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The Five New Essentials for Data Storage Platforms

How Hitachi Vantara VSP One and VSP 360 transform data storage operations via a multi-cloud data storage platform designed for diverse data environments, including block, file, object, and mainframe.

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KEY FINDINGS/CONTENTS

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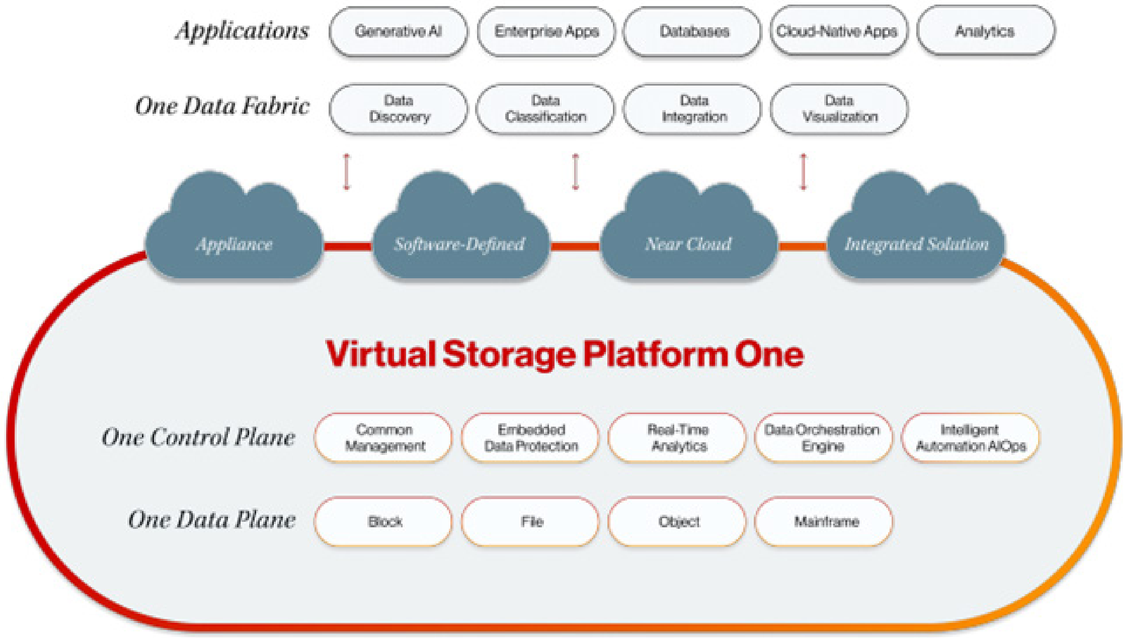
Enterprise Data Storage Platforms Become Necessities

Success in business is fueled by the effective use of data, but too often, an organization's high-value data is dispersed across multiple public clouds, data centers, and edge locations, with each site acting as a disparate silo. The potential value of a business's data depends on the organization's ability to eliminate the restrictions of data storage and its accompanying data management solutions. Organizations need to take a platform approach to both data and storage that delivers agility, flexibility, and accelerated access to data while continuing to control for protection and security.

Different data types (block, file, object, and mainframe) often place different requirements upon infrastructure, and these differences in demands have led to the prioritization of diverse multi-cloud environments. The race to harness the agility and flexibility benefits of multi-cloud operations, however, has resulted in systemic challenges when it comes to storing, managing, protecting, and using data, increasing cost, complexity, and risk to the business. At scale, the impacts of dispersed data and siloed storage spanning across on-premises data centers as well as public cloud infrastructures hinder operations and the execution of digital initiatives to the point that the benefits of the cloud often evaporate entirely.

As businesses ramp investments in artificial intelligence (AI), IT leaders must incorporate a new set of data-intensive workloads into an already complex application environment. The cost and complexity of storing and managing the data for this rapidly evolving environment poses a significant threat to both the success of AI as well as an organization's ability to deliver efficient IT operations. Concerns and complexities related to data privacy, security, governance, and quality will hinder AI adoption and prove costly to the business as a whole.

