ISSUE BRIEF

Modern Data Storage: The Backbone of Government Innovation

The data deluge is here – and it is rapidly accelerating. Fueled by increasing adoption of artificial intelligence and machine learning, cloud-based services, and analytics, as well as increasing use of Internet of Things and mobile devices, data volume is expected to grow worldwide at a compound annual rate of 21.2 percent over the next three years, according to IDC.

The data surge has created vast opportunities for technological innovation and ushered in profound changes to workflows and customer engagement for all types of organizations. Federal agencies are focused on leveraging the data deluge to meet mission objectives. These include enhancing citizen services and the employee experience, speeding and improving decision-making from headquarters to the field, and bolstering cybersecurity.

As missions become increasingly data driven, Federal storage administrators and data center architects are taking on additional roles and responsibilities. Storage administrators are managing data backup, protection, and recovery, and they may have server and application responsibilities as well. Data center architects are determining how on-premises storage fits into agency multi-cloud strategies, and they are working with developers to ensure that data center infrastructure meets their changing requirements. Both are managing increasingly complex systems that may still rely on legacy technology.

Storage Presents Opportunities and Challenges

Amid this dynamic and challenging technology landscape, storage administrators and data center architects recognize that modern data storage is the backbone of agency innovation. Vast data stores are training grounds for AI and ML applications that improve citizen service, employee efficiency, and decision-making. Data stores and analytics tools enable cyber defenders to root out threats and improve cyber resiliency. They help achieve military decision advantage over adversaries.

The data surge also poses significant challenges, some of which are unique to government missions. Agencies must determine how to gain value from burgeoning data stores – often across siloed environments – while protecting trade and national security secrets as well as the personal information of citizens. In many cases, they also grapple with legacy storage systems that cannot scale to meet the demands of data-intensive applications and are no longer supported by vendors with security patches and other updates. These limitations introduce vulnerabilities and real impacts on government operations, including citizen service downtime and delayed decision-making.

Data Storage Is Mission Critical

Storage administrators and data center architects understand that modern data storage is mission critical. Without modern, scalable, secure storage, Federal agencies will struggle to eliminate data silos, keep pace with exponential data growth, secure sensitive data, and leverage emerging, data-intensive technologies to innovate and make faster and smarter decisions.

Data storage technology advancements are helping agencies meet new demands. High-performance capabilities such as data compression and deduplication are reducing storage footprints, and metadata tagging is helping agencies better track data assets. Higher-capacity disk drives and more carbon-efficient hardware designs are also helping agencies do more with the same or fewer resources while improving energy efficiencies.

However, the increasing complexity of agency IT environments, coupled with the continuing data surge, means agencies need to take additional steps to ensure they can store, manage, and leverage data effectively. Key factors to assess are performance and scalability, reliability, agility, and security.

In 2023, Hitachi Vantara was recognized for the 15th time in 13 years as a Gartner Magic Quadrant leader, based on its completeness of vision and ability to execute.

Hitachi Vantara Federal Solutions Stand Out

Hitachi Vantara Federal data storage can meet all of these storage requirements. Chief among the Hitachi Vantara Federal offerings is the Hitachi Virtual Storage Platform One (VSP One), a portfolio of hybrid, all-flash, and NVMe storage that enables agencies to increase agility, drive innovation, and reduce costs. It's designed to provide a modern foundation for digital transformation and data center modernization.

With VSP One, Federal agencies gain a single data plane and common management control point for multiple storage systems from any vendor, enhancing existing infrastructure and data management capabilities spanning the data center to the cloud.

VSP One offers agencies:

Performance and scalability.
 As workloads increase and data grows, storage must deliver scalable performance, capacity, and efficiency. Hitachi Vantara's Storage Virtualization Operating System RF provides adaptive data reduction to maximize every gigabyte of storage with greatly improved scalability and performance. It can virtualize the capacity stored in Hitachi and third-party storage arrays to extend the life of legacy technology.

