Solution Profile

Drive Your AI Innovation With Hitachi Hybrid Cloud Platform and Red Hat OpenShift

Powered by Hitachi Integrated Systems and VSP One Storage

We're redefining enterprise agility through hybrid cloud and AI leadership — helping enterprises evolve and stay competitive.

Hitachi Integrated Systems and Hitachi Virtual Storage Platform One (VSP One) integrated with Red Hat® OpenShift® delivers an enterprise-grade platform built for the future. It supports data-driven innovation with AI-ready infrastructure, diversified data strategy, unified virtualized and container orchestration, streamlined IT management and cost-optimized scalability — empowering enterprises to evolve IT and drive exceptional business outcomes.

Your Competitive Edge: Why Hybrid Cloud and AI Matter

AI-Driven Insights at Scale

Enterprises need platforms capable of harnessing data for AI-powered decision-making. With integrated GPUs and AI accelerators, Hitachi Integrated Systems provide unparalleled performance for training, refining and serving models, real-time inference and advanced analytics.

Realize the full potential of your analytics and generative AI applications with Hitachi Vantara's groundbreaking solution. Feature-rich Hitachi Storage Plug-in for Containers includes the Hitachi block CSI operator and is available from the Red Hat catalog and OperatorHub with provisioning, clone and snapshot capabilities for up to 64,000 persistent volumes.

Seamless Hybrid Cloud Operations

Businesses must seamlessly deploy applications across private, public and edge clouds, while maintaining unified management. Red Hat OpenShift on Hitachi Integrated Systems ensures consistent application performance and operational resilience. By delivering a flexible and adaptable storage infrastructure, Hitachi empowers your organization with cloud-like agility to host any workload on premises. You can seamlessly scale deployments from edge to core to cloud, and centrally orchestrate workloads and infrastructure from a single, reliable source of truth. Hitachi

services for containers and virtual machines include block CSI provisioning, replication operator for disaster recovery and migration of persistent volumes, monitoring, policy-based storage, and Red Hat Ansible® Automation Platform integration with Hitachi storage systems.

Benefits

Hybrid Cloud Flexibility: For deployment across data centers, edge and public clouds.

AI-Optimized Compute: GPU-accelerated nodes for advanced AI/ML workloads.

Enterprise Data Services: Persistent storage with integrated data protection and disaster recovery.

Unified Management: Centralized control across multicloud environments.

Built-in Automation: Full life-cycle automation for applications, containers and AI workloads.

Future-Ready Scalability: On-demand scalability from edge to cloud.

Cost-Optimized Reliable IT Transformation

By consolidating workloads into a unified, AI-ready platform, your enterprise can reduce IT complexity, optimize capital expenditures, and achieve faster returns on investment. By integrating Kubernetes® and OpenShift features, Hitachi ensures exceptional workload reliability. As a Red Hat customer, you can achieve a consistent and efficient experience whether you are using virtual machines or containerized applications.

Solution Highlights: AI-Driven Hybrid Cloud

Red Hat OpenShift: Powering Cloud-Native and AI Applications

Unified Workload Management: Streamline operations with a single platform for managing diverse workloads.

Kubernetes Automation: Simplify the deployment, scaling and management of AI-driven applications across multiple cloud environments.

Integrated CI/CD Pipelines: Enhance continuous innovation with GitOps workflows, ensuring seamless integration and delivery.

Enterprise-Grade Security: Maintain consistent security policies from edge to cloud, safeguarding your data and applications.

Unlimited Possibility: Benefit from features like OpenShift Virtualization, Zero Touch Provisioning (ZTP), OpenShift AI, OpenShift Pipelines, OpenShift GitOps and Red Hat Advanced Cluster Management.

Hitachi Integrated Systems: Scalable AI-Ready Infrastructure

Seamless Integration: Achieve smooth integration of Red Hat OpenShift and VSP One for a cohesive hybrid cloud experience.

Accelerated AI Workloads: Utilize GPUs and AI-specific hardware to handle intensive AI models, ensuring high performance and efficiency.

Global Data Mobility: Enable cross-cloud data replication and automated backup with Hitachi Virtual Storage Platform One Object (VSP One Object) suites, ensuring data availability and resilience.

Customizable Deployments: Adapt deployments to suit on-premises, edge or cloud environments with Hitachi Virtual Storage Platform 360 and OpenShift Update Service.

Hitachi Virtual Storage Platform One: Scalable AI-Ready Infrastructure

Unified Data Management: Consolidate block, file and object storage into a single platform, simplifying data integration and analysis.

High Performance and Scalability: VSP One supports demanding AI workloads and scales efficiently to meet growing data needs.

Advanced Security and Resilience: Ensure secure and reliable data access with features like FIPS-certified encryption and robust data protection.
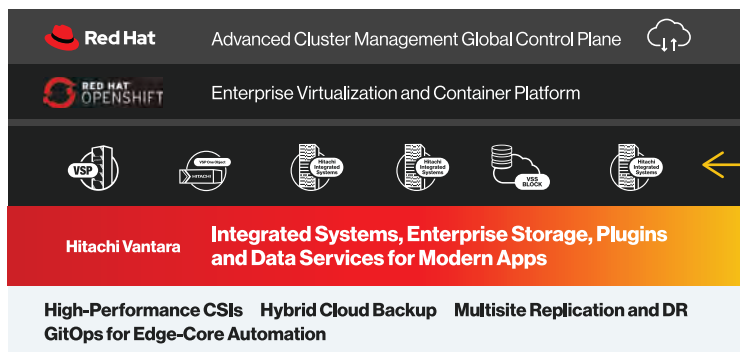
Advanced Data Services

Persistent Data Management: Provide multicloud storage solutions for stateful applications, ensuring data persistence and availability.