To this end, Hitachi Vantara's Virtual Storage Platform (VSP) One delivers a data storage platform designed to transform digital operations. VSP One can be deployed across hybrid and multi-cloud environments to provide consistency and simplicity as organizations manage the explosive growth in the capacity and the value of data. Complimented by the data management capabilities of Hitachi Virtual Storage Platform (VSP) 360, the combined solution with VSP One provides a simplified hybrid cloud data storage platform that can provide improvements to data agility, control, optimization, observability, and governance as well as simplify the storage infrastructure environment. The end goal is to allow organizations the freedom to store, protect, and use their data wherever the business requires, without the added cost, complexity, and risk created by disparate storage silos.



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The Forces Transforming Enterprise Data Environments

The Rise of AI and the Evolution of Cyberthreats Increases the Pressure to Accelerate and Optimize IT Operations

As businesses ramp investment in AI and contend with evolving cyberthreats, competing priorities hinder contemporary IT operations. The reality for modern business is the need to balance multiple priorities, including accelerating digital initiatives, such as AI, that can deliver differentiated value to the business while also optimizing and ensuring the security and availability of existing operations to effectively do more with less. Budgets and personnel cycles are both finite. The mission of modern IT is to rise above these constraints and deliver transformational value to the business. And this mission simply cannot be accomplished with traditional infrastructure. Businesses must modernize their data to find success with digital initiatives, such as AI, while ensuring operations remain secure and resilient.

AI is poised to only increase the existing level of IT complexity, which already impedes modern IT operations.

- **91%** of organizations said they are making or planning to make significant infrastructure investments to support new AI initiatives.[2]
- **69%** agreed that the complexity of their organization's IT environment (data center, cloud, and edge) slows IT operations and digital initiatives.[1]

Modern business is increasingly digital.

- **78%** of organizations expected to develop and offer new data centric products and services in the next 24 months.[1]

Nearly every business has had to accelerate operations to keep pace with demands, often forcing IT teams to balance the priorities of accelerating new initiatives with ensuring the resilience of existing operations.

- **91%** said the pace of change in IT is accelerating.
- **82%** said their overall IT infrastructure environment has become more complex in the last two years.[2]
- **86%** said that over the past two years, their administrators have faced additional responsibilities to support digital initiatives.[2]
- **49%** of IT decision-makers said that strengthening cybersecurity is the technology initiative that will drive the most spending over the next 12 months.[3]

[1]Source: Enterprise Strategy Group (now Omdia) Research Report, *The Critical Role of Storage in Building an Enterprise AI Infrastructure,* September 2025.
[2]Source: Enterprise Strategy Group (now Omdia) Research Report, *IT Transformed: Inside the Convergence of Hybrid Cloud and AI,* July 2025.
[3]Source: Enterprise Strategy Group (now Omdia) Research Report, *2025 Technology Spending Intentions Survey,* December 2024.

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Complexity of Dispersed Data Leads to the Unsustainability of Disparate Storage Silos

Underlying this mounting complexity is the wide distribution of both data and applications across multiple disparate infrastructure silos, which can become unsustainable at scale. Differences in capabilities, resiliency, and management across different systems that were once considered essential to meet differing application and data requirements increase the efforts required for architecture, deployment, management, and maintenance. The result is a significant level of increased cost, complexity, and risk to use, move, store, protect, govern, and secure your organization's data. Distributed data silos add complexity to both AI initiatives and ensuring cyber resilience. As a result, businesses must modernize their data and their data storage environment.

86%

said their operations will be hybrid cloud-based for the foreseeable future.[2]

71%

of organizations agreed that effectively integrating storage with data pipelines and AI workflows is a major challenge.[1]

In terms of internal collaboration across teams, what are the most difficult challenges your organization faces when managing its hybrid cloud environment?