In addition, Hitachi Vantara's NVMe flash solutions deliver super-charged, ultra-low latency performance that agencies of all sizes need to accelerate and consolidate their business applications. Hitachi Vantara's all-flash and hybrid-flash solutions extract maximum performance and capacity value from applications. They support traditional data center workloads, cloud initiatives, containerized applications, and even utility consumption models that reduce upfront costs.

Reliability.
VSP One's 100 percent data availability guarantee is truly unique. It's an assurance that the system won't go down. As a result, 85 percent of Fortune 100 financial services companies trust Hitachi storage systems with their mission-critical data.

In addition, every Hitachi storage system is engineered to have an active/active architecture with no single points of failure and multiple levels of redundancy. Built-in, proactive alerts ensure that issues are resolved before they become outages.

Agility.
Hitachi Vantara's vibrant storage virtualization capability reduces the time required to migrate data from one generation of technology to another from several years to several months. Integrated control of storage and compute infrastructure enables agencies to control and optimize applications, workloads, and data across hybrid clouds.

In addition, Hitachi Ops Center, a unified management suite of applications, uses AI-enabled analytics and automation to improve operational efficiency and speed resource delivery. With Hitachi Ops Center, manual administrative tasks are reduced by up to 70 percent, and IT teams can focus on higher-level issues.

Security.
Hardened system access and automated provisioning reduce risk, and FIPS 140-2 encryption safeguards data and ensures delivery of critical, always-on apps. Enterprise-class immutable data storage and protection features protect all Hitachi virtualized storage assets from ransomware attacks.

With Hitachi's VSP One systems, agencies of any size can enjoy the same peace of mind and application availability.

Hitachi Virtual Storage Platform One Block offers:

- Non-disruptive workload mobility across the cluster starts as a single, compact, appliance with up to 1.8PBe in 2U and scales up and out to 65 systems and 130 controllers.
- 100% Data Availability Guarantee providing continuous data access for databases, applications, and users.
- The industry's only 4:1 No Questions Asked effective capacity warranty and Adaptive Data Reduction (ADR).
- A 33% increase in port density with up to 32 host ports and a 200% increase in native NVMe

Hitachi Virtual Storage Platform One File offers:

- An easy and modern way to manage, monitor, and configure file systems and data across the organization.
- Fast distributed system for high-performance computing (HPC), AI, ML, and analytics workloads.
- The latest security features to defend your data and users against breaches, ransomware, and malicious actors.
- Near-cloud deployment for ultra-low latency, secure connection from enterprise to public cloud.

Hitachi Object Storage offers:

- The ability to seamlessly accelerate new and traditional unstructured data workloads on-prem or in the cloud
- No single point of failure, highly resilient – variety of data protection levels, content validation, automatic object repair, and object versioning.
- End-to-end governance regulatory compliance, all in one place, one set of policies, across hybrid, multi-cloud, and public cloud environments
- Self-protecting backup free storage for built-in robust data protection, achieving data durability up to 15 nines and 10 nines of accessibility.

Hitachi Vantara has been ranked in Gartner's Critical Capabilities for Primary Storage report for eight consecutive years, and ranked in the top three for online transaction processing, virtualization, application consolidation, and Virtual Desktop Infrastructure

Hitachi EverFlex, a pay-per-use pricing model and service, provides additional flexibility to Federal agencies. Agencies can choose from pre-engineered, pre-designed, and fully integrated solutions, or a custom design to meet specific requirements. Hitachi EverFlex helps agencies align costs with usage, lower acquisition and operational costs, and improve service delivery.

VSP systems enable Federal agencies to cost effectively meet current data storage requirements and scale as application data needs and service levels evolve. With time-tested, proven performance and scalability, reliability, agility, and security, Hitachi Vantara Federal delivers infrastructure solutions that help agencies maximize their data center advantage.

Hitachi Vantara Federal