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AI and Security Redefine the Future of Server Environments

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Overview

Server infrastructure provides the foundation for every aspect of digital business, from innovation to internal operations, to customer engagement. Now, as businesses transition into a new age—one defined by AI—the need to modernize their compute infrastructure has become a top priority.

To gain insight into how small and medium-sized organizations (SMBs) are approaching their server modernization efforts for this new AI-application era, TechTarget's Enterprise Strategy Group surveyed 350 IT professionals from SMBs (50-750 employees) worldwide.[1] The results reveal multiple insights, including the hybrid cloud reality of modern compute and the significant importance organizations are placing on their modernization efforts to support their AI initiatives.

Analysis

For SMBs, the modern compute environment is distributed, spanning multiple locations both on and off premises. More than three-quarters of the organizations that participated in the study highlighted that each of the following deployment locations is at least a moderate part of their computing environment: public cloud SaaS, public cloud IaaS, private cloud, and on-premises server environments.

> **Most SMBs report using all infrastructure types or locations: More than 75% say each is at least a moderate part of their total computing environment.**

As anticipation grows for the advancements in artificial intelligence, organizations are preparing to upgrade their technology landscapes to keep up. Enterprise Strategy Group research found that 41% of organizations are planning investments over the next 12 months in hybrid and public cloud infrastructure, while a nearly a third of organizations plan investments in AI-optimized servers with GPU options (32%) and data center compute infrastructure (28%). This trend underscores the importance of staying ahead in the digital race by investing in robust and future-ready technology infrastructure.

While percentages for hybrid and public cloud slightly outperformed the percentage for planned data center investments, the trend is clear: A hybrid cloud approach, which combines the flexibility of public cloud services with the control of on-premises infrastructure, is becoming the norm. Notably, 35% of organizations are repatriating their workloads back on premises from the public cloud. This
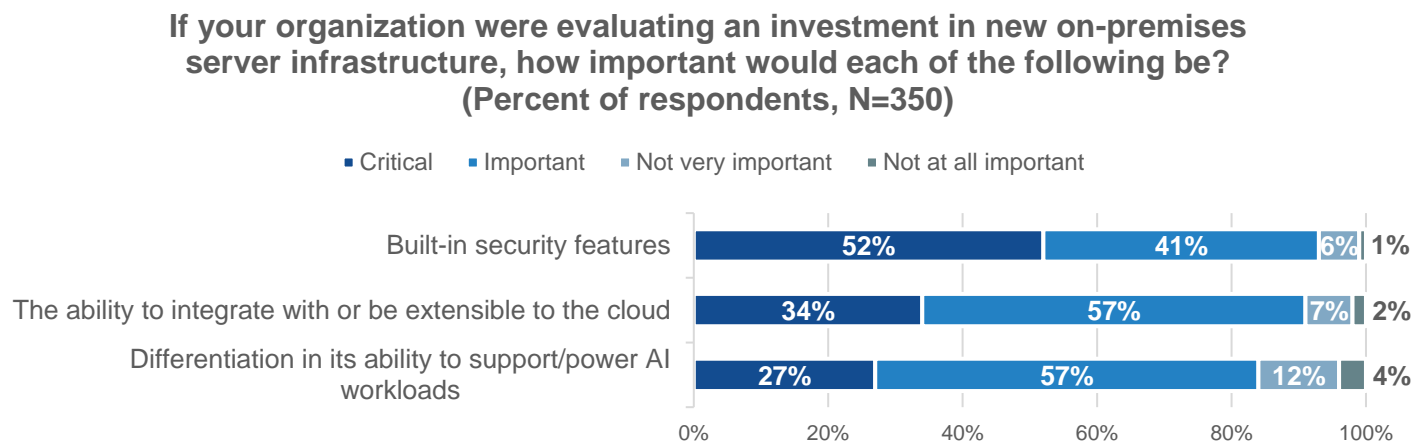
> **Over 80% of SMBs deem integrated security, hybrid cloud, and the ability to power AI workloads as either critical or important.**

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[1] Source: Enterprise Strategy Group Custom Research commissioned by Dell, *Client, Server, and Storage SMB Pain Points*, January 2024.

move is largely driven by the desire to mitigate security risks, with 38% citing security incidents as a key factor. Additionally, 34% are motivated by the unpredictability of costs associated with public clouds, and 33% find the implementation of security measures challenging. This trend highlights the growing emphasis on a secure and balanced IT strategy in our digitally connected era.

These repatriation initiatives highlight a reality that, in modern hybrid cloud environments, application migrations happen in both directions as organizations seek to optimize their entire application environment. As a result, SMBs increasingly recognize the need to modernize on-premises server environments. Enterprise Strategy Group found that SMBs deem built-in security (93%), hybrid cloud integration (91%), and AI workload support (84%) to be critical or important features of data centers servers (see Figure 1). This means that when it comes to choosing server technology, it's not just about how well it performs or how much it costs. Security features that are built-in, the ability to work with the cloud, and AI support are becoming the new standards.

Figure 1. Security, AI, and Hybrid Cloud Capabilities Essential for Data Center Servers

If your organization were evaluating an investment in new on-premises server infrastructure, how important would each of the following be? (Percent of respondents, N=350)

■ Critical ■ Important ■ Not very important ■ Not at all important

	Critical	Important	Not very important	Not at all important
Built-in security features	52%	41%	6%	1%
The ability to integrate with or be extensible to the cloud	34%	57%	7%	2%
Differentiation in its ability to support/power AI workloads	27%	57%	12%	4%

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

Conclusion

Given the expected importance of AI, SMBs are actively investing in on-premises and cloud compute to stay competitive in this new era. When deciding on which server technology to prioritize, integrated security, hybrid cloud capability, and the ability to best support AI workloads should be part of the evaluation criteria for any new server investment in the data center or in the cloud.

How Dell Technologies, Intel, and Microsoft Can Help

In this age of rapid change, modern data centers must continuously evolve to handle complex tasks like AI and ML. Choosing Dell Technologies to modernize your server infrastructure means leveraging trusted, co-engineered solutions from Dell, Intel, and Microsoft. PowerEdge XE servers are acceleration-optimized, purpose-built for Artificial Intelligence (AI), Generative AI (GenAI), and High Performance Computing (HPC). With superior acceleration and diverse accelerator and GPU options, these powerful platforms are optimized to turn ideas into action faster.

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