47%

Ensuring proper coordination and cooperation between the cloud team(s) and the traditional IT functional teams

36%

Expending time and cost to learn different architectures

35%

Establishing a consistent single source of truth for monitoring and management

34%

Building alignment across teams on proper cybersecurity methodology

33%

Achieving alignment in mindset or culture

[1]Source: Enterprise Strategy Group (now Omdia) Research Report, *The Critical Role of Storage in Building an Enterprise AI Infrastructure,* September 2025.
[2]Source: Enterprise Strategy Group (now Omdia) Research Report, *IT Transformed: Inside the Convergence of Hybrid Cloud and AI,* July 2025.

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Storage Silos Create Competitive Disadvantages, Hindering the Ability to Do More With Less

Modern data storage platforms must address the challenges of storing, securing, protecting, and moving data while minimizing the burden associated with digital initiatives. For decades, storage infrastructure was optimized to simplify the storage and protection of information. For contemporary environments, however, that is not enough: Modern storage environments must also simplify the movement and access of data anywhere it is required, while minimizing the risk of the data storage environment and ensuring each workload achieves the optimal data performance. The modern reality of data has created a new list of storage challenges that build upon the traditional challenges of cost, performance, and protection. Businesses require modern data storage platforms that can reduce or remove the risk of managing data while also meeting the requirements of the multiple data types (block, file, object, mainframe) in use.

- **68%** agreed that data storage is a major pain point for their IT organization.[1]
- **66%** agreed that their organization regularly encounters issues with visibility across all data.[1]
- **78%** agreed that increased AI adoption will result in the organization retaining data longer.[1]
- **70%** agreed that storage-related challenges are a significant barrier to AI success.[1]
- **83%** said success in AI is impossible if the data is not secured and protected.[2]
- **79%** agreed that adequately protecting AI data presents new and substantial challenges.[1]

Which of the following, if any, are your organization's data-related challenges with on-premises block storage?

[1]Source: Enterprise Strategy Group (now Omdia) Research Report, *The Critical Role of Storage in Building an Enterprise AI Infrastructure,* September 2025.
[2]Source: Enterprise Strategy Group (now Omdia) Research Report, *IT Transformed: Inside the Convergence of Hybrid Cloud and AI,* July 2025.

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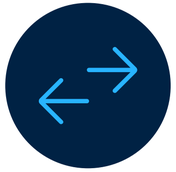
The New Essentials of Data Storage Platforms

The New Essentials of Data Storage Platforms

Businesses must adopt a platform approach to hybrid, multi-cloud storage rather than a siloed approach by addressing five essential components of modern, data storage platforms:

The Essentials:



1. Simplified data agility:
Enable application data to flow easily between applications, with one data plane that can simplify access to the right data, anywhere.

2. Ease of data storage management:
Enable applications to access multiple infrastructure options for multiple data types (block, file, object, and mainframe) via one data storage platform with a consistent management experience.

3. Improved data control and management:
Simplify how data is managed, governed, secured, and protected with a single control plane.

4. Optimized data performance at scale:
Ensure that performance and capacity meet or exceed application demands at scale.

5. Guaranteed mission-critical security, resiliency, and availability:
Support mission-critical applications, including mainframe, along with sovereign, private data to maximize the simplicity and agility benefits.

Hitachi Virtual Storage Platform (VSP) One creates or enables a single data plane across structured and unstructured data, including block, file, and object, so organizations can run all of their applications anywhere—on premises or in the public cloud. As a single data storage platform, it is designed to eliminate silos and the nuances of disparate storage systems, enabling organizations to easily and securely access data needed for business insights.

Hitachi Virtual Storage Platform (VSP) 360 provides unified data management designed to enable IT teams of all skill levels to streamline administrative tasks, improve infrastructure observability, and gain new actionable insights, while eliminating the need to use multiple disparate data and storage management tools to achieve the same results. VSP 360 provides unified control of VSP One data storage platforms to streamline the customization and management of data services. VSP 360 offers integrated fleet management, storage resource provisioning, and AIOps observability to enable simplified data management orchestration, protection, and governance.

