JANUARY 2025

Tackling Complexity in the Hybrid Cloud Era With Hitachi Vantara VSP One

Simon Robinson, Principal Analyst

Abstract: Organizations are increasingly data-driven, but the task of building and maintaining an effective but secure data infrastructure is becoming more complex as data volumes explode, storage islands proliferate, and organizations increasingly deploy hybrid workloads. Thankfully, help is at hand with Hitachi Vantara VSP One, a new approach to modern data infrastructure that is designed to tame this complexity. Recent updates to VSP One, including support for quad-level cell (QLC) flash, cloud-based replication, and object storage, will further extend the platform's appeal to organizations looking to modernize their storage infrastructure.

In an Era of IT Transformation, Complexity Is Growing

As organizations continue to digitally transform to capitalize on the potential of information technology, the power and role of data—and the infrastructure underpinning this data—is becoming paramount. According to research from Informa TechTarget's Enterprise Strategy Group, more than half of organizations (55%) agreed that data is not only an important part of their business, it *is* their business.[1] As the potential of transformative technologies, such as artificial intelligence (AI), becomes increasingly apparent, the criticality of having the right data infrastructure in place to drive an organization's broader success will only increase further.

Yet the task of delivering a data infrastructure optimized for the modern IT environment can be daunting and presents substantial challenges for IT decision-makers. A key issue overall is growing complexity; according to Enterprise Strategy Group, nine in ten organizations have experienced increased complexity in their IT environment over the last two years.[2]

Organizations of all types face particular challenges in the data and storage infrastructure environment. According to Enterprise Strategy Group research, 68% of respondents said that complexity in their organization's IT infrastructure environment slowed IT operations and digital initiatives.[3] Key challenges include:

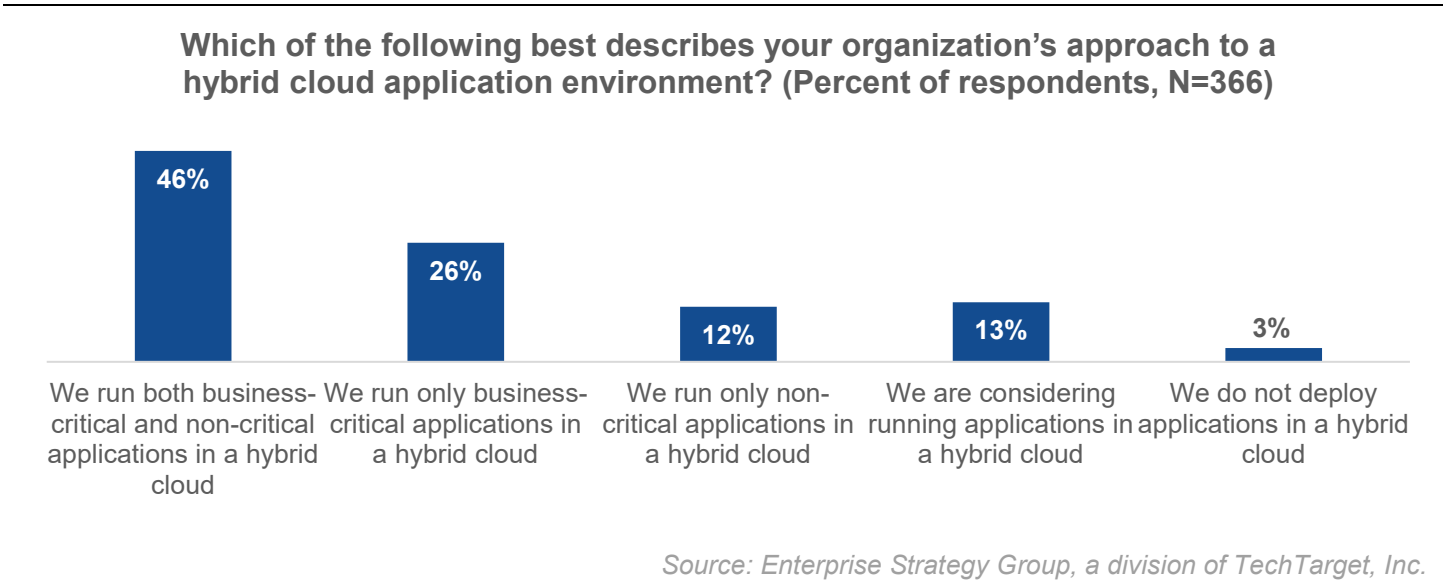
- **Explosive data growth.** Data growth is a constant in IT, but the rate of data growth continues to place significant demands on the underlying infrastructure, on the IT professionals charged with managing it, and on IT budgets that must pay for it. According to a recent Enterprise Strategy Group research study, 54% of respondents expect their primary/active on-premises data to grow by at least 21% annually over the next three years.[4] Not only does this create a capacity challenge, but this data must also be stored securely, in a compliant fashion, and protected from malicious attacks, infrastructure failure, and user error. As unstructured data volumes, in particular, continue to soar—and as the potential of AI encourages organizations to keep hold of

[1] Source: Enterprise Strategy Group Research Report, *Navigating the Cloud and AI Revolution: The State of Enterprise Storage and HCI*, March 2024.
[2] Source: Enterprise Strategy Group Complete Survey Results, *2024 Technology Spending Intentions Survey*, February 2024.
[3] Source: Enterprise Strategy Group Complete Survey Results, *Navigating the Cloud and AI Revolution: The State of Enterprise Storage and HCI*, February 2024.
[4] Ibid.

their data for longer to potentially train an AI model in the future—many are looking at new ways to manage and understand the growing data mountain.

