

# HP ProLiant DL560 Gen9 Server

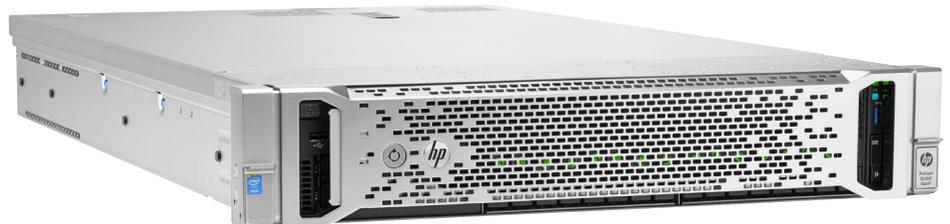


High-density four-socket server for multi-workload compute

The balanced performance and scalability of the HP ProLiant DL560 Gen9 Server makes it ideal for multi-workload computing, virtualization, and business processing, especially when data center space is at a premium and the right price/performance is paramount.

- 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 HP ProLiant DL560 Gen9 Server is the right solution for you!**



## Grow your business without expanding your data center

Business-critical workloads and virtualized environments require compact and powerful computing capacity. The HP 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 45 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 HP hardware and embedded management features, the new HP 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—significantly accelerating virtualization performance, removing bottlenecks, and delivering the ultimate performance for your most demanding x86 workloads.

Powered by the new high-density and cost-effective Intel® Xeon® E5-4600 v3 processors, the ProLiant DL560 offers greater processing power, along with increased storage capacity of up to 24 small form factor (SFF) HP SmartDrives, I/O bandwidth of up to seven PCIe Gen 3.0 slots, and up to 3 TB of the latest HP DDR4 SmartMemory, plus the intelligence and simplicity of automated management with HP OneView and HP Integrated Lights-Out 4 (iLO 4). All of this adds up to a high-density server that can handle larger workloads with less management overhead, so you can do more with fewer servers and achieve better efficiency without compromising performance.

The HP 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

### Ideal HP ProLiant DL560 Gen9 Server environments and applications:

- Server consolidation and virtualization environments
- Space-constrained corporate data centers and service provider environments
- Database, messaging, and business processing environments such as enterprise resource planning (ERP) and customer relationship management (CRM)
- 4S data-intensive applications where data center space, costs, and performance are vital

### 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 v3 processors with up to 39 percent faster processor performance and 50 percent more cores than the previous generation.<sup>1</sup>
- Enjoy the flexibility to choose the optimal 12 Gb/s controller most suited to your environment: the redesigned HP Flexible Smart Array, HP Smart Array, or HP 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 HP 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 HP SmartMemory enhanced error handling and support for up to 3.0 TB DDR4 max capacity (48 DIMM slots) with speeds up to 2,133 MHz with up to 14 percent performance gain.<sup>2</sup>

### Next-generation expandability and reliability for multi-workload compute

- Achieve greater capacity with a new redesigned chassis including up to 24 SFF HP SmartDrives (depending on configuration); 6 NVMe PCIe SSD options also available; along with an optional HP 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, HP FlexibleLOM, PCIe standup 1GbE, or 10GbE adapters for flexibility of networking bandwidth and fabric.
- Reduce unnecessary downtime with support for up to two 1,200 W or 1,500 W HP 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.<sup>3</sup>
- Save energy with high-efficiency HP Common Slot Power Supplies providing up to 94 percent efficiency (Platinum Plus) and support for HP Power Discovery Services.
- Enhance efficiency with customer-inspired features such as the new chassis design 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.

### Agile infrastructure management for accelerating IT service delivery

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

<sup>1</sup> Intel® performance testing. Up to 39 percent general compute throughput claim based on est. SPECint\_rate\_base2006 results comparing 4X Intel Xeon processor E5-4669 v3 to E5-4657L v2; 50 percent more cores comparing E5-4600 (12 cores) v2 vs. v3 (18 cores), January 2015.

