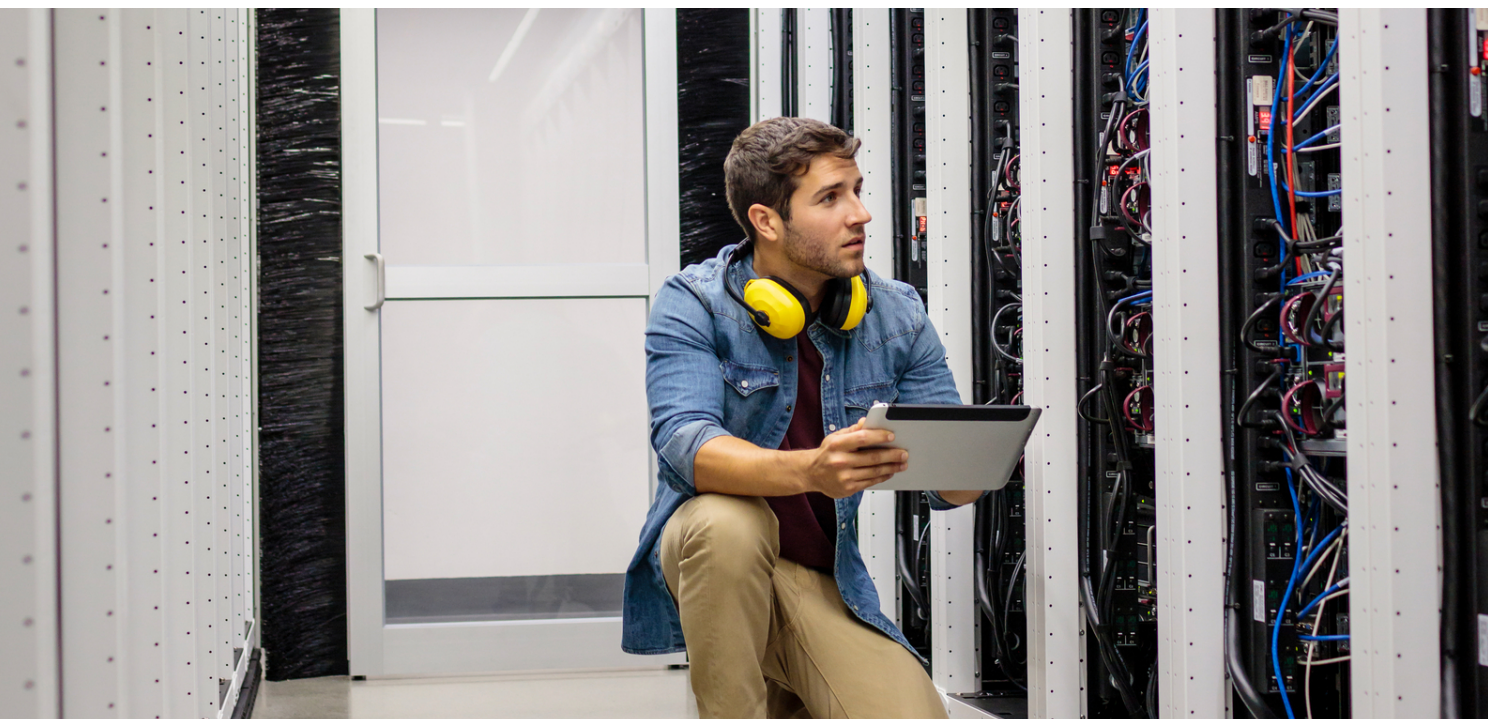


YOUR DATA CENTER CAN SET YOU APART FROM THE COMPETITION

Get next-level security, performance, and efficiency with HPE ProLiant Compute Gen12 and Intel Xeon 6 processors





About half of the world's data center facilities are more than a decade old,¹ raising concerns about energy efficiency, reliability, and the ability to support modern workloads like inferencing.

