

ISSUE BRIEF

How to Transform Your Agency Storage Strategy for AI and Analytics Workloads

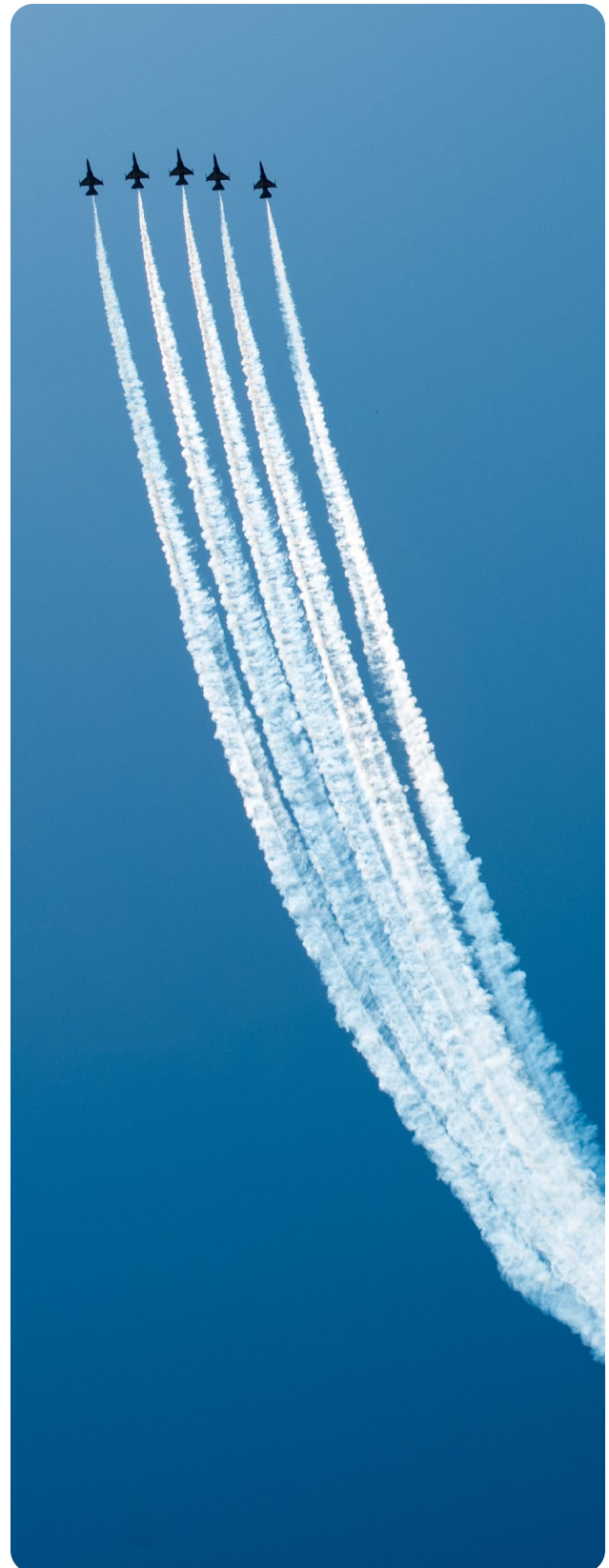
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Introduction

AI has the potential to change how governments operate on a fundamental level, but this technology-enabled transformation requires agencies to retool their storage strategies. Predictive analytics, task automation and edge AI all require massive data storage, large-scale data processing and rapid data retrieval. Scaling up for AI isn't easy. Efforts to rapidly scale data management are often throttled by data complexity and the security vulnerabilities associated with highly sensitive and classified information. So then how can federal agencies implement infrastructure to support AI transformation?

Hitachi Vantara Federal is uniquely positioned to help federal agencies meet the complex storage and data management demands of AI. With a suite of storage solutions that are built to handle the scale, performance and governance requirements of AI workloads, Hitachi Vantara Federal helps agencies harness the full potential of AI.



Outdated Technology Limits AI Potential

Agencies are struggling to keep up with performance and capacity demands because their infrastructure wasn't designed to support the data requirements of AI and machine learning.

Here are some of the AI use cases driving the need for technology change.

