HPE ProLiant Compute DL580 Gen12

What's new

- High-density, four-socket server with Intel® Xeon® 6 processors in a 4U form factor.
- Intel® Xeon® 6 processors that support up to 86 cores, up to 16 TB of DDR5 memory at speeds up to 6400 MT/s, and up to 2x average higher performance for general compute versus previous generations.
- Optional front accessible boot device for quicker access.
- Ability to use up to 32 SFF or 32 EDSFF E3.S drives as well as an OS Boot device in the front cage.
- HPE Integrated Lights-Out 7 (iLO 7) server management software with streamlined manageability through a redesigned GUI, Redfish API, and increased security via the patented secure enclave technology.

Overview

Looking for a dense but highly scalable server for your data center application and virtualization needs? Looking for a quad socket enterprise server that is highly scalable for your data-intensive workloads in your data center?

The HPE ProLiant Compute DL580 Gen12 server is a high-density, four-socket (4S) server with high performance, scalability, and reliability, all in a 4U chassis. Powered by Intel® Xeon® 6 processors with up to 86 cores and up to 16 TB of memory as well as 32 EDSFF E3.S drives, the HPE ProLiant Compute DL580 Gen12 server is an ideal platform for data management and analytics workloads.

The HPE ProLiant Compute DL580 Gen12 is engineered for your future, with next-level security, optimized performance and efficiencies, and automated, AI-driven productivity.

Features

Next-Level Security

HPE iLO multi-layer silicon root of trust protects servers from manufacturing to end-of-life and provides compliance readiness for future quantum-computing attacks.

Multi-layered protection with secure enclave to prevent tampering, adding a new hardware-based vault within HPE iLO 7, for more secure storage of server encryption keys.

First server* to support NIST and CNSA 2.0 quantum resistance requirement with secure firmware signing. And, first industry standard servers* to meet the requirements for FIPS 140-3 Level 3 . HPE will be the first server* manufacturer to pursue this certification (*As at January 27th, 2025).

Proactive security management through HPE Compute Ops Management, providing centralized insights into all HPE iLO security status; set/customize security compliance baselines with the latest security advisories to proactively manage firmware and reduce vulnerabilities.

Trusted supply chain available now at rack and server level, to speed deployment, reduce vulnerabilities and ensure full rack-level integrity during transit through our secure supply chain facilities.

Optimized Performance and Efficiency

High performance and scalable purpose-built enterprise server optimized for data-intensive workloads: database, analytics, and Big Data.

Powered by Intel® Xeon® 6 processors with next-generation technology including 16 DIMM channels per processor that supports up to 86 cores and up to 16 TB of DDR5 memory at speeds up to 6400 MT/s.

Advanced data transfer rates and higher network speeds from the PCIe Gen5 serial expansion bus, with up to 12 x16 PCIe Gen5 and two OCP slots to improve I/O throughput and reduce latency.

HPE iLO 7 provides real-time operational feedback on server performance plus recommendations for fine-tuning BIOS settings to customize for changing business needs.

Automated, AI-Driven Productivity

HPE Compute Ops Management enables operators to react quicker and gain greater control, from forecasting energy costs to managing a global server footprint.

Predictive AI insights to forecast future energy costs and carbon emissions with confidence.

Threshold-based alerting to stay informed with timely alerts when critical energy and carbon limits are reached.

Improved map-based visibility simplifies server management with a unified global map view and color-coded health status levels.

Multivendor management via integration with third party toolsets, for simplified, unified operations of diverse IT environments.

Technical specifications	HPE ProLiant Compute DL580 Gen12
Processor type	Intel
Processor family	Intel® Xeon® 6 processors
Processor number	2 to 4
Processor core available	8 to 86, depending on processor
Processor speed	4.0 GHz maximum, depending on processor
Processor cache	Up to 336 MB L3, depending on processor
Memory type	HPE DDR5 Smart Memory
Maximum memory	16 TB with 256 GB DDR5
Memory slots	64
Memory protection features	RAS – Advanced ECC, online spare, mirroring, combined channel (lockstep) functionality, and HPE Fast Fault Tolerant Memory (ADDDC)
System fan features	High Performance Hot-plug redundant Fan Kit
Expansion slots	Up to 12 PCIe Gen5, and 2 OCP 3.0 (rear), for detailed descriptions reference the QuickSpecs
Form factor	4U Rack
Network controller	1 Gb, 10 Gb, 10/25 Gb, 100 Gb, or 200 Gb, in PCIe adapter or OCP 3.0 form factor, depending on model. For detailed descriptions reference the QuickSpecs.
Storage controller	HPE MR216i-o and/or MR216 i-p, HPE MR416i-o and/or HPE MR416i-p, HPE MR408e-p, HPE 408i-0 and/or HPE MR408i-p, depending on model. For detailed descriptions reference the QuickSpecs.
Drive supported	Up to 32 SFF/EDSFF NVMe drives, depending on configuration
Optical drive type	Optional DVD-ROM through Universal Media Bay
Power supply type	1500W, 2400W, or 3200W Dual hot-plug redundant 1+1, 2+2, or 3+1 HPE Flexible Slot Power Supplies
Infrastructure management	HPE iLO Standard with intelligent provisioning (embedded), HPE OneView Standard (requires download) (standard) HPE iLO Advanced, HPE OneView Advanced (optional, requires licenses), and HPE Compute Ops Management
Security	HPE TPM 2.0 standard on motherboard. Optional locking Bezel Kit, Intrusion Detection Kit.

Technical specifications	HPE ProLiant Compute DL580 Gen12
Warranty	3/3/3: Server Warranty includes three years of parts, three years of labor, and three years of onsite support coverage. Additional HPE support and service coverage, to supplement the product warranty, is available. For more information, visit https://www.hpe.com/support.

HPE Services

No matter where you are in your transformation journey, you can count on HPE Services to deliver the expertise you need when, where and how you need it. From strategy and planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.

Advisory & Professional services

Experts can help you map out your path to hybrid cloud and optimize your operations.

Managed services

HPE runs your IT operations, giving you unified control, so can focus on innovation.

Support services

Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources.

— **HPE Complete Care Service:** a modular service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals. All delivered by an assigned team of HPE experts.

— **HPE Tech Care Service:** the operational service experience for HPE products. The service provides access to product specific experts, an AI driven digital experience, and general technical guidance to help reduce risk and search for ways to do things better.

— **HPE Multivendor Services:** Single point of accountability for managing on-site hardware and software support for multivendor products. HPE experts help manage your IT across technologies and platforms for HPE and non-HPE technologies, acting as the single point of contact for your IT operational needs.

Lifecycle Services

Address your specific IT deployment project needs with tailored project management and deployment services.

HPE Education Services

Training and certification designed for IT and business professionals across all industries. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options

Defective Media Retention is optional and allows you to retain Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

GreenLake

GreenLake is the cloud to run and manage your entire hybrid landscape—private, public, and edge. It helps you to:

— Streamline IT Operations across compute, storage, and networking without the chaos

— Unify and secure data, as you move faster

— Accelerate AI, from pilot to production

The result: greater operational efficiency, lower TCO, and faster AI delivery—all from one unified, intelligent platform built for today's hybrid enterprise.

For additional technical information, available models and options, please reference the QuickSpecs

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Parts and Materials: HPE will provide HPE-supported replacement parts and materials required to maintain the covered hardware.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

Image may differ from the actual product.

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