Your business needs cutting-edge security, performance, and efficiency. The solution? Modernize your data center with HPE ProLiant Compute Gen12, powered by Intel® Xeon® 6 processors and Intel® Ethernet 600 and 800 Series. These servers bring a new level of advanced capabilities to IT operations. They can help you meet the pressure to increase your security posture, support demanding inferencing applications, and rethink virtualization strategies—all while controlling costs, simplifying IT management, and pursuing sustainability goals.

HPE and Intel are pushing the boundaries of technology to empower customers to redefine what's possible across compute, networking, inferencing, and hybrid cloud. Working together, they deliver transformation at every level, one groundbreaking innovation at a time. That's the power of HPE and Intel Inside®.

Use HPE and Intel technology to build a highly secure, optimized, and automated foundation for today's—and tomorrow's—workloads, while maximizing power efficiency and streamlining operations.

Lock your digital doors

A security breach could spell disaster for your business. Attackers are everywhere and you need to protect everything: your software, identities, data, passwords, AI models, code, and network. And if current threats weren't enough to worry about, quantum computing poses future vulnerabilities through "harvest now/decrypt later" (HNDL) attacks.

With built-in safeguards at every layer—from the chip to the cloud—and at every phase of the server lifecycle, HPE ProLiant Compute Gen12 with Intel Xeon 6 processors can help secure your data center.

HPE Integrated Lights-Out (iLO) 7 features a unique Silicon Root of Trust with embedded custom silicon for secure boot and firmware verification. This robust security is amplified by the Intel Ethernet E610's hardware Silicon Root of Trust, creating a highly secure enclave that offers unparalleled, tamper-resistant protection for keys, passwords, and security configurations.

HPE iLO 7 works in tandem with security technologies from Intel, such as Intel® Trust Domain Extensions (Intel® TDX) and Intel® Software Guard Extensions (Intel® SGX).

- Intel TDX is a confidential computing technology that creates isolated trust domains (TDs) for virtual machines (VMs) by using hardware-based isolation to protect their confidentiality and integrity, even from the cloud provider or hypervisor. Intel TDX helps prevent data breaches and enables highly secure cloud environments through memory encryption, remote attestation, and isolated execution of VMs.
- Intel SGX creates protected areas of memory that help isolate and protect sensitive data and code in use at the application level. Neither the OS nor other software can access these protected areas of memory.

The combination of the HPE iLO 7 Silicon Root of Trust and Intel TDX creates the industry's first industry-standard server² that meets the Federal Information Processing Standard (FIPS) 140-3 Level 3 specification. In addition, Intel has provided extended servicing (the process of providing functional and security updates and engineering support for Intel® processors or platforms) to HPE for almost a decade, Intel's proactive product security assurance efforts help keep your data center safe. For example, AMD reported 4.4x more firmware vulnerabilities in their hardware root-of-trust than Intel.³



But there's more.

HPE ProLiant Compute Gen12 with Intel Xeon 6 processors are also the first servers⁴ to meet the National Institute of Standards and Technology (NIST) and the Commercial National Security Algorithm Suite 2.0 (CNSA 2.0) quantum resistance requirements—which means your data is protected against future quantum computing attacks.

Also, supply chain security—even at the rack level—is a hallmark of HPE ProLiant Compute Gen12 with Intel Xeon 6 processors. This includes manufacturing servers in secure facilities, ensuring the servers are overseen by vetted personnel, and implementing component traceability, counterfeit protection, and inspection.

The bottom line: You can have confidence in your data center security by modernizing with HPE ProLiant Compute Gen12 powered by Intel Xeon 6 processors.

Optimize your data center footprint

Your IT department faces a double challenge: enabling new demanding workloads while increasing data center energy efficiency, cost efficiency, and sustainability. You can lower your total cost of ownership (TCO) through server consolidation opportunities with HPE ProLiant Compute Gen12 with Intel Xeon 6 processors (see the table).

