

*Brochure*

# Hitachi Storage Virtualization Operating System (SVOS)

*Superior Resilience, Data Management and Intelligent Performance  
for the Hitachi Virtual Storage Platform One (VSP One) Family*

## Hitachi Vantara

Delivering on today's business demands for mission-critical business applications, AI workloads, real-time customer engagement and increased operational efficiency requires more than fast data storage. What is needed is an advanced approach to data management services that combines speed, simplicity and adaptability with always-on availability and hybrid cloud integration to control overall data storage costs.



# Simplify and Virtualize Storage Operations for Superior ROI

Hitachi Storage Virtualization Operating System (SVOS) powers our Hitachi Virtual Storage Platform One family, enabling organizations to engage customers faster, deliver common data services, simplify storage management and easily build hybrid cloud data solutions to enhance return on investment (ROI). IT leaders can also deliver best-in-class data security, cyber resiliency and business continuity.

Adaptive inline data reduction increases storage efficiency while balancing data efficiency and application performance. Industry-leading storage virtualization enables SVOS to use third-party, all-flash and hybrid arrays as storage capacity, consolidating data resources for a higher ROI and providing a high-speed, virtualized front end to slower, less predictable storage arrays.

## Low-Latency Data Access and Advanced Flash Availability

SVOS is continually enhanced to deliver scalable, sub-millisecond storage performance. VSP One data platforms built on SVOS can deliver up to 50 million IOPS. These systems are recognized worldwide for superior flash performance, adding to a legendary storage heritage of availability, performance and resiliency. SVOS improves low latency throughput even as data scales to multiple petabytes and accelerates the transition to modern, all-flash data storage.

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*The architecture proposed by Hitachi Vantara and deployed by BRB has set the benchmark in the Brazilian IT market due to its reliability and the peace of mind it provides in terms of availability and performance for the computing environment.”*

**Braulio Lourenço da Silva Junior**  
Infrastructure and Storage Platform Manager  
Banco De Brasília (BRB)

[Read the Case Study →](#)

# Leverage One Data Platform To Boost Data Efficiency and Agility

## Improve Flash Performance

SVOS optimizes NVMe flash storage to deliver maximized performance for the VSP One data platform, reducing application latency to as low as 70 microseconds. Quality of service (QoS) controls ensure application workloads have predictable read/write performance for better user experiences.

*Increase IOPS with the Hitachi enhanced flash-aware I/O stack and patented express I/O algorithms. Lower storage latency by streamlining write operations with the Hitachi direct command transfer (DCT).*

## Agile and Adaptive Inline Data Reduction

SVOS adaptive data reduction (ADR) technologies, including deduplication and compression, increase effective data capacity by up to 4:1 No Questions Asked. ADR streamlines data reduction and optimizes storage efficiency with its always-on approach. This eliminates the need for manual user configuration and reduces energy consumption.

*Higher effective data capacity helps you to maximize your flash storage investment.*

## Accelerate Cloud and DevOps Adoption

SVOS supports CSI (container storage interface) compliant orchestrators like Kubernetes® and Docker® Swarm®, as well as OpenStack® and Red Hat® OpenShift®, and it integrates tightly with Microsoft® Hyper-V® and VMware® platforms. With its plug-in connectivity to containers and orchestration tools, SVOS enables DevOps environments and allows you to provision persistent storage and create space-efficient clones. In addition, Hitachi Storage Plug-In for Containers is available for free download as a CSI-compliant driver, providing persistent storage for containerized applications.

*Consolidate more DevOps data workloads and quickly build cloud solutions for greater agility.*

## Secure Ransomware Protection and Business Continuity for Superior Uptime

Utilizing a shared set of data protection and security practices for secure locking of critical data volumes contributes to ongoing cyber resiliency efforts. The VSP One global-active device feature enables active-active storage clusters for

high-availability, mission-critical deployments. Complementary data replication solutions provide for rapid data recovery with synchronous and asynchronous options, providing zero recovery point objective (RPO) and near-zero recovery time objective (RTO) capabilities across two locations. A third location can be added with Hitachi Universal Replicator software. RAS (Reliability, Availability and Serviceability) functions help to monitor and ensure the health of Hitachi VSP One systems and virtualized attached storage.

