



Enterprise Storage

The Circular Economy of Advanced Enterprise Storage

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Biography

Eric Herzog is the Chief Marketing Officer at Infinidat (<https://www.infinidat.com>), a Lenovo company. Prior to joining Infinidat, Herzog was Chief Marketing Office and Vice President of Global Storage Channels at IBM Storage Solutions.

His executive leadership experience also includes: CMO and Senior VP of Alliances for all-flash storage provider Violin Memory, and Senior Vice President of Product Management and Product Marketing for EMC's Enterprise & Mid-range Systems Division.

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Keywords Enterprise storage, AI infrastructure, Cyber resilience, Data expansion, Circular economy
Paper type Opinion

Abstract

Enterprise storage is often treated as a sunk cost: infrastructure that consumes capital, energy and operational resources simply to keep data available. But as organizations face growing demand for AI and increasingly sophisticated cyber threats, the question is no longer how much storage they have – it is how much value they can extract from it. This is where the principles of the circular economy offer a new perspective, argues the author of this article. Just as plastics can be recovered and reused to reduce the need for new raw materials, enterprise storage resources can be optimized, reclaimed and redirected to support new innovations.

Introduction

As data demands surge and budgets, energy and resources come under increasing pressure, the traditional enterprise storage model of continually buying more infrastructure is becoming harder to sustain. The answer could lie in applying the principles of the circular economy: instead of treating storage as a cost that eventually reaches the end of its useful life, organizations can recover, reuse and redirect existing capacity to create new value. Keeping infrastructure in circulation, allows enterprises to unlock resources for AI, data-intensive workloads and cyber resilience without relying solely on continual expansion.

The circular economy behind plastics recycling offers a useful lesson for enterprise technology: when resources are finite but demand keeps growing, the answer is not



Enterprise Storage

simply to consume more. It is to find ways to recover, reuse and redirect existing resources towards new sources of value.

The same principle can be applied to enterprise storage. Rather than continually adding infrastructure, power and investment to support growing data demands, organizations can reclaim resources from inefficient storage environments and put them to more productive use.

Reducing the power consumed by enterprise data infrastructure, for example, can free capacity for power-hungry AI systems and other applications. It is effectively recycling energy for innovation.

Likewise, consolidating fragmented storage onto more efficient, high-end enterprise platforms can reduce both capital expenditure (CAPEX) and operating expenditure (OPEX). The resulting savings can then be redirected towards AI, modernization and other business initiatives that create new value.

In this sense, storage efficiency is about more than cutting costs. It is about creating a circular model in which energy, infrastructure and investment are continually reclaimed and redirected towards the next wave of enterprise growth. By reducing the power that enterprise data infrastructure requires, CIOs can take power from enterprise storage and give it to the AI systems, or other applications, that desperately need it. This is recycling power for innovation.

By consolidating storage to more efficient high-end enterprise storage, the CIO dramatically reduces the CAPEX and OPEX of their storage infrastructure and gives the budget to business-enhancing AI projects, and other new initiatives, that will transform the enterprise. This is recycling investment for growth.

By implementing a cyber storage resilient, recovery-first strategy to address ransomware, malware, and other cyber threats, the CISO can remove leverage from cyber criminals, cutting the risks of potential disruption and protecting the data infrastructure. This is recycling resilience back into the enterprise.

Each of these examples demonstrates how enterprise storage can recycle valuable resources back into the business, creating a win-win for the enterprise. The business value of doing this includes:

- Increased power efficiency and reduced burden of powering data centres.
- Greater cyber resilience, with the enterprise able to recover more quickly from a cyber attack and continue operating with minimal disruption.

Enterprise storage can play a central role in creating a more circular IT infrastructure – extending the life of assets, reducing energy and resource consumption, and making better use of existing capacity rather than continually replacing and expanding it. By



modernizing how storage is designed, managed and reused, CIOs, CISOs, CTOs and CFOs can strengthen cyber resilience while reducing infrastructure costs and environmental impact, releasing capital and resources for higher-value enterprise initiatives.