At the same time, you can come closer to your sustainability goals. For example, servers with Intel® Xeon® 6700P processors can run image classification workloads 9.9x faster than 2nd Gen Intel Xeon processors, enabling substantial server consolidation and empowering savings of 30,044 MWh and 12,737 metric tons of CO2.⁵

The bottom line: Through server consolidation, HPE ProLiant Compute Gen12 servers with Intel Xeon 6 processors reduce technical debt, deliver higher performance per core and per socket over any previous generation⁷, and build a platform to tackle the applications of the future (like inferencing).

HPE ProLiant Compute Generation	Server consolidation	Estimated annual savings ⁶
Gen8 to Gen12	100 servers to 4	\$359,500— 93% savings
Gen10 to Gen12	100 servers to 15	\$378,900— 81% savings

Run inferencing on your industry-standard servers

Inferencing workloads are exploding, but IT budgets remain flat. You can keep within budget by running inference workloads on the industry-standard servers you are already familiar with. HPE ProLiant Compute Gen12 servers powered by Intel Xeon 6 processors feature built-in inference acceleration. For example, Intel® Advanced Matrix Extensions (Intel® AMX) are a set of hardware and instruction set improvements on Intel Xeon processors. They are designed to accelerate inference workloads by optimizing matrix multiplication operations.

Here are some examples of inferencing workloads that run efficiently on HPE ProLiant Compute Gen12 with Intel Xeon 6 processors:

- Smaller models
- Vector database workloads for retrieval automation generation (RAG)
- Computer vision, natural language processing, and recommendation engines
- Classical machine learning, like classification, regression, and clustering
- Embedded functions that use inference within existing enterprise workloads, like customer relationship management and finance applications

Want to consolidate space and minimize budget, while delivering superior inferencing performance? Look no further than Intel Xeon 6700P processors, which deliver up to 50% better inference performance with 33% fewer cores compared to AMD EPYC 9755 processors.⁸

The bottom line: Improve utilization, avoid expensive accelerated infrastructures, and simplify data center management by using HPE ProLiant Compute Gen12 with Intel Xeon 6 processors.

Boost IT productivity with simplified management capabilities

Your entire estate of servers needs to be up to date, patched, secure, and compliant. You want to update them consistently—and at scale. When issues arise, it's essential that you know right away, or better yet, before problems occur. HPE and Intel technology can streamline and automate data center management.

HPE iLO 7 provides embedded management features that support, optimize, and monitor your servers. You can also use HPE Compute Ops Management, which is a single global, cloud-based console for all data center management tasks. From automated firmware updates to staging of drivers, from issue alerts to tracking of data center ecological impact, HPE Compute Ops Management helps keep things consistent and running reliably. On average, you can expect to spend 75% less time managing servers and 4.8 fewer hours of downtime per server.⁹

HPE ProLiant Compute Gen12 servers are integrated with Intel Ethernet E610 network adapters, which provide comprehensive manageability features and support of modern protocols. These adapters are designed for simplified network operations and enhanced control.

You can more easily reach your sustainability goals—without management hassles—by taking advantage of Intel Xeon 6 processors' system-wide power management and telemetry capabilities. These capabilities enable increased performance per watt on a per-application basis, helping to reduce overall energy consumption.¹⁰ Additionally, you can use the [Intel® Xeon Processor Advisor Suite](#) to obtain tailored analytics that help calculate your exact energy savings potential for various server consolidation ratios. The tool can also project comprehensive TCO improvements across hardware, software, and operational expenses and recommend optimal processor configurations based on your unique requirements.

The bottom line: Spend more time innovating and less time managing with HPE data center management solutions and built-in telemetry from Intel Xeon 6 processors.

Virtualize more intelligently

Virtualization is central to modern data center workloads; however, vendor lock-in, increasing licensing costs, and potential migration risks are significant concerns. Operational complexity is already a headache, and workload performance is a concern. HPE offers a low-risk, high-reward path out of these conundrums.