Data Security and Compliance: Implement industry-leading data encryption and protection standards to meet compliance requirements.

Predictive Analytics and Monitoring: Leverage AI-powered insights to monitor system performance and predict potential issues.

Hitachi Integrated Systems for Red Hat OpenShift

Red Hat — Advanced Cluster Management Global Control Plane

RED HAT OPENSHIFT — Enterprise Virtualization and Container Platform

VSP

Hitachi Vantara — Integrated Systems, Enterprise Storage, Plugins and Data Services for Modern Apps

High-Performance CSIs   Hybrid Cloud Backup   Multisite Replication and DR
GitOps for Edge-Core Automation

Hitachi Data Services for Containers and VMs
- Standard PV RWO, RWX
- Clone, Snapshot, Stretched PV
- Migrate, DR Test, Failover, Backup
- Storage Monitoring, Grafana
- File, Object, Edge, On-Premises, Cloud
- GPU Direct Storage for AI

GitOps (ArgoCD)

Solution Configurations: Proven and Diverse Integrations Validated

Hitachi Advanced Servers and Hitachi Virtual Storage Platform One integrate seamlessly with Red Hat OpenShift Platform.

The Hitachi reference architectures provide validated and flexible designs, addressing comprehensive use cases and scenarios:

Scenarios and Use Cases

1. VSP One Hybrid Cloud Storage Replication for OpenShift

MK-SL-389: Centralized hybrid cloud storage architecture enabling seamless replication, disaster recovery, and data mobility for stateful OpenShift container applications.

2. Integrating OpenShift With Hitachi Storage – Deep Dive

MK-SL-250: Details the integration of Red Hat OpenShift with Hitachi Virtual Storage Software block, focusing on persistent storage options and hybrid configurations.

3. OpenShift Virtualization on Hitachi Infrastructure

MK-SL-374: Focuses on deploying Red Hat OpenShift Virtualization on Hitachi Integrated Systems and VSP One Block, highlighting best practices for containerized workloads.

4. Cloud-Native PostgreSQL on OpenShift

MK-SL-277: Provides a reference architecture for deploying a cloud-native PostgreSQL database on OpenShift with VSP One SDS and VSP One Block storage, emphasizing persistent storage management.

5. CI/CD on OpenShift With Hitachi Storage on AWS

MK-SL-304: Outlines the architecture for self-hosted CI/CD on Red Hat OpenShift with VSP One SDS and VSP One Block on Amazon Web Services (AWS*), covering CI/CD pipeline implementation.

6. Hitachi Storage Plug-in for Containers

MK-92ADPTR142: Describes the usage, installation and configuration of Hitachi Storage Plug-in for Containers, enabling container management for stateful applications.

7. AI With Apache Spark on Hitachi Integrated Systems

MK-SL-279: Focuses on using Apache Spark™ for AI on Hitachi Integrated Systems with Hitachi Content Software for File, supporting AI-driven analytics and data processing.

8. Accelerate AI Journey with VSP One

MK-SK-373: Provides a reference architecture guide for accelerating AI solutions using Red Hat AI and NVIDIA on Hitachi Integrated Systems and Hitachi VSP One.

For more content and topics, visit the Hitachi Vantara Documentation website.

Exceptional Business Outcomes

Accelerate Time to Value

- Rapid Application Launch: Launch new AI-driven apps faster with cloud-native capabilities.
- AI Model Portability: Train models anywhere and serve seamlessly across clouds.

Operational Simplicity

- Centralized IT Control: Enable single-pane-of-glass management for applications, data and workloads.
- Automated DevOps Workflows: Simplify operations with integrated DevOps tools.

Enhanced ROI and Cost Savings

- Lower TCO: Minimize infrastructure costs with AI workload consolidation.
- Elastic Scalability: Scale compute and storage as needed with a pay-as-you-grow model.

Unmatched Security and Resiliency

- Data Protection: Safeguard with built-in data encryption, disaster recovery and high availability.
- AI-Powered Security Analytics: Detect threats faster with intelligent monitoring.

Red Hat OpenShift comes with three major tiers, all supported by Hitachi Integrated Systems.

AI-Driven Use Cases Powering Enterprise Success

Data-Driven Insights and Advanced Analytics
Transform data into insights with real-time AI-powered analytics for business intelligence.

Hybrid Cloud-Enabled App Deployment
Achieve true hybrid cloud flexibility with policy-driven multicloud deployments.

Automated CI/CD for AI Development
Enable continuous integration, delivery and model updates with DevOps-ready workflows.

Database Modernization With AI Integration
Infuse AI-driven insights into modernized databases for faster decision-making.

Discover how you can transform your business with enterprise-grade hybrid cloud and AI solutions from Hitachi Vantara.

Tour the Solution Today →

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

Corporate Headquarters
2535 Augustine Drive
Santa Clara, CA 95054 USA
hitachivantara.com | community.hitachivantara.com

Contact Information
USA: 1-800-446-0744
Global: 1-858-547-4526
hitachivantara.com/contact

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