handle scale-up workloads with less management overhead, so you can do more with fewer servers and achieve better efficiency without compromising performance.

The HPE ProLiant DL560 Gen9 Server integrates your storage, network devices, and facility resources into a common infrastructure to enable you to respond quickly to support an agile business environment. With a wide range of features, it simplifies and improves management tasks to help you achieve greater levels of efficiency and lower total cost of ownership, resulting in a better return on your server investment.

Key features and benefits

Four-socket (4S) performance in a dense 2U form factor

- Consolidate servers to decrease footprint with dense 4S computing in a 2U form factor.
- Avoid system configuration restrictions with support for up to four Intel Xeon E5-4600 v4/v3 processors. The v4 processors have up to 21 percent better processor performance bin to bin and 22 percent more cores and cache than the previous generation.²
- Enjoy the flexibility to choose the optimal 12 Gb/s controller most suited to your environment: the HPE Flexible Smart Array, HPE Smart Array, or HPE Smart SAS host bus adapter controllers, with support for up to 4 GB Flash-Backed Write Cache (FBWC) used in conjunction with the embedded SATA HPE Dynamic Smart Array B140i Controller for boot, data, and media needs. The DL560 offers a dedicated slot for the Flexible Smart Array SAS controller with FBWC, which further adds to the available options and preserves I/O slots for greater flexibility.

- Improve workload performance and power efficiency while preventing data loss and downtime with HPE SmartMemory enhanced error handling and support for up to 3 TB DDR4 max capacity (48 DIMM slots) with speeds up to 2,400 MHz with up to 23 percent performance gain.³

Next-generation expandability and reliability for multi-workload compute

- Achieve greater capacity with a new redesigned chassis including up to 24 SFF HPE SmartDrives (depending on configuration); 6 NVMe PCIe SSD options also available; along with an optional HPE Universal Media Bay delivering optimal performance, capacity, and reliability to meet your requirements at the right economics.
- Get enhanced serviceability and expanded flexibility with up to seven PCIe 3.0 expansion slots to support GPUs, storage controllers or networking cards offering increased I/O bandwidth and expandability.
- Adapt and grow to changing business needs with a choice of embedded 4 x 1GbE, HPE FlexibleLOM, PCIe standup 1GbE, 10GbE, or 25GbE⁴ adapters for flexibility of networking bandwidth and fabric.
- Reduce unnecessary downtime with support for up to two 1,200 W or 1,500 W HPE Common Slot Power Supplies for maximum redundancy.

The right efficiencies for scale-up environments

- Reduce your cooling expenses with supported ASHRAE A3 and A4 standards.⁵
- Save energy with high-efficiency HPE Common Slot Power Supplies providing up to 94 percent efficiency (Platinum Plus) and support for HPE Power Discovery Services.
- Enhance efficiency with customer-inspired features such as the chassis designed for ease of serviceability, hot pluggable fans and drives, optional security identifier for health and monitoring of components, and a Quick Reference code for quick access to product information.

Ideal HPE ProLiant DL560 Gen9 Server environments and applications:

- Server consolidation and virtualization environments
- Space-constrained corporate data centers and service provider environments
- Business Processing (Database, Enterprise Resource Planning, Customer Relationship Management), Decision Support (Business Intelligence, Analytics), and other scale-up workloads
- 4S data-intensive applications where data center space, costs, and performance are vital

¹ The maximum memory capacity would increase to 6 TB with 128 GB LRDIMMs, expected in 2H 2016.

² Intel® internal estimates as of Aug 2015. Results have been estimated based on internal Intel analysis and are provided for informational purposes only. Any difference in system hardware or software design or configuration may affect actual performance. Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products.

³ 23 percent better performance is based on similar capacity DIMM running on HPE server compared to a non-HPE server with DDR4. HPE internal labs estimate, March 2016.

⁴ 25GbE networking cards would be available 2H of 2016.

⁵ See hpe.com/servers/ashrae for details.

Agile infrastructure management for accelerating IT service delivery

- Enjoy faster, lower-cost infrastructure management and a single, integrated view of your IT infrastructure with HPE OneView.
- Monitor infrastructure health and manage support more easily with HPE Insight Online.
- Configure in UEFI boot mode, provision local and remote with HPE Intelligent Provisioning and Scripting Toolkits.
- Deploy, monitor, and support your server remotely, out of band, with HPE Integrated Lights-Out embedded management.
- Optimize firmware and driver updates and reduce downtime with Smart Update.