Cyber Storage Resilience

A 2025 PwC survey of executives at large enterprises found that only 6% of the survey sample felt prepared for a cyberattack¹. Yet enterprise storage is still too often overlooked in cybersecurity strategies. For CIOs, CISOs and CTOs, that creates a significant blind spot. More than 90% of an enterprise's data sits within its storage infrastructure, making it a critical part of the organization's cyber defence. If that data is not adequately protected, isolated and secured to limit the impact of an attack, the business is leaving one of its most valuable assets exposed.

It is going to be necessary to recover rapidly from a cyberattack. At the same time, it will be important to ensure that data being recovered is a known good copy and free from embedded malware or ransomware. But this can be tricky to achieve in practice because malware, ransomware and other cyberattacks are designed to operate surreptitiously. It is difficult to ascertain whether malware or ransomware is already present within the storage.



Enterprise Storage

Once the data is inside a fenced forensic environment, how do you ensure you have a known good copy? As a best practice, application owners should verify that nothing has been damaged.

When reviewing enterprise storage solutions, it is worth identifying whether you have the ability to interface between Security Information and Event Management (SIEM) and Security Orchestration, Automation, and Response (SOAR) data centre-wide cybersecurity applications and your storage infrastructure. This way, if Microsoft Sentinel or your Security Operations Centre (SOC) detects a cyberattack, there's no need to wait. Immutable snapshots can start to be taken instantaneously.

Power efficiency

Large enterprises manage tens to hundreds of petabytes of storage, which consume incredible amounts of power and cooling. At the same time, power shortages are sweeping the industry. This is not only due to increased use of AI, but also traditional data centres are also running out of power.

According to reports in the Financial Times, demand for electricity by data centres is projected to double or even triple by 2028, with some analysts predicting a 10-gigawatt (GW) to 19-GW capacity gap by 2028². The only way to manage increased demand at this level is to save on power consumption levels by consolidating storage.

For example, one Fortune 500 customer was able to consolidate 288 floor tiles down to 61 floor tiles, running all the same applications, workloads and use cases – dramatically reducing power consumption while saving more than £45 million over a period of a few years. The power released through this consolidation was then effectively recycled and allocated to other applications and workloads, optimizing data centre performance.





CAPEX/OPEX reduction

Storage consolidation also contributes to reducing CAPEX and OPEX. Not only by reducing power consumption, but by freeing up rack space, cooling resources, and IT operational manpower. When budgets are flat or resources limited, this is a win-win scenario. Consolidating enterprise storage increases your strategic position.

Additionally, there remains an IT skills gap. The average enterprise has more than 25% open positions in the IT department, with few suitable candidates to fill them. If it becomes possible to reduce the numbers of storage admins needed, their skills can be redirected and applied to new AI or cyber security initiatives.

The principles of the circular economy are based on making the best possible use of finite resources. Increasingly, the same applies to enterprise storage. Modern enterprise storage is no longer simply about storing data. It has the potential to recycle power, budget, operational capacity and cyber resilience back into the enterprise, creating the resources needed to support AI, innovation and future growth. The most valuable enterprise storage platform isn't the one that stores the most data – it's the one that recycles the most value back into the enterprise.

Reference

- ¹ PWC (01 October 2025) *AI emerges as the top cybersecurity investment priority for companies in a shifting risk landscape, as only 6% are 'very capable' to withstand cyber-attacks across all vulnerabilities surveyed.* Available at: <https://www.pwc.com/gx/en/news-room/press-releases/2025/pwc-digital-trust-insights.html>
- ² Carrier (December 2025) *Scaling sustainability: data centre energy management in the age of AI.* Financial Times. Available at: <https://www.ft.com/partnercontent/carrier/scaling-sustainability-data-centre-energy-management-in-the-age-of-ai.html>