

Consolidate and automate more business-critical workloads, backed up by the industry's most comprehensive 100% data availability guarantee.

DATASHEET

Hitachi Virtual Storage Platform G Series Hybrid-Flash Enterprise Cloud Solutions

Modernize Your Data Center With an Agile Hybrid-Flash Infrastructure

As the number and types of workloads that enterprise data center teams support have increased, so have the demands on the underlying storage infrastructure.

The benefits of adopting hybrid-flash solutions include extracting the maximum value from applications. These solutions must be agile enough to support cloud initiatives, containerized workloads and even utility consumption models that reduce upfront costs. Storage also needs to be supported by analytics and automation tools that simplify operations and free staff to focus on architecting solutions that drive the company forward. Without these things, costs escalate, and operations are inefficient.

With our latest enterprise hybrid-flash arrays, Hitachi can help. Hitachi Virtual Storage Platform (VSP) G series systems run up to two times faster, consolidate more workloads and enable a cloud-first strategy for data center modernization. Systems are backed with the industry's most comprehensive 100% data availability guarantee, superior data protection services and best-in-class cloud analytics.

Enterprise Scale and Efficiency

VSP G series enables the seamless automation of the data center with a broad range of efficiency technologies that improve return on investment (ROI) by delivering maximum value and making ongoing costs more

predictable. It allows organizations to focus on strategic projects and to consolidate more of their workloads while using a wide range of media choices.

The benefits start with up to two times the performance and 25% lower latency than our previous enterprise hybrid-flash models, even as data scales to petabytes. Using a new memory architecture and I/O algorithms, enterprise VSP G series delivers up to 4.8 million IOPS at a better \$/IOPS efficiency. These advancements, along with built-in quality of service (QoS) for controlling workload-specific performance limits, high-capacity storage media, and the ability to place data on the optimal performance tier, support higher workload consolidation than ever before.

All VSP G series models have a true symmetric active-active controller design, which reduces the cost and complexity of path management. Other arrays only let one controller access data at a given time, but these models access data volumes via host ports on any controller to prevent wasted capacity. VMware users can activate the round-robin policy for better network usage.

Hitachi Virtual Storage Platform G1500 contains an improved, Hi-Star crossbar switch architecture. In this architecture, the virtual storage directors are shared across the cache, front-end directors and back-end directors. This approach provides immediate processing power without wait time or interruption to maximize I/O throughput. It allows for a highly granular upgrade path, and for the addition of drives and chassis components as needed.

Modern Data Protection

To protect the lifeblood of your business, safeguard data and ensure positive customer experiences, Hitachi enterprise storage is backed by the industry's most comprehensive [100% data availability guarantee](#). Built on legendary Hitachi reliability, VSP G series offers complete system redundancy by leveraging hot-swappable components, nondisruptive updates and outstanding data protection. The VSP G series is the best choice for hybrid-flash storage operations that need to stay up and running.

Systems are also backed by our Hi-Track Remote Monitoring system and its analytics capabilities, bringing 28 years of recorded experience to proactively support your infrastructure. By looking at all performance and support detail from all our Hi-Track customers, we can predict when an issue might arise and proactively take action to mitigate downtime.

Advanced metroclustering with global-active device is available to enable robust business-continuity solutions among multiple data centers. A feature of Hitachi Storage Virtualization Operating System (SVOS) RF,

IT Economics

Hitachi Vantara hybrid-flash cloud platforms lower costs by tailoring payments to help improve ROI and align with budgets. Our flexible offerings enable you to upgrade and refresh when you need to improve life-cycle management.

global-active device offers zero downtime and data loss protection. It can be paired with VSP G series asynchronous replication for true, enterprise-level, 3-data-center protection. And SVOS RF ensures high performance, even when data protection is running.

AI-Optimized Operations

Managing and maintaining a data center infrastructure is time intensive. To free up time for driving innovation, Hitachi offers artificial intelligence (AI) operations software that monitors the infrastructure for you.

All VSP G series solutions include Hitachi Infrastructure Analytics Advisor (HIAA), with AI-powered analytics “out of the box.” Unlike other solutions that monitor only storage, HIAA provides real enterprise analytics. It constantly analyzes telemetry data across hypervisor, server operating system, network and storage to optimize application performance and prevent extended outages. Optional built-in analytics enable budget planning and forecasting, delivering the best customer experience available. When security is critical, run HIAA on premises only, to gain superior insights without sending any data off-site.