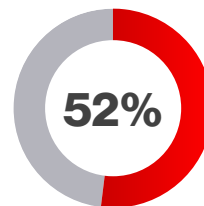
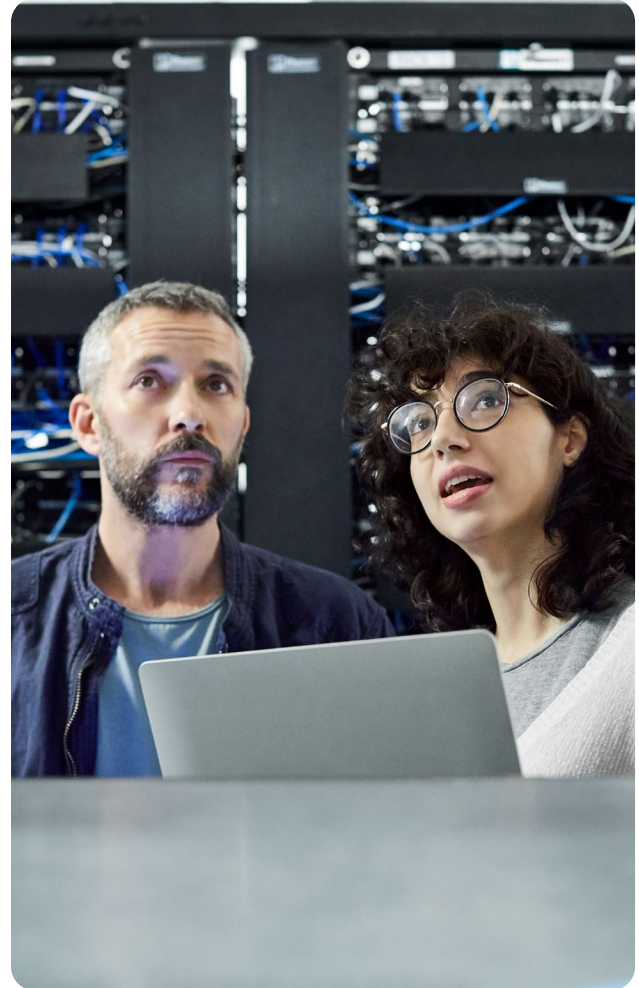
- **Predictive Analytics in Government and Enterprise**
AI workloads require fast data access and low-latency storage systems to process information in real time or near real time. Traditional storage solutions may struggle to meet these performance demands.
- **Autonomous Systems and Machine Learning**
AI models, particularly machine learning and deep learning algorithms, require vast amounts of data for training and real-time processing. This surge in data has increased the need for scalable and efficient storage solutions that can handle both structured and unstructured datasets.

Examples for Federal Agencies

Autonomous systems: Virtual assistants to handle citizen queries, automated document processing and analysis.

Machine learning model data: Satellite imagery, IoT sensor feeds, public health records, cybersecurity threat data, citizen service inquiries.

- **Video and Image Analytics**
The need to leverage large volumes of unstructured data, like images, videos and sensor information, has increased the need for scalable and efficient storage solutions that can handle both structured and unstructured datasets.
- **Data-Driven Cybersecurity**
AI applications need to meet stringent security and privacy requirements throughout the data lifecycle, creating a need for storage solutions that ensure data compliance, governance and security with features like encryption, access controls and audit trails.
- **Edge AI and Distributed Data Storage**
Edge environments often require specialized, distributed storage architectures to handle real-time AI workloads. As more AI processing moves to the Edge there is a greater need for localized storage solutions that can quickly capture and process data.



52% of Federal IT leaders say their organization's current data infrastructure is not agile enough to adapt to evolving technologies.



6 out of 10 IT leaders feel their infrastructure won't be able to scale to meet their data needs over the next two years.

Transform Storage to Support Modern AI and Analytics Workloads

To build a storage platform that can handle AI and machine learning workloads, start with infrastructure that ensures the efficient collection, storage and management of data. Then, protect this data with support for rigorous data governance and security measures, crucial for maintaining data integrity and compliance with regulatory standards.



Key Requirements to Transform Storage for AI

1. High Performance and Low Latency:

Storage systems with high latency or slow read/write speeds can create bottlenecks that slow down AI-driven insights. Process and analyze large datasets rapidly with a high-performance storage system.

2. Scalability for Big Data:

Modern AI projects can start small and quickly expand to datasets that traditional storage systems were not designed to handle. Support data growth with storage solutions that seamlessly scale without disrupting ongoing operations.

3. Data Integrity and Reliability:

AI requires data to be accessible for training models or conducting historical analysis. Retain this sensitive data over long periods of time with reliable storage that ensures data security and compliance.