HPE Morpheus VM Essentials (VME) Software delivers smarter virtualization for cost-conscious enterprises. It provides a cost-effective alternative to expensive hypervisors and lets you migrate existing VMs and licenses to an open platform with flexible consumption and upgrade paths. Imagine what you could do with dollars saved through HPE Morpheus VME Software licensing, which is about 10% of VMware® licensing costs.¹¹

You don't have to worry about performance, either. Intel Xeon 6 processors provide the necessary hardware capabilities to maximize performance and efficiency in virtualized environments; Intel has worked with HPE to optimize workloads on the Gen12 platform. HPE Morpheus VME Software, running on HPE ProLiant Compute Gen12 systems with Intel Xeon 6 processors, can handle demanding real-world workloads, delivering more than 95% of the performance of a bare metal system.¹²

The bottom line: Reduce complexity, save money, and simplify management—with little risk or performance hit—by deploying HPE Morpheus VME Software.





Advance beyond the competition with HPE and Intel

Don't try to innovate on old technology. Set your business apart with enhanced security and manageability, server consolidation opportunities, the ability to run inferencing on existing infrastructure, and cost-efficient virtualization. Refresh and save with HPE ProLiant Compute Gen12 servers powered by Intel Xeon 6 processors.

Additional resources

Get more details on [HPE ProLiant Compute Gen12](#)

Explore [Intel® Xeon® 6 processors specifications](#)

Read how [Intel & HPE lead business modernization](#)

- 1 [Uptime Institute Global Data Center Survey 2024](#), Uptime Institute
- 2 As at January 27th, 2025.
- 3 [2024 Intel Product Security Report](#), Intel Security
- 4 As at January 27th, 2025.
- 5 Estimated over four years. See [7T21- 7T26] at [intel.com/processorclaims](#); Intel Xeon 6. Results may vary.
- 6 Including power and cooling, maintenance, and rack unit costs. The values mentioned are only estimates and not actual savings in US dollars which can vary by configuration, local power costs, pricing, and environmental factors. Calculations are based on amortized annualizing a three-year savings calculation, replacing aging HPE ProLiant DL380 generations with HPE ProLiant Compute DL380 Gen12. Rack units calculated based on HPE server specifications and savings estimated at \$25 per rack unit per month. Maintenance and support costs based on HPE pricing, including costs savings of reducing HPE iLO advanced licensing. Power cost and savings is an estimate of national average (IIRC) and on the Thermal Design Power of the systems. Values validated by Enterprise Services Group (ESG) validation study. SPEC and the names SPECrate are registered trademarks of the Standard Performance Evaluation Corporation (SPEC). The stated results [SPECrate2017_int_base: #36693 (1), #36691 (2), #20893 (3), #37007 (4)] are published as of 01-01-2025, see spec.org, and compared against a 48-core estimated Gen12 system. All rights reserved.
- 7 See [https://xeonprocessoradvisor.intel.com](#) for all performance-based claims.
- 8 See [7A220] at [intel.com/processorclaims](#); Intel® Xeon® 6. Results may vary.
- 9 A commissioned study conducted by Forrester Research, New Technology: The Projected Total Economic Impact™ of HPE Compute Ops Management, June 2024. Results are for a composite organization.
- 10 Source: [Intel® Xeon® 6 Processor product brief](#)
- 11 Based on internal analysis of the cost of HPE Morpheus VM Essentials licensing versus available market data on cost of existing virtualization licensing.
- 12 MS SQL 2022: HammerDB TPROC-C Performance on HPE Morpheus VM Essentials Software (32 vCPU, 512 GB RAM), HPE ProLiant DL380 Gen12 with Intel® Xeon® 6 6730P processor, 800 DW, 150 Virtual Users (Normalized NOPM).

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