

Hitachi Virtual Storage Platform 5000 series is the most powerful NVMe data platform in the world. It allows you to focus on your Data-Driven Advantage by having the right data in the right place at the right time.

DATASHEET

Hitachi Virtual Storage Platform 5000 Series Enterprise Storage

Consolidate and Accelerate Your Advantage With Agile NVMe Flash

Hitachi Virtual Storage Platform (VSP) 5000 series is the culmination of over half a century of innovation in the IT sector. No other vendor is as committed as Hitachi to helping you and your customers.

Artificial intelligence (AI) based applications looking at real-time data telemetry: This is what your business will be moving towards in the next few years. To improve your productivity, manage risk and drive down costs applications and infrastructure, you need to use AI with machine learning (ML).

To accelerate their businesses, 40% of your rivals will be investing in predictive analytics. This, along with the collection of IoT data streams, generates huge volumes of data. Such volumes must be processed rapidly and drive the need for all-flash performance that is accelerated by nonvolatile memory express (NVMe) technology. Colder datasets can be automatically tiered to the cost-effective capacity of hard disk drives (HDD) or migrated to the cloud.

VSP 5000 series future-proofs your organization. It is the first storage in the industry to offer a mixed NVMe, SCM solid-state disk (SSD), serial-attached SCSI (SAS) SSD and HDD environment that can scale up in capacity but also scale out for performance. This approach gives you the composable data platform for all your workloads.

Take advantage of the advanced capabilities in the VSP 5000 series in all of your existing data center storage assets through virtualization, which Hitachi pioneered. Storage virtualization gives you a single management control point for multiple storage systems, which increases administrative efficiencies. All data services, such as data reduction, automation and metroclustering, which are available with the VSP 5000 series, are extended to virtualized systems to give them more value and an extended life cycle.

Enterprise Agility

There are four models in the VSP 5000 series: The all-flash VSP 5100 is a scale-up enterprise storage platform with a dual-controller block supporting open and mainframe workloads. You then have a nondisruptive upgrade path to the all-flash VSP 5500, which starts with a single quad controller block and scales out to three blocks as you grow. Both models are also available in hybrid array models: VSP 5100H and VSP 5500H.

The VSP 5000 series starts as small as 3.8TB and scales up to 69PB of raw capacity and 21 million IOPS of performance, which allows for massive consolidation of workloads for cost savings. And with response times as low as 70 microseconds, your business partners will be delighted by how fast their applications run.

Our patented Hitachi Accelerated Fabric allows Hitachi Storage Virtualization Operating System RF (SVOS RF) to

offload I/O traffic between blocks. It uses an architecture that provides immediate processing power without wait time or interruption to maximize I/O throughput. As a result, your applications suffer no latency increases since access to data is accelerated between nodes even when you scale your system out.

Enterprise Resiliency

You can place your business data within our solutions, relying on 57 years of Hitachi engineering experience to deliver reliability. The VSP 5000 series, with an industry leading 8-9's of availability builds on that experience builds on that experience, offering a superior range of continuity options, all backed up with the industry's first and most comprehensive 100% data availability guarantee. Migrate data from older systems nondisruptively so operations can continue, nonstop.

The new scale-out architecture protects against local faults and performance issues with our active-active controller architecture. With global-active device we enable full metroclustering between data

Hitachi Virtual Storage Platform 5000 series systems lower costs by tailoring payments to your return on investment (ROI) and budget. Our flexible offerings enable you to utilize pay-as-you-grow and storage-as-a-service (SaaS) options, where all upgrades are included within the contract.

centers that can be up to 500km apart. Replicate to a third data center using Hitachi Universal Replicator software, which offers asynchronous replication, to make use of all your investments. Your system can be monitored in the cloud via Hitachi Remote Ops to proactively predict and prevent downtime.

With the VSP 5000 series, you gain rock-steady hardware, but what about your application's continuity and recovery? This series is supported by Hitachi Data Instance Director, which provides application-aware snapshots, copy data management and instant recovery. You can recover from a data disaster in seconds, not hours!

Security compliance is essential, and in the VSP 5000 series Hitachi has taken steps to improve the security of how data is stored and administrated. We have greatly reduced the risk of data falling into unauthorized possession with FIPS 140-2 encryption on our media. The erasure services align with NIST SP 800-88r2 and ISO/IEC 27040:2014.

Finally, we have hardened system access to safeguard against illegal access and hacking: The VSP 5000 series uses TLS1.3 for secure communications to stop improper access by other systems on the fabric.