4. Data Mobility and Access Across Environments:

AI workloads span across cloud, on-premises and edge environments. Specialized, distributed storage architectures are needed to quickly capture and process this diverse data, including localized storage solutions to support the edge.

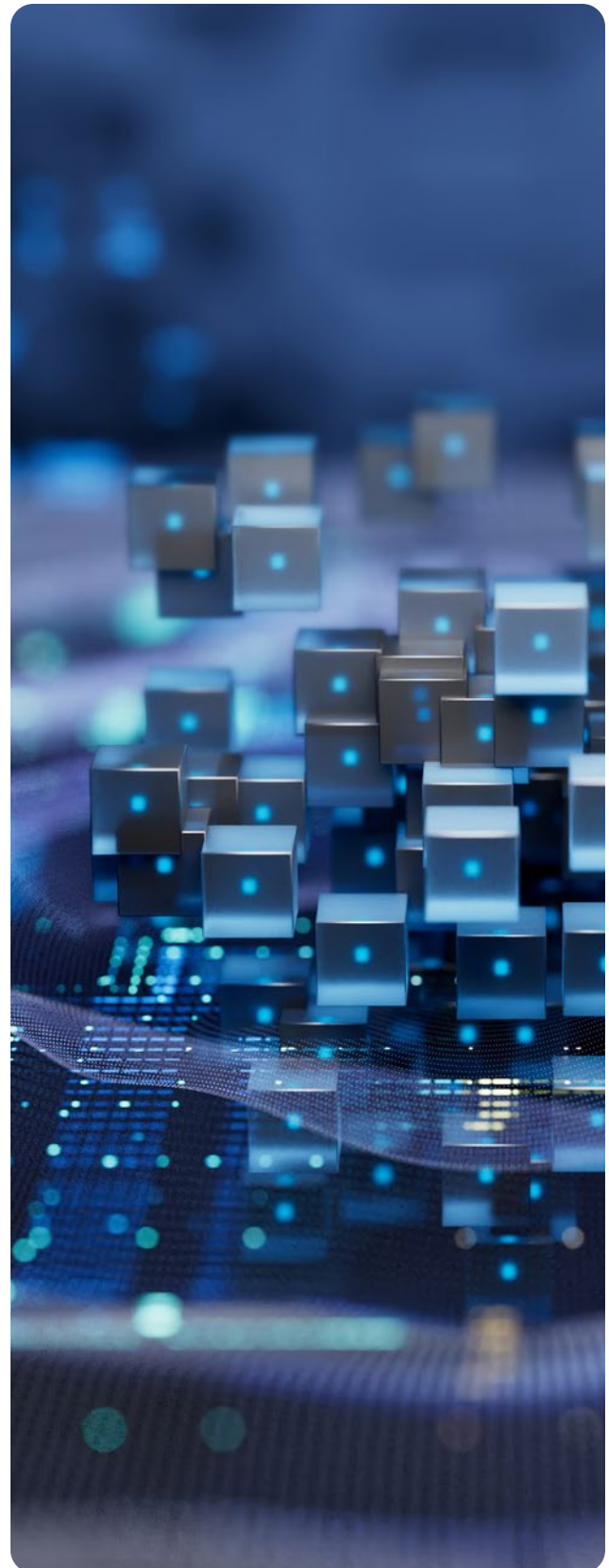
5. Support for Modern Workloads (AI, ML, Analytics):

AI thrives on diverse data types, including unstructured data like videos, images, sensor information and natural language processing datasets. Storage solutions need to support both structured and unstructured datasets.