Technical specifications

In the following table, **bold** text designates a new or improved feature, as compared to the HPE ProLiant DL560 Gen8 Server.

HPE ProLiant DL560 Gen9 Server	
Compute	One or two or four Intel Xeon E5-4600 v4/v3 processors; 6/ 8/10/12/ 14/16/18/22 cores; up to seven available slots (PCIe 3.0)
Memory	HPE SmartMemory (48) DDR4 DIMM slots and 3 TB³ maximum memory (supports both RDIMMs and LRDIMMs up to 2,400 MHz) with support for memory mirroring
Storage	HPE Embedded SATA Controller. Choice of HPE Flexible Smart Array P440ar or latest HPE Smart Array or Smart HBA Controllers for performance or additional features.
FBWC	2 GB DDR3- 1,866 MHz, 72-bit wide bus at 14.9 GB/s on P440ar 4 GB FBWC options also available via dedicated stand up cards
HPE SmartDrive	Up to 24 SFF max, HDD/SSD (92 TB max), M.2 enabled and optional 6 NVMe PCIe SSD support, optional HPE Universal Media bay (optional two SFF SAS/SATA or optical; video and USB 2.0 standard)
I/O expansion	Seven PCIe 3.0 (6 FH/HL and 1 LP) Note: Slot availability is dependent on the number of processors installed Note: The I/O Expansion slots are in addition to the HPE Flexible Smart Array and FlexibleLOM slots
Networking	1 x 8 PCIe 3.0 FlexibleLOM slot, for either 2 x 10GbE or 4 x 1GbE; additional standup networking cards available
VGA/USB ports/SD/optical	Four USB 3.0 (one internal), five USB 2.0 (two optional, one internal), microSD, Dual microSD (optional)
GPU support	Two 4 GB single wide cards
System ROM	UEFI and legacy BIOS ⁶
Converged management	HPE OneView with HPE iLO Advanced
Support management	HPE Insight Online with enhanced mobile app
Embedded management	HPE iLO 4, HPE Intelligent Provisioning, Smart Update Manager (SUM), RESTful Interface Tool , Scripting Tools for Windows® PowerShell
Power supplies	94 percent efficient (Platinum Plus), 1,200 W Common Slot PS, N+1 redundant; 1,500 W optional
Fans	Six hot plug and redundant fans
Industry compliance	ASHRAE A3 and A4⁵ and ENERGY STAR® configurations supported
Power discovery services	Supported
Location discovery services	Supported
Form factor/chassis depth	Rack (2U), 29.5" (SFF)
Serviceability—easy install rails	Standard
Warranty (parts/labor/onsite support)	3/3/3

⁶ Specific GPU design validated with DL560 Gen9 PCIe slots.

Resources

[QuickSpecs](#)

[HPE x86 Scale-up Servers](#)

[HPE server performance benchmarks](#)

Optimize your IT investment strategy with new ways to acquire, pay for and use technology, in lock-step with your business and transformation goals.

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HPE Factory Express provides customization and deployment services along with your storage and server purchases. You can customize hardware to your exact specifications in the factory—helping speed deployment.

hpe.com/info/factoryexpress

HPE Services

Let HPE help guide you to the Idea Economy. HPE Technology Services delivers confidence, reduces risk, and helps you realize greater agility and stability.

- Our consulting services provide advice and guidance to safely move your workloads to newer technologies.
- HPE implementation and installation services enable faster, more reliable startup of your new ProLiant Gen9 servers, and our support portfolio allows you to get connected and back to business fast.
- We recommend HPE Proactive Care for ProLiant Gen9 servers to prevent issues and resolve problems quickly and efficiently.

- HPE Foundation Care provides a choice of coverage levels and response times for hardware and software support.
- HPE Datacenter Care enables you to operate and evolve your IT environment at a lower cost and with more agility, including our Flexible Capacity Service to acquire IT without impacting capital budget.
- Our support technology lets you tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

Learn more at
hpe.com/servers/dl560gen9



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