

## Hitachi Virtual Storage Platform

Hitachi Virtual Storage Platform is the only 3D scaling storage platform designed for all data types. It is the only storage architecture that flexibly adapts for performance and capacity, and virtualizes multivendor storage. With the unique management capabilities of Hitachi Command Suite software, it transforms the data center.

### Transform the Data Center into the Information Center. Make IT More Agile.

Hitachi Data Systems delivers on our vision that IT is virtualized, automated, cloud-ready and sustainable to help organizations to transform their data centers. At the heart of our vision, we offer a virtualized platform for all data with the ability to manage multi-vendor environments.

Hitachi Virtual Storage Platform is the only 3D scaling storage platform designed for all data types. It is the only storage architecture that flexibly scales for performance, capacity and the virtualization of multivendor storage to optimize return on storage assets. The mobility it gives to data reduces the business impact of adapting to change. A highly efficient design allows unsurpassed performance and capacity, and the lowest power and cooling requirements.

Hitachi Dynamic Tiering makes block, file and content data mobile across virtual storage tiers. Hitachi Virtual Storage Platform, when combined with Hitachi Command Suite management software, transforms the data center and makes IT more agile.

3D scaling delivers a storage environment that is reliable, dynamic and open. It is highly reliable, with leading capabilities for data protection and high availability. It is dynamic, automating data placement and resource addition. It is also open, supporting a wide variety of operating systems, data types, and storage and server environments.

#### Business Benefits

##### Superior Data Center Efficiency, Manageability and Cost Savings

- Creates a more agile storage infrastructure
- Increases the productivity of IT staff
- Reduces storage costs
- Increases return on storage assets
- Supports scalable management for growing and complex storage environments using fewer resources
- Enables the move to a new storage platform with up to 80% less effort and cost compared to the industry average
- Increases performance and lowers operating cost with automated data placement

- Automatically matches business value of data to the cost of storage
- Extends to multivendor storage assets
- Consolidates management with end-to-end virtualization to prevent virtual server sprawl across virtualized storage and server environments
- Achieves up to 48% better power efficiency for more sustainable data centers compared to the previous generation
- Stores up to 40% more capacity per square foot to increase data center density
- Lowers operational risk and data loss exposure by optimizing growth of virtual storage with data resilience solutions
- Offers comprehensive services that optimize your new Virtual Storage Platform for rapid transition to a new environment
- Supports unique universal replication for open systems and mainframe environments across multiple data centers
- Provides high availability to satisfy resilience and availability needs of demanding enterprise applications

## Feature Highlights

**3D scaling** allows for optimal infrastructure growth in all dimensions.

- *Scale up* to meet increasing demands by dynamically adding processors, connectivity and capacity in a single unit. This gives you optimal performance for open systems and mainframe environments.
- *Scale out* to meet demands by dynamically combining multiple units into a single logical system with shared resources. Support increased needs in virtualized server environments and ensure safe multi-tenancy and quality of service through partitioning of cache and ports.
- *Scale deep* to extend the advanced functions of Hitachi Virtual Storage Platform to multivendor storage through virtualization. Offload less-critical data to external tiers; optimize availability of Tier 1 resources

**3D management** is enabled by Hitachi Command Suite efficiencies, which lower costs and properly manage all data types.

- *Manage up* capabilities unify management and scale to the largest infrastructure deployments.
- *Manage out* features deliver a single management framework with the breadth to manage storage, servers and the IT infrastructure.
- *Manage deep* with Hitachi Virtual Storage Platform integration for the highest operational efficiency and up to 50% time savings for storage management.

**Data mobility** functions give you the fastest way to move to new storage with host-transparent migration. Lower operational risks with advanced data replication topologies. Increase performance and lower cost with automated data placement.

**Unmatched efficiency** gives you the highest capacity available in the least space, and automates data placement for higher performance and lower cost. It also shares a single image

## VIRTUAL STORAGE PLATFORM SPECIFICATIONS

Architecture	Hitachi Hierarchical Star Network
Aggregate Bandwidth	192GB/sec
Host Interfaces (maximum)	192 Fibre Channel: 8Gb/sec, 192 FICON: 8Gb/sec 88 Fibre Channel over Ethernet (FCoE): 10Gb/sec
Internal Raw Capacity	2,521TB (2TB 3.5" SATA), 1,180TB (600GB 2.5" SAS) 102TB (400GB SSD)
Internal and External Capacity	255PB (maximum)
Flash Drive Options	200GB 2.5" SAS, 400GB 2.5" SAS, 400GB 3.5" SAS
Hard Disk Drive Options	146GB 2.5" SAS, 300GB 2.5" SAS, 600GB 2.5" SAS, 900GB 2.5" SAS, 2TB 3.5" SAS, 2TB 3.5" SATA II
Minimum to Maximum Hard Drives	0–2,048 2.5" and/or 0–1,280 3.5" including spares
Maximum Number Flash Drives	256
Back-end Disk Interface	6Gb/sec SAS
RAID Configurations	RAID-1+0, RAID-5, RAID-6
Cache Options	32GB to 1TB
Maximum LUNs	65,280
Volume Size	4MB to 60TB
Virtual Storage Machines	32 (maximum)
High Reliability	Redundant power supplies, fans, batteries
High Availability	N+1 architecture, controller clustering

Note: All capacities are based on 1GB = 1,000,000,000 bytes; 1TB = 1000GB

global cache across all virtual storage directors for maximum performance, the lowest power consumption per capacity stored, and faster and simpler storage management.

**Dynamic tiering** automates data placement for higher performance and lower cost. It places the right data in the right place at the right time with no performance degradation.

**Server virtualization** integration with leading virtual server platforms delivers end-to-end visibility from individual virtual machine to storage logical unit and protects large-scale multivendor environments.

**Sustainable design** allows up to 40% better capacity per square foot and 48% lower power consumption per terabyte compared to

the previous generation, plus greater capacity utilization with Hitachi Dynamic Provisioning.

**Data resilience** is supported with in-system data replication and protection across multiple data centers using unique journal-based replication. It includes integrated protection frameworks that are hypervisor agnostic. It also offers application-aware replication management, enhanced encryption and advanced security management to protect data.

**Mainframe enhancements** enable virtual storage tiering to improve data management efficiency and advanced replication to reduce risk through superior data protection.



### Hitachi Data Systems

**Corporate Headquarters**  
750 Central Expressway  
Santa Clara, California 95050-2627 USA  
www.HDS.com

**Regional Contact Information**  
**Americas:** +1 408 970 1000 or info@hds.com  
**Europe, Middle East and Africa:** +44 (0) 1753 618000 or info.emea@hds.com  
**Asia Pacific:** +852 3189 7900 or hds.marketing.apac@hds.com

Hitachi is a registered trademark of Hitachi, Ltd., in the United States and other countries. Hitachi Data Systems is a registered trademark and service mark of Hitachi, Ltd., in the United States and other countries.

All other trademarks, service marks and company names in this document or website are properties of their respective owners.

Notice: This document is for informational purposes only, and does not set forth any warranty, expressed or implied, concerning any equipment or service offered or to be offered by Hitachi Data Systems Corporation.

© Hitachi Data Systems Corporation 2012. All Rights Reserved. DS-160-C DG January 2012