Solution brief

MODERNIZE COMPUTE INFRASTRUCTURE

Accelerate innovation from edge to cloud

Servers designed to secure and scale

Aging compute infrastructure wasn't built to handle today's complex computing needs. Our current IT environment depends on finite resources. More than ever, we need sustainable operations that optimize limited space, energy, and time. The age of AI demands structural solutions designed to hit a constantly moving target. At the same time, shifting virtualization economics and the acceleration of AI are forcing enterprises to rethink how compute is architected, secured, and scaled. The HPE Compute portfolio delivers the performance, security, automation, and scalability organizations need to create real-time value from edge to cloud—purpose-built for today's hybrid environments with the flexibility to handle tomorrow's massive AI workloads.

Optimize performance and efficiency
HPE delivers compute solutions designed to handle the most demanding tasks and dynamic workloads and achieve faster insights and better outcomes no matter the scale or complexity.

Deliver next-level security
Achieve robust, multi-layered protection starting at the supply chain and embedded deep within the silicon, with continuous visibility into the health, performance, and security of your servers.

Simplify and automate operations
Simplify and automate compute management with a cloud operating experience that lets IT easily monitor, manage, and update servers remotely through a self-service console—anywhere, anytime.

There is a growing need for tools to break down siloed environments, eliminate time-consuming manual tasks, and solve security and compliance challenges. To gain a competitive advantage, your enterprise must keep pace with new capabilities that facilitate improved customer experience and efficient operations.

Power business at any scale
Grow your organization's infrastructure as needed with servers and solutions that can scale seamlessly to meet data and workload needs.

With growing amounts of data generated across remote offices, data centers, and devices at the edge, compute environments must scale to handle increased stress. The HPE Compute portfolio includes a range of models built to address the needs of today's environments, no matter their size.

HPE Compute

The latest HPE Compute servers and software provide the performance and efficiency you need to meet the requirements of your most demanding workloads, from artificial intelligence to high-performance computing (HPC) and beyond.

Designed with efficiency as a primary goal, new HPE ProLiant Compute resources do more with less, powering business needs while optimizing resources such as power and cooling.

HPE Compute scales with your business's workloads so you can turn future challenges into opportunities. HPE Compute can help your enterprise modernize multi-generational servers, increase speed to AI value, enhance operational efficiency at the edge, and support mission-critical workloads.

Modernize your aging infrastructure

Rising energy costs, data center space constraints, and growing performance requirements for analytics, databases, and emerging AI workloads are exposing the limitations of traditional servers. Older gear can't sustain modern consolidation ratios and restricts flexibility and economic efficiency.

Modernizing aging servers can protect your organization from sophisticated data breaches, eliminating the challenges of inefficient, costly, and complex server management.

HPE ProLiant Compute delivers modern, AI-ready compute that significantly improves performance, efficiency, and lifecycle management. HPE ProLiant Compute provides dense compute, energy efficiency, GPU-ready architecture, and open operational flexibility across any hypervisor or cloud.

Enterprises upgrading to HPE ProLiant Compute Gen12 servers can:

— Decrease power consumption by up to 65%[1]

— Free up rack space and data center capacity

— Achieve higher consolidation ratios and better performance

[1] HPE introduces next-generation ProLiant servers engineered for advanced security, AI automation and greater performance, HPE Newsroom, February 12, 2025

Optimize edge computing

AI value is increasingly created outside the data center—on factory floors, in stores, and along distributed industrial systems. As organizations shift workloads beyond traditional data centers, edge computing is rapidly emerging as a critical focus, allowing businesses to leverage fast, secure, and distributed systems for greater operational agility.

Despite this shift, many enterprises still struggle to deploy and operate AI inference at the edge. Unreliable connectivity, limited on-site IT workers, fragmented operational tools, and the high cost of sending massive datasets back to centralized clouds make this a complex challenge.

HPE brings enterprise-grade AI inference directly to the edge with secure, resilient, and remotely managed compute platforms optimized for real-time decision making. HPE ProLiant Compute edge systems allow AI models to run where data is created, reducing latency, bandwidth costs, and operational risk.

HPE ProLiant Compute edge servers:

— Reduce on-site deployment effort for distributed sites

— Dramatically improve survivability during network loss[2]

— Reduce backhaul bandwidth by 80%[3]

Speed time to AI value

Enterprises are under pressure to move AI into production, but scaling beyond pilots exposes new risks across cost, compliance, and operational control. As AI workloads grow more complex and data sensitivity increases, existing infrastructure models break down.

Scaling AI demands a production-ready foundation that delivers performance, security, and economic certainty without fragmenting operations or sacrificing control. HPE provides a seamless path to production AI for enterprises.

HPE combines its high-performance Cray Supercomputing (EX/GX) portfolio with HPE ProLiant XD servers to provide a full spectrum of solutions ranging from exascale supercomputers to enterprise AI infrastructure. The Cray EX/GX lines are specialized for massive, liquid-cooled, high-density computing, while HPE ProLiant XD serves as the backbone for versatile enterprise and AI workloads.

HPE bridges the gap between turnkey simplicity and performance at scale by removing the infrastructure barriers that stall AI adoption. HPE ProLiant Compute XD685 servers are engineered for large-scale AI model training, natural language processing, and multimodal training.

Designed to address core challenges across the entire AI lifecycle at scale, these robust servers:

— Build and train large models

— Deploy efficient and secure large AI clusters

— Accelerate AI with a ready software ecosystem

Built on fully integrated infrastructure, software, and services, HPE's AI solutions guide users to value quickly without the complexity, risk, and high cost of building your own unproven AI environment.

[2] HPE edge compute / Edgeline local decision-making descriptions

[3] MEC/edge research (industry)

Protect mission-critical workloads

Some workloads cannot fail. Even short interruptions cause financial loss, regulatory exposure, and systemic risk. Protect your critical workloads by modernizing your enterprise's secure compute environment and integrating AI capabilities.

HPE provides trusted platforms for mission-critical workloads—designed for zero downtime, uncompromised integrity, and predictive reliability. With HPE, mission-critical workloads run continuously, securely, and predictably, even when facing extreme attacks.

Unlike other solutions in the market, HPE Nonstop provides the possibility of legacy system expansion with individual cloud services for maximum flexibility and simplified migration.

Fuel innovation with simplified automation, faster speeds, and zero-trust security.

As IT environments become more distributed and more complex, enterprises face greater demands for reliability, performance, and security. The good news is, the right infrastructure can simplify operations and management, so you can dedicate resources to strategic, revenue-generating activities.

The latest generation of HPE solutions lets you modernize with confidence. Whether you're implementing AI workloads or driving mission-critical workloads, HPE Compute solutions provide your infrastructure with a foundation for what's now and what's next.

The HPE difference

HPE Compute solutions are the key to modernizing your infrastructure and building a foundation for the workloads of tomorrow. HPE Compute systems are designed to optimize performance, security, automation, and scalability.

HPE is the only vendor that combines silicon-level security, the industry's first server with quantum computing-resistant readiness, and a trusted supply chain, to enhance the safety of your data. Services like HPE Lifecycle Services, HPE Tech Care Service, HPE Complete Care Service, and HPE Asset Upcycling Services can also accelerate your modernization process.

Whether you're looking to take advantage of new business opportunities with AI or improve the cost structure of your existing technology portfolio, HPE Compute can help you meet your goals.

Take the next step to modernizing your compute infrastructure

Contact your local sales representative or authorized HPE Partner to learn more about how HPE Compute can transform your server operations.

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