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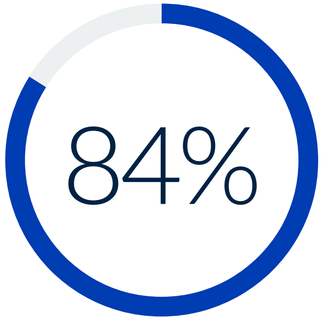
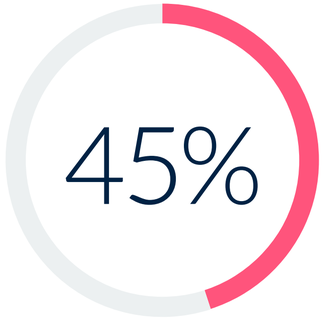
Essential 1: Simplified Data Agility

A core reality of modern data operations is that data movement is frequent, complex, and critical to operations. Addressing the complexity of data movement provides a critical distinction between traditional storage systems and more modern data storage platform architectures.



of organizations said they regularly move data across on-premises data center and cloud environments.[2]

of organizations identified the ability to move data seamlessly across data centers and cloud environments as an essential priority for hybrid cloud environments.[2]



of data center administrators identified moving data to the right infrastructure as requiring significantly more effort for AI initiatives.[2]

Hitachi Vantara VSP One and VSP 360 Simplify Data Agility

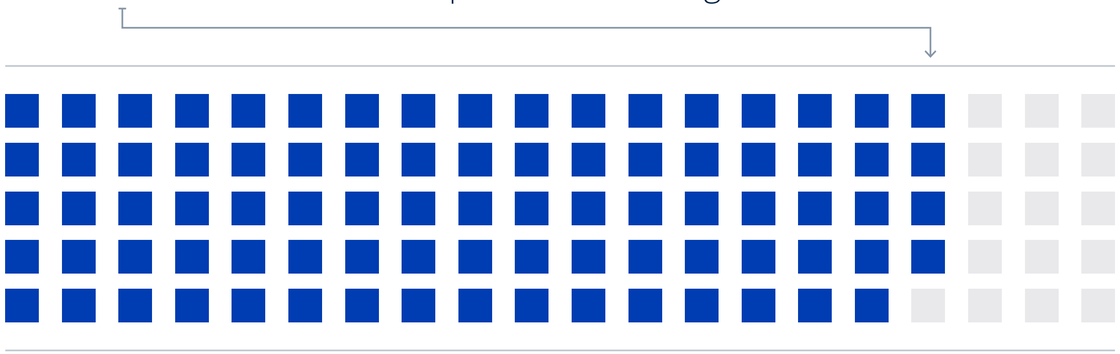
- A single storage platform for block, file, and object data that can scale to massive, multi-petabyte capacity levels across heterogeneous environments, including on premises, edge, hosted cloud, and public cloud, as well as open systems and mainframes.
- Unified data management across Hitachi Vantara storage, providing unified visibility and AIOps observability and enabling IT organizations to better control, optimize, observe, and govern their data services.
- Centrally manage data policy compliance across diverse data solutions, including AI, personally identifiable information (PII) protection, data classification, cost efficiency, cyber-resiliency, and infrastructure-as-a-service (IaaS) offerings.

[1]Source: Enterprise Strategy Group (now Omdia) Research Report, *The Critical Role of Storage in Building an Enterprise AI Infrastructure,* September 2025.
[2]Source: Enterprise Strategy Group (now Omdia) Research Report, *IT Transformed: Inside the Convergence of Hybrid Cloud and AI,* July 2025.

