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Enterprise Storage

Controlling Enterprise Storage Costs Amid Rising AI Demand and Hardware Shortages

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Biography

Christie Flanagan is Senior Director of Marketing for Infinidat (https://www.infinidat.com), a Lenovo company. She has over 15 years of experience in enterprise technology, specializing in marketing strategy, digital marketing, demand generation, and communications for complex sales.

Prior to joining Infinidat, she led corporate marketing for IT management software company, Kaseya, and worked on Oracle's web experience management solution, WebCenter Sites, in a product marketing role. Christie was responsible for marketing and analyst relations at FatWire Software prior to its acquisition by Oracle.

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Paper type Research

Abstract

Rising hardware costs, persistent supply constraints, and the accelerating adoption of artificial intelligence are forcing enterprise leaders to rethink how they invest in and manage IT infrastructure. As demand for data storage continues to grow, organizations face a fundamental challenge: how to support increasingly demanding workloads, maintain business performance, and enable innovation without allowing infrastructure expenditure to spiral out of control. In this article the author explores how Infinidat's intelligent storage architecture can help enterprises navigate rising hardware prices and growing AI-driven demand, examining the practical approaches to controlling expenditure, simplifying day-to-day management, maximizing infrastructure value, and demonstrating Return on Investment (ROI) without allowing escalating infrastructure demands to compromise business performance.

Introduction

The enterprise data centre is hitting a hard wall. Rapid AI adoption is driving up component costs and squeezing hardware supply chains. In fact, Gartner projects global AI infrastructure spending to reach $2.5 trillion in 2026 and $3.3 trillion in 2027, with hyperscalers spending $650 billion in 2026 alone[1]. This surge in investment is intensifying competition for critical components, driving up procurement costs, and forcing enterprises to rethink how they deploy, manage, and scale their data infrastructure.

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In this challenging environment, organizations must find ways to accommodate escalating workloads without allowing storage costs, operational complexity, and infrastructure demands to spiral out of control. Simply purchasing additional hardware is no longer a sustainable long-term strategy. Instead, enterprises need intelligent storage architectures that maximize existing resources, improve efficiency, and deliver measurable business value.



The core problem: price volatility, storage sprawl and the StaaS trap

The AI-instigated buying surge has driven DRAM and NAND flash prices up 300% over the last 15 months[2], reopening a 40% to 60% cost gap between all-flash and hybrid storage systems[3]. Meanwhile, high-density GPU servers are draining power and cooling capacity. Simply buying more hardware to keep up with growth is no longer viable.

Beyond component pricing, legacy mid-range storage architectures also drive up operational expenses. To support expanding applications, IT departments deploy multiple smaller arrays, creating storage sprawl.

Further compounding sprawl is what we call “the STaaS trap.” In this situation, vendors often promise Service Level Agreements (SLAs) that force them to add more boxes when performance drops, adding to more sprawl. This “STaaS trap” consumes more floor space, increases management friction, and inflates power bills.

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The solution: architectural intelligence over brute-force flash

Overcoming supply constraints and price volatility requires software-driven efficiency rather than deploying all-flash everywhere. Infinidat's InfuzeOS™ architecture, running on standard x86 hardware, offers companies greater flexibility to deploy the right solution for the right workload without compromising performance, cyber resilience, or their budgets. Here is why it works:

- Smart Caching & SSA Express: Infinidat's Neural Cache uses predictive algorithms to stage data in DRAM. This enables Infinidat's hybrid arrays to match or beat the performance of 75% of competing all-flash arrays at lower cost. For latency-sensitive workloads, SSA Express allocates dedicated SSD cache inside the hybrid system.

- Workload Consolidation: Moving away from fragmented mid-range storage products yields footprint consolidation ratios up to 11:1. Reclaiming floor space frees up power for AI compute deployments and reduces data centre floor space storage requirements.

- Unified Storage & Native Resilience: InfuzeOS runs block, file, and object storage natively on a single system without external gateways, VMs, or containers. Infinidat's award-winning InfiniSafe® enterprise cyber storage resilience software suite delivers immutable snapshots, logical/remote air gapping, fenced forensic environments, and rapid cyber recovery – addressing cybersecurity, which CEOs identified as their top risk this year, according to PwC's 29th Global CEO Survey[4].

Quantifiable financial results

Infinidat's enterprise storage solutions address today's toughest data centre challenges – runaway component costs, hardware shortages, and the operational burden of storage sprawl. As IT leaders grapple with volatile spending and mounting infrastructure demands, the financial benefits of our approach are clear, as measured


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by IDC research[5] based on interviews with Global Fortune 500 and large enterprise customers of Infinidat:

- 8.7-month payback on initial capital outlays – freeing resources for other strategic initiatives faster than traditional storage models allow[5].
- 140% Return on Investment (ROI) over three years[5].
- 58% reduction in operational expenses across power, space, and administration – precisely where costs are ballooning due to AI-driven growth and inefficient legacy systems[5].

For example, a major financial institution consolidated its storage from 281 to 61 floor tiles, cutting more than $10 million in OpEx and CapEx in just two years – demonstrating how modernizing storage with Infinidat directly translates to bottom-line impact.

In conclusion

As enterprise technology budgets face greater scrutiny, storage decisions must be supported by measurable business outcomes. These may include lower total cost of ownership, improved operational productivity, reduced infrastructure requirements and the ability to accommodate increasing workloads without proportionate increases in expenditure. By evaluating storage investments against these broader measures, organizations can build a clearer picture of their long-term value and make more informed decisions about future infrastructure spending. With the right strategy, enterprise storage can do more than accommodate growth: it can help control costs, protect business performance and provide the flexibility needed to respond to changing demands. In an environment where every infrastructure investment must work harder, maximizing the value of storage is no longer simply an efficiency exercise; it is a strategic priority for long-term business success.

Reference

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