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Enterprise and Cloud Storage

Great Debates of Enterprise Storage: Part One

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Biography

Eric Herzog is the Chief Marketing Officer at Infinidat (https://www.infinidat.com). 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 protection, Immutable snapshots, High availability, Ransomware recovery, Storage performance
Paper type Opinion

Abstract

As enterprise data growth accelerates in the AI era, organizations face increasingly important decisions about the storage platforms that underpin business-critical applications and workloads. In the first of a two part series, the author examines five key technology debates shaping modern enterprise storage strategies: triple-redundant versus dual-redundant architectures, strong versus weak cyber resilience, true immutable snapshots versus semi-immutable snapshots, 100% availability versus six-nines availability, and guaranteed service level agreements versus non-guaranteed offerings. Exploring how these architectural and operational choices can affect system reliability, cyber recovery, performance, uptime, and business continuity, the author draws on Infinidat's perspective, and highlights capabilities such as triple-redundant architecture, cyber-resilient storage, true immutable snapshots, guaranteed 100% availability, and comprehensive SLAs as differentiators for organizations seeking resilient, high-performance enterprise storage.

Introduction

Enterprise storage has become one of the most critical components of modern information technology infrastructure, driven by the unprecedented growth of data and the increasing need to store, manage, and deliver it efficiently to applications and workloads. As organizations generate and consume data at an accelerating

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pace, enterprise storage systems have evolved from being passive repositories to strategic enablers of business operations, analytics, and artificial intelligence (AI).

A closer examination of enterprise storage architectures reveals an ongoing debate over the characteristics that define best-in-class solutions. Factors such as performance, scalability, resilience, security, manageability, and cost efficiency continue to shape competing approaches to enterprise storage design and deployment.

In the AI era, where data volumes are expanding exponentially and AI workloads demand rapid, reliable access to vast datasets, the importance of enterprise storage has reached unprecedented levels. The ability of storage platforms to meet these evolving requirements has become a key determinant of organizational success. Consequently, evaluating the attributes that distinguish leading enterprise storage solutions is increasingly relevant to purchasing decisions, technology strategy, and long-term infrastructure planning. Head-to-Head: Guaranteed SLAs vs. No guarantees

Debate #1 — The Architectural Matchup: Triple-redundant storage architecture vs. Dual-redundant storage architecture

Most enterprises are currently relying on a dual-redundant storage architecture – and some may not even know it. There are severe limitations to the dual-redundant architecture that create issues for enterprise customers. Performance can degrade faster. Corrupt data could more easily be carried over in a replication, compared to a triple-redundant architecture. Direct and indirect costs tend to soar fast with the dual approach.

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A triple-redundant storage architecture ensures a much higher degree of system reliability and provides superior performance because of the triple active, synchronized copies of data. This approach is designed to support continuous operations, allowing for instant failovers while eliminating single points of failure. Additionally, a triple-redundant architecture is ideal for high-throughput workloads vs. a dual-redundant architecture.

Fact: Infinidat uniquely provides a triple-redundant storage architecture, unlike the competition.

Debate #2 – Cyber Competition: Strong cyber storage resilience vs. Weak cyber storage resilience

Cybercriminals are attacking storage infrastructures and corrupting backups at an alarming rate, and snapshots alone are no longer sufficient. No wonder the question is not will our enterprise suffer a cyberattack, but when and how often. With weak cyber resilience, an enterprise is not able to isolate and perform cyber detection on the compromised data, which means it will likely replicate corrupt data and spread it around the enterprise, unknowingly. It also means that an enterprise is likely to be slow in responding to a cyberattack on the storage infrastructure and not have the capability to recover quick from an attack.

In contrast, strong cyber storage resilience enables an enterprise to recover from a cyberattack, such as ransomware or malware, within a few minutes or few seconds.

Fact: Infinidat is a leader in providing cyber resilient enterprise storage with next-generation data protection capabilities.

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Debate #3 – Immutable to the Finish Line: True immutable snapshots of data with no backdoor vs. Semi-immutable snapshots of data with "backdoors"

Many enterprises are using what they consider "immutable snapshots," but there is a problem. Those snapshots have a "backdoor." They are not truly "immutable." Someone could potentially hack in and change the data snapshots, which defeats the purpose of immutable snapshots, which are supposed to be unchangeable and undeletable.

For the best in cyber storage resiliency and for corporate regulatory and compliance issues an enterprise should be using truly immutable snapshots that cannot be altered or deleted. There should not be a "backdoor" to the snapshots. This may sound so basic, but the trade-off that IT teams make can be startling. Or an IT team may not even know there is a backdoor to the snapshots. What they really need is high-end enterprise storage capabilities for cyber storage resilience.

Fact: Infinidat is one of the few storage solution providers that deliver true immutable snapshots for enterprise customers.

Debate #4 – The Uptime Challenge: 100% availability vs. 6 9's availability

When the data infrastructure goes down or is unexpectedly interrupted – even for a short period of time – it can cost an enterprise a significant loss of revenue and profits, as well as cause reputational damage. This is why ultra-high availability is so important. However, the debate is about how "high" does the availability of the enterprise storage infrastructure need to be. Can an enterprise get away with less than 100% availability?

The reality is that applications and workloads in enterprise environments are in use almost all enterprises 24x7x365. Thus, both high availability and high performance are critical to daily business operations – hallmarks of the right high-end enterprise storage.

Fact: Infinidat's InfiniBox® enterprise storage systems provide 100% availability guaranteed.

Debate #5 – Head-to-Head: Guaranteed SLAs vs. No guarantees

It's a "no-brainer." Enterprises are accustomed to service level agreements (SLAs) that guarantee their system, software, or service will deliver the performance and the results for which the organization has signed up. It's no different in enterprise storage and next generation data protection. It's exceedingly more advantageous to the company to have guarantees in place, such as guaranteed 100% availability, guaranteed high performance, and guaranteed cyber recovery. Guarantees remove the guesswork.

Fact: Infinidat offers a suite of guarantees across its high-end enterprise storage portfolio and next-generation data protection solutions.

In Part Two, the author will address power efficiency, storage consolidation, data integrity, and the cost-effectiveness of enterprise storage.