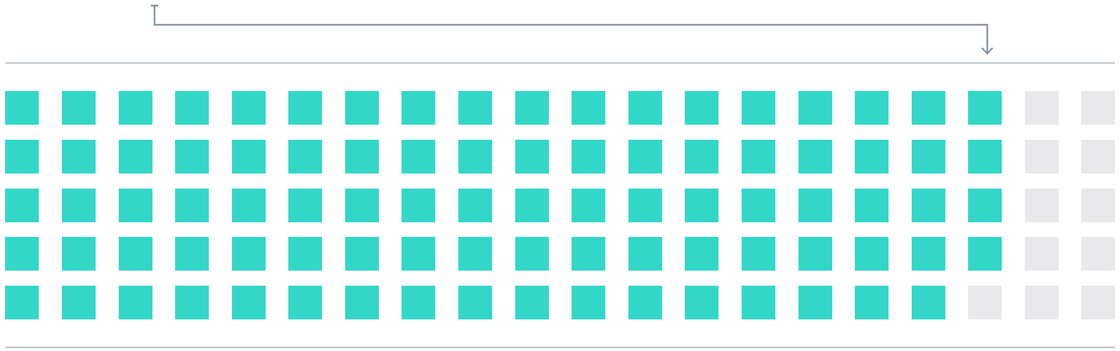
Essential 2: Ease of Data Storage Management

Distributed data environments are a fact of modern business and are not changing. Addressing the complexities of multi-protocol data access (block, file, object, and mainframe) storage in hybrid and multi-cloud environments is a necessity and requires consistency of experience. Automation plays a major role in streamlining operations but can often be underutilized. Data storage platforms should be able to simplify the automation of data management tasks.

84%
said that additional training is required to switch an administrator from one cloud provider's offerings to another cloud provider's offerings.[2]



89%
said they are actively investing in consolidating experiences across clouds and on premises locations.[2]



Hitachi Vantara VSP One and VSP 360 Ease Data and Storage Management

- Consistent simplified management of data storage and protection across locations and data types (block, file, object, and mainframe), able to support the integration of new storage system hardware generations and upgrades.
- Integrated fleet management, data protection, observability, and governance.
- Integrated AIOps analytics to optimize and automate data management operations for improved system health, performance optimization, capacity planning, and cost savings.

[1]Source: Enterprise Strategy Group (now Omdia) Research Report, *The Critical Role of Storage in Building an Enterprise AI Infrastructure,* September 2025.
[2]Source: Enterprise Strategy Group (now Omdia) Research Report, *IT Transformed: Inside the Convergence of Hybrid Cloud and AI,* July 2025.

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Essential 3: Improved Data Control and Management

Every business is a digital business relying on data to play either a supporting or primary role. For AI initiatives, the role of data becomes far more prominent, often determining competitive differentiation. The speed at which businesses can get the right data to the right environment will translate into a tangible advantage. The importance of data necessitates that IT and storage administrators have access to better tools to rapidly deploy the right data on the right infrastructure while enabling better control, protection, security, and governance. While storage platforms might not replace more traditional data management tools, modern data storage platforms should augment them.

of data center administrators said identifying the right data sets for AI requires significantly more effort for AI initiatives than for other digital initiatives.[2]

Ensuring data security or compliance (29%) is the most commonly identified storage-related challenge for AI inferencing.[1]

Hitachi Vantara VSP One and VSP 360 Provides Faster Time to Insights

- Management consistency across data silos and locations helps minimize risk to data storage and operations, while accelerating the time to insights with tools to enable intelligent data placement and optimized data operations.
- Tools to help simplify data policy validation and compliance while helping to manage, move, protect, and optimize data across the entire data lifecycle, integrate new data insights across large application data sets, and ensure governance for key initiatives, such as AI, PII protection, IaaS, data classification, and cyber-resiliency.

[1]Source: Enterprise Strategy Group (now Omdia) Research Report, *The Critical Role of Storage in Building an Enterprise AI Infrastructure,* September 2025.
[2]Source: Enterprise Strategy Group (now Omdia) Research Report, *IT Transformed: Inside the Convergence of Hybrid Cloud and AI,* July 2025.

