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HPE ProLiant Compute Gen12 Enhances Security and Efficiency for the AI Era

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Overview

This month, HPE announced the 12th generation of its ProLiant server family with eight new systems featuring enhanced performance, sustainability features, integrated security, and AI-based management. With data-intensive applications such as artificial intelligence (AI) redefining demands on compute, HPE continues to separate itself from its more commodity-centric competition.

Analysis

The modern application landscape is defined by an ever-increasing hunger for both performance and power. For many businesses, AI initiatives offer the promise of achieving previously untapped levels of competitive success while intensifying the importance of harnessing value from private data on premises. Capturing the value from AI and other data-intensive workloads places increased pressure on traditional server environments. According to research from Informa TechTarget's Enterprise Strategy Group:¹

- **84%** agreed: "The growth of AI (including generative AI) has us reevaluating our application deployment strategy."
- **78%** agreed: "We prefer to run AI applications on premises."

Even for businesses without an AI initiative in place, the complexities of modern, large-scale IT fuel demand for greater server efficiency and a need to consolidate and simplify where possible. Given the scale of application environments at modern enterprises, simplicity must be provided at a fleet level, i.e., one that spans locations. In addition, server vendors cannot be easily switched from generation to generation. Therefore, improved performance and power efficiency must be considered at the system, portfolio, and roadmap level.

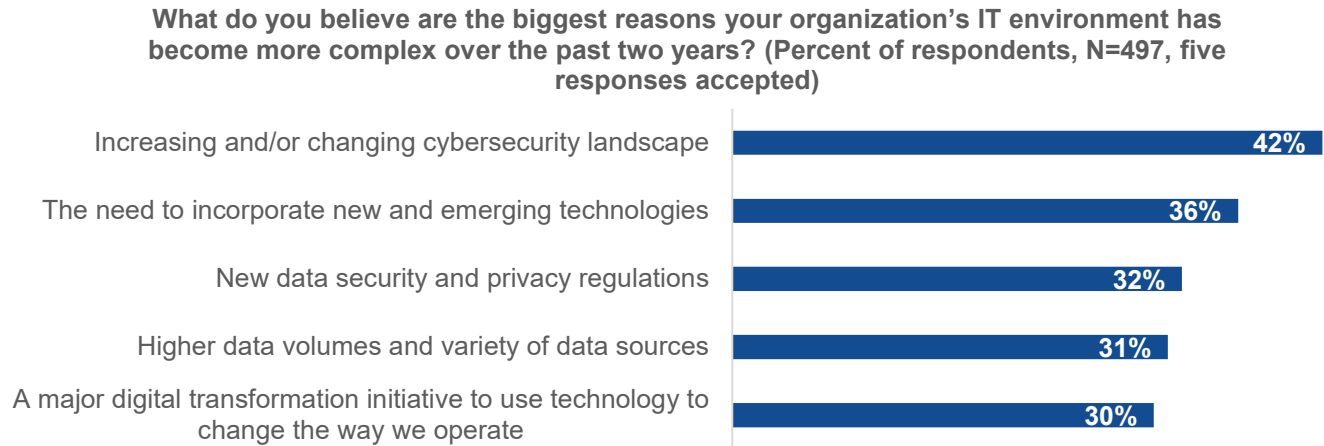
Beyond the need for increased performance and efficiency, the burden of ensuring cyber resilience is poised to increase, as AI has already helped boost the frequency and sophistication of cyberattacks. According to Enterprise Strategy Group research, 62% of IT decision-makers expect advances in AI to provide advantages to cyber adversaries.² The increased sophistication of cyberattacks is also spurring a rapid evolution in the regulatory landscape. For example, the Digital Operations Resilience Act (DORA), which addresses financial organizations in the European Union, already includes considerations for information and communication technologies suppliers. Regulations such as these serve as precursor of what's likely to come for the United States and will require businesses to apply more scrutiny to the security safeguards provided by server vendors and their supply chains.

¹ Source: Enterprise Strategy Group Complete Survey Results, [Understanding Workload, App, and Data Deployment and Migration Decision-making](#), July 2024.

² Source: Enterprise Strategy Group Research Report, [Beyond the GenAI Hype: Real-world Investments, Use Cases, and Concerns](#), August 2023.

The challenges of keeping pace with cyberthreats and incorporating emerging technologies such as artificial intelligence, all while adhering to regulatory requirements, top the list of drivers of increased IT complexity in 2025 (see Figure 1).³

Figure 1. Five Most Common Drivers of IT Complexity



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Ultimately, server infrastructure selection can no longer be a tactical implementation decision. Given the increased importance of security, fleet-level manageability, and a roadmap of performance and power efficiency, organizations should consider server partner selection strategic to business success.

Conclusion

With its 12th generation of HPE ProLiant, HPE lays down a roadmap for server innovation that separates it from its more commodity-centric competition. With any infrastructure modernization investment, businesses should expect greater efficiency with greater performance per system and per watt. In this realm, HPE ProLiant Compute Gen12 is no exception, touting the ability to deliver an impressive seven to one consolidation versus its generation 10 technology.

In addition to performance, any organization considering an internal AI initiative is acutely aware of the increased power and cooling demands of accelerator technology. The efficiency enhancements in Gen12, combined with the ability to support direct liquid cooling technology, are important and necessary inclusions, given the direction of AI-empowered application development and adoption. These efficiency capabilities will serve any organization well, but for those firms with AI workloads in development, modernization to improve efficiency across the entire server estate is often vital to support future scale.

Beyond the individual systems, HPE’s ProLiant Gen12 portfolio-level improvements to security and AI-informed insights—part of HPE Compute Ops Management—demonstrate the strategic importance of making the right server vendor selection. Ensuring cyber resilience and adhering to any related regulatory requirements such as DORA will only become more onerous in the future. Partnering today with providers that are already investing in ensuring the security of the solution and the supply chain will reduce risk and cost in the future. According to HPE, the HPE Integrated Lights-Out (iLO) 7 can ensure an unbreakable chain of trust with full line of sight from the factory and throughout HPE’s supply chain. HPE’s ability to extend this level of control to its end-of-life services via its Onsite Decommission services adds incremental benefits related to both reducing business risk and the operational cost of managing infrastructure.

³ Source: Enterprise Strategy Group Research Report, [2025 Technology Spending Intentions Survey](#), December 2024.

As the AI-era of business matures, businesses will increasingly demand greater efficiency, greater consolidation, and greater security from their server environments. Selecting server infrastructure is a strategic decision, not just a tactical one. HPE's Gen12 combination of software, security, and efficiency is a clear step on the path that innovation is, and should be, headed.

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