*Speed operational recovery with immutable storage volumes and secure, safe-efficient snapshots.*

## Common SVOS Data Services

Hitachi SVOS combined with the VSP One data platform provides common data services and enables the independent scaling of the VSP One data and control planes. SVOS integrates high-availability, capacity efficiencies, security, replication and data protection capabilities to strengthen the VSP One adaptability and resiliency. Extend these common data services and simplify management operations through storage virtualization to extend the life of aged storage array investments.

*Deliver advanced data services, maximize storage performance, optimize resource efficiency and enable proven resiliency for VSP One data platforms.*

## Elevate the Data Platform Experience

VSP 360 enables unified management operations with integrated systems management to easily configure and integrate SVOS data services for the VSP One data platform family. Gain new AIOps visibility across your data estate to better control, observe and govern your data throughout its lifecycle, improve management efficiencies and lower costs. Extend VSP administrative functions using standards-based APIs to quickly integrate with existing IT management tools. Automate SVOS data services using best practices to better manage production workloads as their requirements change over time.

*VSP 360 accelerates data-driven insights to optimize SVOS data services across demanding application workloads to achieve new levels of availability, performance and resiliency for VSP One data platforms at any scale.*

## SVOS Features

- Enterprise class: Designed for the optimized data services needs of mission-critical business applications.
- Optimized for NVMe flash.
- Data platform integration: Works with all systems in the VSP One family.
- Cyber-Resilient: Utilize immutable storage volumes and snapshots for secure ransomware protection.
- DevOps friendly: Supports containers, OpenStack, OpenShift, Kubernetes and Red Hat Ansible® orchestration.
- Cloud-enabled agility: Connects to public, private and hybrid clouds.
- Industry-leading, third-party storage array virtualization enables common data services while simplifying data management.

# Choose the Right Solution

## Integrated Software Solutions

SVOS integrates with the respective VSP One value-added software features to deliver superior availability, resiliency and operational efficiency. You gain data-at-rest encryption, active-active clustering, operational insights via machine learning, policy-defined data protection, ransomware protection, and local and remote replication for disaster recovery and business continuity.

*Quickly allocate data resources for maximum efficiency using Hitachi software: SVOS, VSP 360 unified management and VSP One value-added software features.*

## Services and Training

Hitachi Vantara Global Services offers market-leading storage consultants for a comprehensive portfolio of services and managed services to help you optimize and align storage to business requirements. Our assessment, planning, design, installation, management and support services maximize the value of SVOS and the VSP One family.

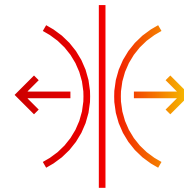


# Choose Hitachi for Enterprise-Level Storage Resiliency and Performance

Hitachi Vantara has leveraged our industry-leading experience to enhance SVOS. Powering the Hitachi Virtual Storage Platform One family, SVOS supports best-in-class business continuity and application availability with a 100% Data Availability Guarantee. Rely on SVOS to deliver common data services, optimize flash performance, simplify storage operations and improve ROI.



**100% data availability.  
Guaranteed.**



**Trustworthy quality of  
service and resiliency.**



**Balanced data  
efficiency and storage  
performance.**

Discover what Hitachi Storage Virtualization Operating System solutions can do to simplify your data storage operations and lower costs.

**Learn more →**

## About Hitachi Vantara

Hitachi Vantara is transforming the way data fuels innovation. A wholly owned subsidiary of Hitachi, Ltd., we're the data foundation the world's leading innovators rely on. Through data storage, infrastructure systems, cloud management and digital expertise, we build the foundation for sustainable business growth.

## Hitachi Vantara

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