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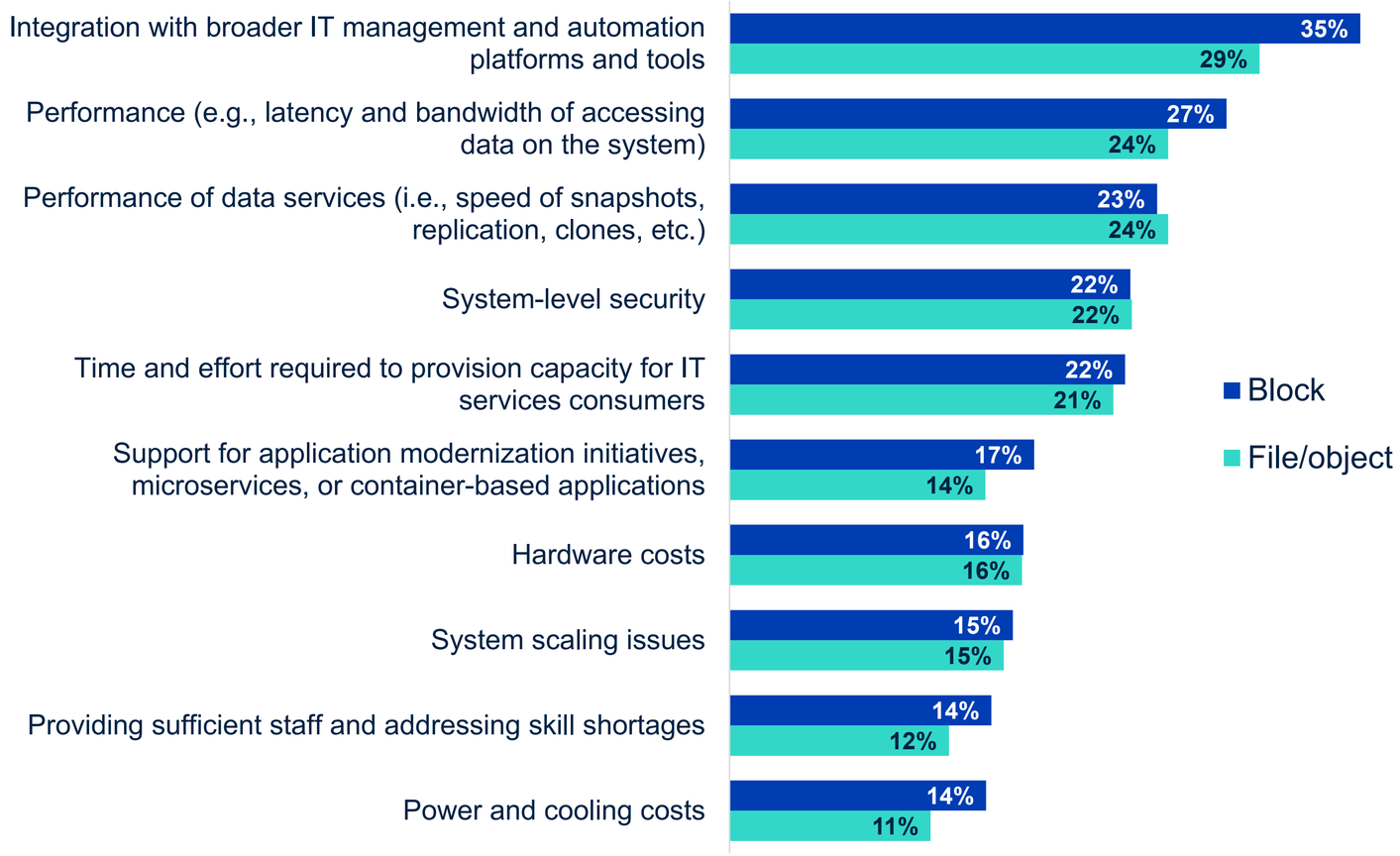
Essential 4: Optimized Data Performance at Scale

Simplified data agility cannot provide the right value if the storage environment cannot deliver the performance necessary for the desired application experience. Effective modernization from a traditional siloed storage systems approach to a data storage platform architecture requires that the platform can still deliver to and exceed performance needs of the application environment at scale.

Which of the following, if any, are your organization's top system-related challenges with on-premises block storage? Which of the following, if any, are your organization's top system-related challenges with on-premises file and object storage?