To simplify management and prevent errors that impact performance and uptime, the VSP G series can be paired with Hitachi Automation Director (HAD). HAD software orchestrates management of virtual machines, network zoning, storage and data protection to accelerate deployments. It also integrates with IT service management tools as well as HIAA and Hitachi Data Instance Director (HDID) to simplify change management.

Simplify Modernization

VSP G700 and VSP G900 systems come packaged with a rich set of value-added software, and new packaging makes it easy to add advanced features. The Foundation software package includes SVOS RF, local replication and data mobility for nondisruptive data migration. It also includes HIAA and HDID software for enterprise protection. The Advanced package includes everything

TABLE 1. HITACHI VIRTUAL STORAGE PLATFORM G SERIES: ENTERPRISE SPECIFICATIONS

	VSP G700	VSP G900	VSP G1500
Performance	Up to 1.4M IOPS 24GB/s bandwidth	Up to 2.4M IOPS 41GB/s bandwidth	Up to 4.8M IOPS 48GB/s bandwidth
Max. Flash Drives Note: FMD = flash modules, SSD = solid-state drives, HDD = hard disk drives	432 FMD 864 SSD 1,200 LFF HDD 864 SFF HDD	576 FMD 1,152 SSD 1,440 LFF HDD 1,152 SFF HDD	576 FMD 2,304 SSD 1,152 LFF HDD 2,304 SFF HDD
Max. Raw Capacity	6PB (FMD) 13.0PB (SSD) 11.7PB (HDD)	8.1PB (FMD) 17.3PB (SSD) 14PB (HDD)	8.1PB (FMD) 34.6PB (SSD) 6.7PB (HDD)
Disks Supported	14TB FMD 7TB FMD 3.5TB FMD 15TB SSD 7.6TB SSD 3.8TB SSD 1.9TB SSD 480GB SSD 2.4TB 10K HDD 1.2TB 10K HDD 600GB 10K HDD 10TB 7.2K HDD 6TB 7.2K HDD	14TB FMD 7TB FMD 3.5TB FMD 15TB SSD 7.6TB SSD 3.8TB SSD 1.9TB SSD 2.4TB 10K HDD 1.2TB 10K HDD 600GB 10K HDD 10TB 7.2K HDD 6TB 7.2K HDD	14TB FMD, 7TB FMD, 3.5TB FMD, 1.75TB FMD, 15TB SSD, 7.6TB SSD, 3.8TB SSD, 1.9TB SSD, 960GB SSD, 600GB 15K HDD 600GB 10K HDD 1.2TB 10K HDD 1.8TB 10K HDD 2.4TB 10K HDD 4TB 7.2K HDD 6TB 7.2K HDD
Host Interfaces Note: FC = Fibre Channel, FCoE = Fibre Channel over Ethernet, FICON = IBM® FICON®	64x FC: 16Gb/s, 32Gb/s 32x iSCSI: 10Gb/s	80x FC*: 16Gb/s, 32Gb/s 40x iSCSI*: 10Gb/s	192x FC: 8Gb/s, 16Gb/s 176x FICON: 8Gb/s, 16Gb/s 192x FCoE: 10Gb/s 96x iSCSI: 10GBase-T
Total Efficiency Guarantee Ratio**	Up to 7:1	Up to 7:1	2:1 Data Reduction
RAID Supported	RAID-1, RAID-5, RAID-6		

*Max I/O ports achieved by using an expansion tray

** The Total Efficiency Guarantee of up to 7:1 for the VSP G700 and VSP G900 models, when configured entirely with flash drives, covers savings from data deduplication, compression, thin provisioning and snapshots. The VSP G1500 model is eligible for a data reduction guarantee of 2:1 for capacity stored on Hitachi flash modules with data compression enabled.

in Foundation package, plus remote replication, metroclustering and HAD.

For more agility, combine any VSP model with Hitachi NAS Platform gateways for file storage or Hitachi Content Platform for object storage. Or, they can be part of a converged solution in Hitachi Unified Compute Platform.



Think of a fully automated end-to-end cloud that has workload protection, predictive analytics, live multisite capability and agnostic workload automation. When integrated directly with a customer's ticketing solution, VSP G series systems are an enterprise game-changer!

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