- **A shift to hybrid cloud.** Hybrid cloud environments are no longer an exception; they are now increasingly standard. In a recent Enterprise Strategy Group study, 84% of respondents said they utilize a hybrid cloud environment, with the majority running business-critical applications in this manner (see Figure 1).[5] Running applications in a hybrid fashion has many benefits but also presents challenges and risks, particularly in the data and storage environment. Chief among these is ensuring that data remains protected and secure across the entire environment, but cost and complexity also play a role, so managing data across the hybrid cloud with a simple and consistent approach becomes key.
- **Proliferation of storage silos.** Enterprise storage has evolved along multiple lines, and one impact is that organizations now have multiple silos of storage, each running different protocols and technologies (e.g., block, file, and object storage) and all of which require specific technologies and skills to deploy, maintain, and manage. Over time, the proliferation of managing discrete islands of data becomes not only costly and inefficient but can also be an impediment to business success, especially when those silos might exist in public cloud environments as well as on premises. They can also form a substantial barrier that prevents organizations from building effective data pipelines, which is becoming increasingly important considering the AI opportunity. Indeed, an Enterprise Strategy Group study found that the most commonly cited block storage-related challenge is locating desired data and making it accessible to consumers in a timely fashion.[6]
- **Evolving security challenges.** Organizations continue to grapple with fast-evolving security threats, and their key enterprise data is now in the crosshairs as a key target for malicious actors. Ransomware is now a board-level issue and is ranked as a top 5 threat to the viability of organizations by 89% of respondents to a recent Enterprise Strategy Group study.[7] The reality of ransomware now is that it's not a matter of if an attack will occur, but rather when it will strike. Priority is being given to the steps an organization can take to minimize the impact of any attack and improve time to recovery. In this light, organizations are asking if their data environment—down to the storage layer—has the resiliency required in this new age and what additional steps they can take to adequately protect themselves.

Figure 1. Organizations' Approach to Hybrid Cloud



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

[5] Source: Enterprise Strategy Group Complete Survey Results, *Understanding Workload, Application, and Data Deployment and Migration Decision-making*, July 2024.
[6] Source: Enterprise Strategy Group Complete Survey Results, *Navigating the Cloud and AI Revolution: The State of Enterprise Storage and HCI*, February 2024.
[7] Source: Enterprise Strategy Group Research Report, *Ransomware Preparedness: Lighting the Way to Readiness and Mitigation*, December 2023.

Modernizing Storage for the Hybrid, AI Era

As the overall IT environment becomes more complex and increasingly critical to the business, it's imperative that organizations embrace a modern approach to storage that can simplify the overall storage infrastructure. Such an approach should be capable of enabling the organization to maximize the opportunities afforded by technology innovation, while at the same time protecting themselves from the attendant risks.

Technology choices will play a key role in helping organizations realize this, but they are also looking to simplify the consumption experience for the modern data infrastructure. Many are looking to apply the pay-as-you-go simplicity and cost transparency of the public cloud model to their own on-premises infrastructure. Indeed, a recent Enterprise Strategy Group survey found that fewer than one in five respondents wanted to procure, manage, and maintain hardware themselves, with 60% preferring flexible consumption models, managed either themselves or via a third party.[8] This approach often resonates in the storage domain since it avoids having to commit large amounts of capital spending to buying capacity in advance; this is especially relevant with emerging AI applications, as precise storage performance and capacity requirements can be uncertain.

One further consideration for many organizations is around the environmental footprint and energy use of their storage infrastructure. As organizations continue to embrace energy-hungry technologies such as AI, the imperative to drive maximum efficiencies from elsewhere in the infrastructure grows. Enterprise Strategy Group has found that this is a major issue for IT decision-makers: 91% said environmental sustainability was a very or extremely important issue when selecting AI infrastructure.[9] Not all storage technologies are created equal in this regard, and the potential for energy savings here could be substantial.

In summary, a modern storage platform for the hybrid cloud and AI era should:

- Be simple to deploy and manage, minimizing complexity.
- Minimize or eliminate silos by unifying support across block, file, and object access protocols.
- Be performant, resilient, and highly secure.
- Provide comprehensive support for hybrid cloud environments.
- Support a range of consumption models, including adaptable, usage-based/PAYG options.
- Reduce power consumption and make a positive contribution to environmental sustainability.