Hitachi VSP One Capabilities

- All-flash NVMe block storage platform with VSP One Block designed to provide ultra-low latency storage across heterogeneous environments, including open systems and mainframes.
- VSP One Block delivers up to 50 million IOPS with sub-millisecond latency, powered by Intel CPUs and PCIe architecture, according to Hitachi Vantara.
- Support for up to 288 x 60TB NVMe SSDs and 12 controllers for scalable performance.
- A single scalable storage platform supporting multiple storage data types (block, file, object), mainframe, as well as modern AI workloads.
- Up to 50% greater data reduction with FPGA-accelerated compression and adaptive data services, backed by a 4:1 No Questions Asked, Effective Capacity Achieve Guarantee, according to Hitachi Vantara.
- Accelerates mission-critical workloads with support for 64G Fibre Channel, 100G TCP (including NVMe/TCP), and IBM® zHyperLink1.

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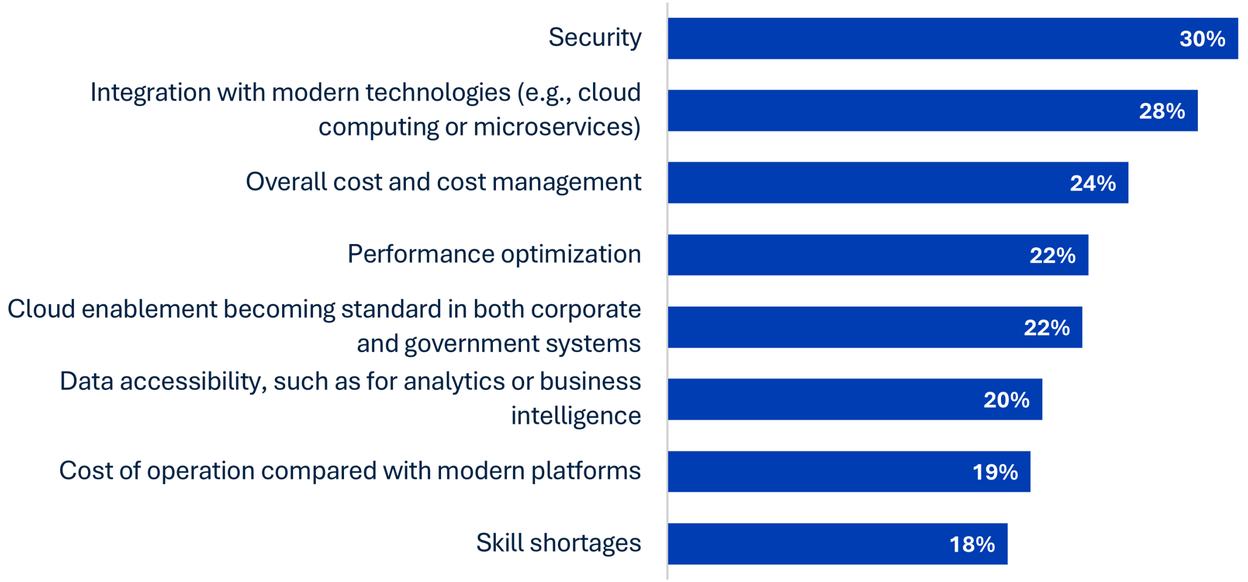
Essential 5: Guaranteed Mission-critical Security, Resiliency, and Availability

Data presents a wealth of business opportunities, but it also is perpetually at risk. Any storage modernization initiative must ensure that the solution can best protect and secure the data, while ensuring high availability and resiliency for the application environment.

- **86%** of organizations said that improving storage-based security is key to strengthening their overall security posture.[1]
- **49%** of data center administrators identified scoping cybersecurity risks and impacts as requiring significantly more effort for AI initiatives.[2]
- **46%** of data center administrators identified scoping data protection and data resilience requirements as requiring significantly more effort for AI initiatives.[2]
- **32%** of organizations said ensuring availability of mission- or business critical data is a top data-related challenge of file and object storage.[1]

Which of the following, if any, are your organization's data-related challenges with on-premises block storage?