<sup>2</sup> Based on HP internal calculations comparing the difference of DDR4 DIMMs of 2,133 MHz vs. DDR3 DIMMs of 1,866 MHz on Gen-to-Gen HP servers, May 2015.

<sup>3</sup> See [hp.com/servers/ASHRAE](http://hp.com/servers/ASHRAE) for details.

## Technical specifications

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

<b>HP ProLiant DL560 Gen9 Server</b>	
<b>Compute</b>	One or two or four Intel Xeon <b>E5-4600 v3</b> processors; 6/10/12/ <b>14/16/18</b> cores; up to <b>seven</b> available slots (PCIe 3.0)
<b>Memory</b>	HP SmartMemory (48) DDR4 DIMM slots and <b>3.0 TB</b> maximum memory (supports both RDIMMs and LRDIMMs up to 2,133 MHz) with support for memory mirroring
<b>Storage</b>	HP Embedded SATA Controller. Choice of <b>HP Flexible Smart Array P440ar or latest HP Smart Array or Smart HBA Controllers for performance or additional features.</b>
<b>FBWC</b>	2 GB DDR3- <b>1,866</b> MHz, 72-bit wide bus at <b>14.9 GB/s on P440ar</b> 4 GB FBWC options also available via dedicated stand up cards
<b>HP SmartDrive</b>	Up to <b>24</b> SFF max, HDD/SSD ( <b>48 TB max</b> ), <b>M.2 enabled</b> and <b>optional 6 NVMe PCIe SSD support, optional HP Universal Media bay</b> (optional two SFF SAS/SATA or optical; video and USB 2.0 standard)
<b>I/O expansion</b>	Seven PCIe 3.0 (6 FH/1 LP) <b>Note:</b> Slot availability is dependent on the number of processors installed <b>Note:</b> The I/O Expansion slots are in addition to the HP Flexible Smart Array and FlexibleLOM slots
<b>Networking</b>	1 x 8 PCIe 3.0 FlexibleLOM slot, for either 2 x 10GbE or 4 x 1GbE; additional standup networking cards available
<b>VGA/USB ports/SD/optical</b>	<b>Four USB 3.0</b> (one internal), five USB 2.0 (two optional, one internal), microSD, <b>Dual microSD</b> (optional)
<b>GPU support</b>	<b>Two 9.5" single wide cards</b>
<b>System ROM</b>	<b>UEFI</b> and legacy BIOS
<b>Converged management</b>	HP OneView with HP iLO Advanced
<b>Support management</b>	HP Insight Online with enhanced mobile app
<b>Embedded management</b>	HP iLO 4, HP Intelligent Provisioning, <b>HP SUM, HP RESTful Interface Tool</b> , HP Scripting Tools for WS PowerShell
<b>Power supplies</b>	94 percent efficient (Platinum Plus), 1,200 W Common Slot PS, N+1 redundant; <b>1,500 W</b> optional
<b>Fans</b>	Six hot plug and redundant fans
<b>Industry compliance</b>	<b>ASHRAE A3 and A4<sup>4</sup></b> and ENERGY STAR <sup>®</sup> configurations supported
<b>Power discovery services</b>	Supported
<b>Location discovery services</b>	Supported
<b>Form factor/chassis depth</b>	Rack (2U), 29.5" (SFF)
<b>Serviceability—easy install rails</b>	Standard
<b>Warranty (parts/labor/onsite support)</b>	3/3/3

<sup>4</sup>See [hp.com/servers/ASHRAE](http://hp.com/servers/ASHRAE) for details.

## Resources

### QuickSpecs

### [HP x86 Scale-up Servers](#)

### [HP server performance benchmarks](#)

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## HP Services

Let HP help guide you to the New Style of Business. HP 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.
- HP 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 HP Proactive Care for ProLiant Gen9 servers to prevent issues and resolve problems quickly and efficiently.
- HP Foundation Care provides a choice of coverage levels and response times for hardware and software support.
- HP 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

[hp.com/servers/dl560gen9](http://hp.com/servers/dl560gen9)



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