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Enterprise and Cloud Storage

Maximizing Value in a Volatile Storage Market

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Biography

Bill Basinas is Senior Director of Product Marketing at Infinidat (https://www.infinidat.com), a Lenovo company, and has been in the storage industry since 1994. Experienced and deeply knowledgeable in all aspects of primary and secondary storage platforms and associated data protection and cyber storage protection technologies.

Having worked for EMC, HPE, Legato and Avamar (both acquired by EMC) and a number of other startup companies in technical/engineering, sales and marketing, in manager and individual contributor roles, Bill brings a unique understanding of technology and marketing to the storage industry.

Bill blogs at https://www.infinidat.com/en/blog

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Abstract

The rapid acceleration of AI adoption is reshaping the economics and infrastructure requirements of modern data centres. As organizations invest trillions of dollars into AI technologies and supporting platforms, IT leaders are confronting unprecedented pressure on power consumption, floor space, and infrastructure costs. At the same time, soaring global demand for DRAM and NAND flash components has driven dramatic increases in storage pricing, creating new challenges for enterprise IT budgets and long-term capacity planning. In this article the author examines the volatile storage market through the lens of AI-driven demand, explores the operational and financial impact on enterprise data centres, and outlines practical strategies organizations can use to optimize storage efficiency, control costs, and maximize infrastructure value in a rapidly changing technology landscape.

Introduction

Unprecedented times in IT might be the understatement of the century. There are so many things in the technology world that have been disrupted by the current tech trends. Trying to solve a big problem means breaking it down into manageable chunks. We have all heard the term: “You can’t boil the ocean,” although it seems many are trying to do that! Let’s focus on one very critical “chunk” that, for decades past and into the future, has been a keystone of every business and its associated technology challenges in running it.

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No one should be surprised that the advent of Artificial Intelligence (AI) is the biggest part of this – AI, or claims around AI, are in absolutely everything, everywhere! There is a massive expenditure to support all this: Gartner says that $2.52 trillion will be spent on AI in 2026, growing to $3.33 trillion in 2027[1]. The major hyper-scalers alone are expected to spend $650 billion on AI and the technology to empower AI applications and workloads.

This shift is creating challenges on multiple levels across the data centre. The two at the top of the list are the increased demand for power and floor space. In recent months, the new third dynamic is the dramatic shift in costs driven by a massive increase in worldwide demand for silicon, particularly for memory and storage silicon. Massive amounts of DRAM and Flash Storage are required to support AI workloads. Also, the storage components in those servers have stretched component producers to the absolute limit. Component Producers (of DRAM and SSDs/Flash) have stated that they are not building or bringing on more production. As a result, the cost per MB, GB, TB, or PB of Flash storage capacity has skyrocketed. This is challenging every IT budget worldwide. Here is what this means: NAND flash costs doubled in the second half of 2025, a trend widely reported by major supply chain analysts and storage vendors. Current estimates indicate that flash wafer costs for 1TB QLC/TLC jumped by 25% in a single month this year. Overall, pricing has surged by as much as 300% since the upward trend began in 2025. Having said that, how do we (Infinidat, a Lenovo company) help IT customers address this very difficult situation? Luckily, we have options that should be strongly considered when trying to optimize for all three challenges mentioned above. Let's look at each of these and how we help from a data storage perspective.

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Data centre space

With all the new server infrastructure, especially for the buildout of AI deployments, being put in place, floor space is at a premium; every inch of data centre space is being allocated, and there is pressure to find more ways to maximize and use existing floor tile space. We directly address this with a powerful consolidation capability. Our proven enterprise storage solutions continue to provide new and existing customers with tremendous value by delivering the proven capability to consolidate workloads and the associated storage they run on, reducing floor space, power/cooling, and carbon footprint.

Our customers have consolidated workloads previously located on legacy storage from almost every major storage vendor across major industries to Infinidat systems. How? With an architecture that does exactly what it says it will do. Read about why architecture matters in the blog here: Architecture Matters: 3 is way better than $2!^2$. A customer in the financial/insurance industry did an initial consolidation project, replacing 281 floor tiles of competitors' arrays to just 61 with our solutions. At the same time, they increased the performance and availability of those workloads, resulting in over $10 million in savings in the first two years alone. Eliminating storage sprawl is another major benefit of consolidating workloads on Infinidat. Over time, organizations deploy solutions that don't scale end up, with many silos of storage systems to address the needs of multiple workloads. This is caused by poor performance at scale. We directly address that and will guarantee the performance and 100% availability of those consolidated workloads.

Power/Cooling

New servers loaded with GPUs are gulping down every watt of power they can get their hands on, stressing the supply/demand curve of every electrical utility. Add to that: additional highly optimized networking, other peripheral components, and you

can see why the demand adds up quickly. This significantly increases the operational expenses organizations face, especially as power costs have risen substantially in the past few years, and shows no indication of coming down.

Consolidation has a dramatic impact on this as well. When you can power PBs of storage in a single rack and consolidate the footprint of several smaller arrays, costs go down. Each smaller system has its own controllers, power supplies, networking, and management needs. This is a direct, inevitable outcome of the data centre storage sprawl created by deploying these types of products to address growing workload needs over time. As an example of how effective we can be, let's assume we are consolidating three (3) arrays from a popular midrange architecture vendor. Using their public data on power, we can see a savings of 3 to 1! We also benefit you by giving you better capacity utilization because midrange architectures tend to become controller bound well before capacities are utilized.

Additionally, the competitor's storage as a service (STaaS) strategy often worsens data centre storage sprawl by removing your control over the underlying infrastructure. Because they own the asset, they choose the hardware – which may be repurposed, rather than new – as long as it technically satisfies your contracted capacity and performance SLAs.