Hitachi VSP One Capabilities

- Built on zero-trust architecture, VSP One Block includes secure boot, FIPS 140-3 compliance, and mainframe-grade security.
- End-to-end encryption, dual parity protection, and immutable snapshots.
- Validated ransomware detection accuracy of 99.99%, according to Hitachi Vantara, and the ability to provide petabytes of clean data recovery in seconds.
- 100% data availability guarantee and cyber-resilience guarantee.
- Optimized energy efficiency: Hitachi VSP One Block 28 is able to provide 537.8 IOPS/Watt, according to Hitachi Vantara.

[1]Source: Enterprise Strategy Group (now Omdia) Research Report, *The Critical Role of Storage in Building an Enterprise AI Infrastructure,* September 2025.
[2]Source: Enterprise Strategy Group (now Omdia) Research Report, *IT Transformed: Inside the Convergence of Hybrid Cloud and AI,* July 2025.

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Conclusion

The right data storage architecture is paramount for every business. When designing, architecting, and selecting a data storage solution to address the needs of an organization's data environment, it is essential to ensure the chosen solution both addresses the immediate demands of the specific application environment and simplifies the management of both storage and data across the broader distributed hybrid cloud storage ecosystem. Ultimately, businesses need a simple way to deliver service-level agreements (SLAs) for data, and that likely requires a data storage platform.

These five elements provide a checklist for measuring a storage platform's ability to provide SLAs for data.

1. **Does it simplify data agility?** Can data flow easily between locations, accelerating access to the right data, anywhere?
2. **Does it consolidate and automate storage management?** Do administrators have consistency in management experience, and are they better able to automate operations?
3. **Does it improve data control and management?** Can IT administrators better control how data is managed, governed, secured, and protected beyond just traditional storage operations?
4. **Does it optimize data performance at scale?** Can the storage platform ensure that data performance meets or exceeds application demands at scale?
5. **Will it guarantee mission-critical security, resiliency, and availability?** Can the storage platform reduce the risk of operations by guaranteeing the availability and security of mission-critical applications, including mainframe, along with sovereign, private data?

If a storage solution does not simplify access, simplify management, and accelerate the time to insights across multiple locations for all types of data, it will limit the scale and success of digital operations, such as AI, and, ultimately, limit the success of an organization's business. These simplicity and agility benefits must also be deployed on a foundation of high performance, secure, and resilient data storage infrastructure or else the benefits will be limited. Hitachi Vantara addresses the five essentials of a modern and effective multi-cloud data storage architecture with Virtual Storage Platform One complimented with Virtual Storage Platform 360 management, a consistent data storage platform designed to simplify data access, storage, and protection anywhere for any type of data (block, file, object, or mainframe).

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About Hitachi Vantara

Hitachi Vantara, a wholly owned subsidiary of Hitachi Ltd., delivers the intelligent data platforms, infrastructure systems, and digital expertise that supports more than 80% of the Fortune 100. To learn how Hitachi Vantara turns businesses from data-rich to data-driven through agile digital processes, products, and experiences, visit www.hitachivantara.com.

About Virtual Storage Platform One

Hitachi Vantara's Virtual Storage Platform One is designed to be a next-generation, all-in-one data solution. Built for data flexibility and resiliency, it brings the simplicity and scale organizations need to unleash the possibilities of their data. With a single data plane across block, file, and object workloads that's addressable from one AI-enabled software stack, data clarity is at users' fingertips. No hassle, no silos, and no limits. This innovative self-service, autonomous storage platform brings together the best of enterprise storage, with the agility and scalability of the cloud. Featuring a single data plane and a cloud operating model, Virtual Storage Platform One provides flexibility, agility, and speed—no matter where data ultimately resides.

About Virtual Storage Platform 360

Hitachi Vantara's Virtual Storage Platform (VSP) 360 provides unified data and storage management designed to enable IT teams of all skill levels to streamline administrative tasks, improve infrastructure observability, and gain new actionable insights. VSP 360 offers integrated fleet management, the ability to facilitate IT self-service by simplifying storage resource provisioning and data management operations, data protection operations with policy-based copy data management workflows, AIOps observability, data governance tools, and IaC integration.

Learn More

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