Architectures to Support AI and Analytics Workloads

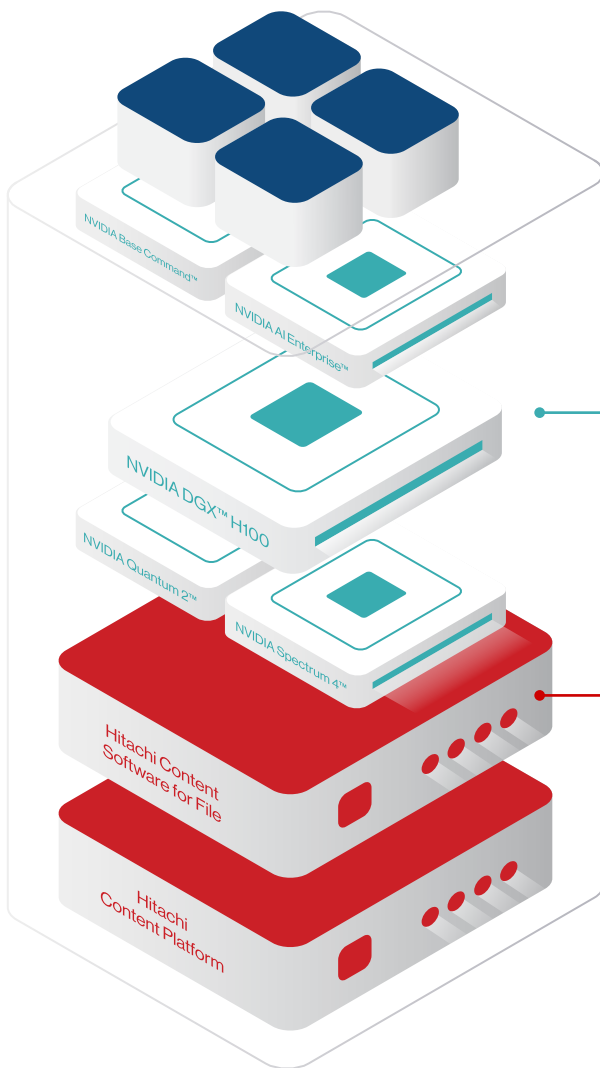
How can agencies implement architecture built for AI? Here's a technology checklist.

- ✓ **Distributed Architectures**
Manage data at the Edge and in remote locations with distributed storage architectures.
- ✓ **Hyperconverged Infrastructure (HCI)**
Run AI workloads efficiently by combining storage, compute and networking in a single platform.
- ✓ **Object Storage for Unstructured Data**
Store massive amounts of unstructured data generated by AI and analytics workloads.
- ✓ **Data Tiering and Intelligent Data Placement**
Optimize costs and performance with tiered storage that places the most critical data on high-performance storage.



How to Transform Storage for AI With Hitachi Vantara Federal

Hitachi Vantara Federal offers a high-performance digital infrastructure to build and manage resilient data pipelines that fuel AI innovation and advanced analytics.



AI Portfolio

Hitachi iQ

AI-ready infrastructure that combines industry leading offerings from NVIDIA with Hitachi Vantara's high-performance parallel filesystem and object storage platforms.

Accelerates GPU workloads by over 20x.



Data Storage Platform for AI

Virtual Storage Platform (VSP) One

Scalability and high performance for AI workloads.

Industry-first 100% Data Availability Guarantee.

Hitachi Content Software for File (HCSF)

Blazing-fast distributed file system for high-performance computing, AI, ML, and analytics workloads.

Hitachi Content Platform (HCP)

Object storage solution for massive unstructured data sets used in AI applications.



Advanced Data Management and Analytics Integration

Hitachi Ops Center for AI-driven insights

AI-driven storage management tools that provide insights into storage utilization, performance optimization, and predictive maintenance.



Can Your Agency Wield the Power of AI?

AI is one of the biggest technology opportunities in a generation with the power to transform how governments operate, from automation of everyday tasks to transformative insights that improve the wellbeing of citizens. As AI development rapidly accelerates, it's easy for storage to get left behind with technical debt that doesn't support AI algorithms and processing.

Hitachi Vantara Federal makes it easy to prepare for AI innovation with the Hitachi iQ AI Portfolio, data storage platforms and advanced analytics management. This technology stack is fully integrated to support AI with massive data management and processing that spans across storage locations and data formats.

If you're ready for this once-in-a-generation opportunity, let's discuss your AI technology strategy today.

ABOUT HITACHI VANTARA FEDERAL

Hitachi Vantara Federal is the trusted leader in mission-centric data solutions for the Federal government. We're a collaborative, full-service company with longstanding OT/IT roots. We empower data-driven insight with a deep bench of integrated partners — advancing Federal customer missions regardless of their data maturity levels. Hitachi Vantara Federal is a FOCI-mitigated subsidiary of Hitachi Vantara. Visit us at hitachivantarafederal.com.

To learn more, visit:

hitachivantarafederal.com

Hitachi Vantara Federal



Corporate Headquarters
11950 Democracy Drive, Suite 200
Reston, VA 20190 USA
hitachivantarafederal.com

Contact Information
info@hitachivantarafederal.com
hitachivantarafederal.com/contact-us/

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