A Modern, Simple Approach to Hybrid Cloud Data Platforms With Hitachi Vantara VSP One

Hitachi Vantara is an established provider of enterprise-grade storage and data management solutions and for several decades has been trusted by the world's largest organizations to underpin their most critical applications. Recognizing that customer requirements are fast-evolving, the company is investing significantly in new capabilities that enable organizations to build modern data infrastructures for the hybrid cloud and AI era. Customers are now able to benefit from these innovations via Hitachi Vantara's new Virtual Storage Platform One (VSP One).

Key to the architectural design of VSP One is a software-defined approach that contrasts with traditional storage infrastructure. It aims to reduce and even eliminate data silos and the other barriers that prevent organizations from managing their data estate across their entire environment—in the core data center, at the edge, and in the cloud—effectively. Accordingly, VSP One vastly simplifies the storage infrastructure by delivering a unified experience,

[8] Source: Enterprise Strategy Group Complete Survey Results, *Distributed Cloud Series: The State of Infrastructure Modernization Across the Distributed Cloud*, August 2023. https://research.esg-global.com/chapters/515201656/ResearchData

[9] Source: Enterprise Strategy Group Research Report, *Navigating the Cloud and AI Revolution: The State of Enterprise Storage and HCI*, March 2024.

enabling customers to store, manage, and protect their data across the modern hybrid cloud environment in a simple and secure manner. Key architectural tenets of VSP One include:

- **One data fabric** to power applications and data across a customer's infrastructure with a unified fabric across block, file, and object.
- **One control plane** to speed time to insight by seamlessly and consistently managing a customer's data infrastructure with a simple solution.
- **One data plane,** enabling data to flow easily across applications, both on premises and in the public cloud, removing the complexity of silos.

Based on this underlying, enabling architecture, Hitachi Vantara is delivering a range of product innovations to help customers on their data infrastructure modernization journey. Recent additions to Hitachi Vantara's product portfolio include:

- **QLC flash support.** A new VSP One Block all-flash array utilizing lower-cost, high-capacity QLC flash. This enables customers to deploy high-density, low-power storage to support key analytics and AI workloads at a lower cost and without sacrificing performance. By offering dual-ported QLC media, Hitachi Vantara engineering also delivers high levels of uptime and reliability, with the ability to deliver data access even if hardware fails. The lower power consumption also enables organizations to reduce their energy use, leading to lower carbon footprints.
- **Public cloud integration.** The new VSP One Block appliance also features replication to the public cloud, enabling customers to seamlessly replicate data to the public cloud to simplify test and development projects. This is made possible by VSP One SDS, a scalable, asynchronous solution that enables seamless replication from on premises to the Amazon Web Services (AWS) cloud, using snapshots to deliver real-time data for application development and testing in non-production environments. With support for multiple availability zones, this bolsters operational resilience while simplifying management, ensuring continuous protection and uninterrupted performance.
- **Object storage support.** With the new VSP One Object storage appliance, organizations can easily achieve the scale to accommodate vast amounts of unstructured data that fuel numerous AI use cases and workloads. Objects are stored with rich metadata, enabling easy data categorization, searching, and data lifecycle management, helping organizations quickly find and retrieve the data they need. Durable and reliable, the VSP One Object storage appliance offers multi-node configurations to ensure data reliability and integrity—and at the same time minimizes their power usage and CO_2 emissions—in industries such as media, healthcare, and finance.

Recognizing that organizations are increasingly looking for ways to lower the cost of overall IT management, Hitachi Vantara also offers EverFlex Storage-as-a-Service (StaaS), an approach to storage purchasing that doesn't require organizations to "guesstimate" their capacity requirements. Instead, EverFlex offers a pay-as-you-go approach, enabling organizations to control their spending and add capacity when, and only when, it is needed. It's available with flexible contract terms spanning one to five years and a full range of capacities, starting at just 50TB and scaling into multiple petabytes. EverFlex is an "always-on" service with service-level guarantees across fully managed block, file, and object storage by Hitachi Vantara, either delivered on premises or in a third-party data center.

Conclusion

With exploding data volumes and applications running in multiple locations, it's never been more important for organizations to get control of their data infrastructure to tame complexity, save costs, and minimize risks. To do this, they need to deploy modern data storage platforms that are simple but performant, flexible but secure, scalable yet sustainable, and consumable in a manner that suits each individual organization. In this respect, Hitachi Vantara has designed an architecture in VSP One that is optimized for the hybrid cloud and AI era. Organizations looking for a modern approach to storage infrastructure should have VSP One on their shortlist.

About Enterprise Strategy Group
TechTarget's Enterprise Strategy Group provides focused and actionable market intelligence, demand-side research, analyst advisory services, GTM strategy guidance, solution validations, and custom content supporting enterprise technology buying and selling.

contact@esg-global.com
www.esg-global.com