Direct Cost of Flash/DRAM

Every enterprise storage solutions need DRAM, so there isn't much that can be done on this front, because it basically "is what it is." But there are options for rethinking the underlying storage devices in an array and optimizing data centre storage. Our industry has made an "all-in" shift to all-flash storage. For Infinidat, we, too, have industry acclaimed all-flash storage platforms, but, unlike many others, we have not abandoned our award-winning hybrid storage solutions. That, coupled with our outstanding architecture and features like SSA Express, gives Infinidat a set of unique capabilities that others don't. Let's be clear, what we are saying is to use the "Right Tool for the Job," be that a hybrid array or an all-flash array.

Infinidat has the solution that comes to the rescue. Remember, we have all-flash options with much smaller footprints to go along with our rack-scale solutions, which may be suitable for scenarios where extreme performance is required. The direct impact of supply chain instability and surging NAND pricing has, for the time being, eliminated the economic advantage of high-density QLC storage for many projects. While our all-flash arrays remain the performance leaders, our hybrid systems are built to deliver strong IOPS and latency metrics that are often faster than our rivals' all-flash configurations. How, you ask? Architecture matters. Our industry-leading multi-patented, proprietary technologies – including Neural Cache, InfiniRAID®, and Trie data structures – work in tandem with the advanced features built into InfuzeOS™ to deliver that level of high performance even for hybrid array configurations. Then, there is SSA Express, a dedicated performance tier within our hybrid arrays that enables you to selectively place specific workloads on flash, delivering true "all-flash" performance from within a hybrid system. While capacity varies depending on your specific configuration, SSA Express allows you to isolate

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your most critical workloads on flash for top-tier performance, while significantly reducing costs by keeping general-purpose data on high-density disk. This Forbes article claims the price of SSD capacity is over 20x HDD storage capacity[3]. Ultimately, when all this is factored together, you can see upwards to a 35% price delta in between all-flash and hybrid solutions. Enough said, the data speaks for itself.

Figure 1: Business value of Infinidat InfiniBox Storage

$199,000 average annual benefit per PB of data	**50%** reduction in support calls
140% three-year return on investment	**27%** less time to resolve support calls
8.7-month payback on investment	**64%** less time keeping the lights on
51% annual cost reduction	**85%** reduction in unplanned downtime
58% lower cost of operations	**36%** quicker load times
$1,016,667 in annual IT cost avoidances	**27%** quicker backup times
51% more efficient deployment of new storage arrays	**85%** fewer outages per year
64% more efficient storage upgrades	**$9,181,200** total additional gross revenue per year

Source: IDC

Other costs

The other costs impacting enterprise storage configurations are very real and affect the solution's overall cost over time. Is the system available? Can I manage it effectively with substantially less IT staff? Does it save me power and cooling costs and data centre space? Can I really leverage both flash and HDD to create cost-effective solutions that really save me money? The answer to all of these questions is yes, with Infinidat. We recently engaged IDC to conduct a study with several Global Fortune 500 and large enterprise Infinidat customers on the business value of our InfiniBox® G4 solutions, and the results are outstanding. IDC found that all the customers surveyed for the study were using both all-flash and hybrid InfiniBox G4 solutions, and they told us it was unavoidable not to consider the value of the combination. The IDC whitepaper on "The Business Value of Infinidat InfiniBox Storage[4]" speaks for itself.

Unprecedented AI demands don't have to mean uncontrollable IT costs. By consolidating your infrastructure and leveraging Infinidat's intelligent hybrid storage solutions, you can beat the skyrocketing prices of all-flash arrays, while reclaiming valuable power and floor space. Should all-flash be what is needed for certain workloads, we have an award-winning all-flash array with the InfiniBox™ SSA G4. Let us show you how our advanced architecture and "white-glove" support and service will turn these market challenges into a competitive advantage, creating a long-term partnership rooted in unrivalled performance, availability, and cyber storage resilience.

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In conclusion

The explosive growth of AI is not slowing down. Enterprises across every industry are racing to deploy new applications, modernize infrastructure, and unlock value from data at scales never seen before. Solving the architecture challenges does not require organizations to simply buy more hardware or chase every emerging trend. Instead, it requires smarter infrastructure strategies that maximize efficiency, reduce waste, and align technology investments with actual workload requirements. Infinidat's approach is built around that philosophy. By combining proven enterprise -grade architecture, intelligent workload consolidation, hybrid and all-flash flexibility, and industry-leading automation and resilience capabilities, customers can optimize both performance and economics without compromise.

The key takeaway is that there is no universal "one-size-fits-all" storage model for the AI era. The ability to deploy the right tool for the right job has never been more important. Organizations which embrace this balanced approach gain the flexibility to scale strategically while protecting budgets, reducing operational overhead, and improving sustainability outcomes.

Ultimately, the future belongs to enterprises that can transform today's market disruptions into opportunities for competitive advantage. Infinidat enables customers to do exactly that – delivering enterprise storage solutions that reduce data centre sprawl, lower power and cooling requirements, optimize flash utilization, and maintain the highest levels of performance, cyber resilience, and availability. As AI continues reshaping the technology landscape, organizations need a trusted partner capable of helping them navigate both the technical and economic realities ahead. Infinidat stands ready to help customers not only manage these unprecedented times, but thrive in them.

To register for the webinar – "Maximize Value in a Volatile Storage Market" https://info.infinidat.com/EMEA-Volatile_Storage_Market-EN_RegistrationLP.html

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