Management Automation

Simplifying the management, provisioning and performance of data platforms can become a demanding never-ending cycle. This is the potential of [AI operations](#), where the VSP 5000 series can take control of repetitive tasks to reduce and even eliminate the need for any human intervention. Your staff is freed to focus on innovation and tactical business efforts.

AI is used to constantly monitor the environment and make sure that resources are performing, based on service level

TABLE 1. HITACHI VIRTUAL STORAGE PLATFORM 5000 SERIES SPECIFICATIONS

	VSP 5100	VSP 5100H	VSP 5500	VSP 5500H
Performance	Up to 4,200,000 IOPS	Up to 4,200,000 IOPS	Up to 21,000,000 IOPS	Up to 21,000,000 IOPS
Max. Drives	99 NVMe SCM 96 NVMe 192 FMD 768 SFF SSD	99 NVMe SCM 96 NVMe 192 FMD 768 SFF SSD/HDD 384 LFF HDD	99 NVMe SCM 288 NVMe 576 FMD 2,304 SFF SSD	99 NVMe SCM 288 NVMe 576 FMD 2304 SFF SSD/HDD 1,152 LFF HDD
Max. Raw Capacity	23PB	23PB	69PB	69PB
Drive Packs (sold in packs of 4)	375GB NVMe SCM 15TB NVMe SSD 7.6TB NVMe SSD 3.8TB NVMe SSD 1.9TB NVMe SSD 14TB SAS FMD 7TB SAS FMD 30TB SAS SSD 15TB SAS SSD 7.6TB SAS SSD 3.8TB SAS SSD 960GB SAS SSD	375GB NVMe SCM 15TB NVMe SSD 7.6TB NVMe SSD 3.8TB NVMe SSD 1.9TB NVMe SSD 14TB SAS FMD 7TB SAS FMD 30TB SAS SSD 15TB SAS SSD 7.6TB SAS SSD 3.8TB SAS SSD 960GB SAS SSD 2.4TB 10K SAS HDD 14TB 7.2K SAS HDD	375GB NVMe SCM 15TB NVMe SSD 7.6TB NVMe SSD 3.8TB NVMe SSD 1.9TB NVMe SSD 14TB SAS FMD 7TB SAS FMD 30TB SAS SSD 15TB SAS SSD 7.6TB SAS SSD 3.8TB SAS SSD 960GB SAS SSD	375GB NVMe SCM 15TB NVMe SSD 7.6TB NVMe SSD 3.8TB NVMe SSD 1.9TB NVMe SSD 14TB SAS FMD 7TB SAS FMD 30TB SAS SSD 15TB SAS SSD 7.6TB SAS SSD 3.8TB SAS SSD 960GB SAS SSD 2.4TB 10K SAS HDD 14TB 7.2K SAS HDD
Host Interfaces Note: FC = Fibre Channel, FICON = IBM® FICON®	FC: 32x32Gb/s FC: 32x16Gb/s IBM FICON: 32x 16Gb/s iSCSI: 16x10Gb/s	FC: 32x 32Gb/s FC: 32x 16Gb/s IBM FICON: 32x 16Gb/s iSCSI: 16x10Gb/s	FC: 192x32Gb/s FC: 192x16Gb/s IBM FICON: 192x16Gb/s iSCSI: 96x10Gb/s	FC: 192x32Gb/s FC: 192x16Gb/s IBM FICON: 192x16Gb/s iSCSI: 96x10Gb/s
Max. Cache	1TiB	1TiB	6TiB	6TiB
RAID*	Support for RAID-1*, RAID-5, RAID-6			

* RAID-1 selection mirrors blocks across two drives and then creates a striped set across multiple drive pairs. This is commonly referred to as RAID 1+0.

1TB = 1,000,000,000,000 bytes; 1TiB = 1,099,511,627,776 bytes.

SAS = serial attached SCSI, NVMe = non-volatile memory express, SSD = solid state drive, FMD = flash module, FC = Fibre Channel, iSCSI = internet small computer systems interface.

agreements (SLAs). If issues are noted, the AI can predict and prescribe changes to improve the operational efficiency. AI can also be used to simplify complex decision-making, such as predicting when additional storage might be needed or how quality of service (QoS) should be configured.

Automation is a critical aspect of AI operations. Automation software handles configuration, provisioning and common management tasks instead of humans. Automation is often leveraged at the start of a deployment to ensure resources are set up based on best practices and no steps are missed that could result in data loss. It can also be used in concert with AI to automate infrastructure updates.

See how your organization can benefit from Hitachi Accelerated Fabric, designed for Hitachi Virtual Storage Platform 5000 series. [Download the white paper.](#)



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